

# **Bangladesh Logistics and Trade Facilitation**

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## Executive Summary

The growth in volume of trade in manufactured goods and in diversity of suppliers of comparable products, especially in Asia, has led to a dramatic increase in competition. Quality and delivered cost remain critical components of competitive advantage and Bangladesh has been able to produce to international standards and deliver at international prices. However, so have most of its competitors. As a result, buyers now focus on reliability of supply and order cycle times. Bangladesh's competitors have used these as a means to gain competitive advantage. Lead times have always been critical for high-value goods and perishables, but have now become important for medium and low value goods where large-scale wholesalers and retailers seek to minimize inventories and reduce the risk of overstocking, while ensuring product availability. This is an area in which Bangladesh can make significant progress by reducing lead time for producers importing raw materials (the inbound supply chain) and shipping products (the outbound supply chain) as well as by increasing reliability in meeting fixed delivery times.

The upcoming termination of the MFA has served to focus attention on logistics as the garment industry has become increasingly time sensitive. The traditional 6-9 month order cycle has decreased to 3-6 months. For repeat orders, the order cycle is down to 2-2½ months. At the same time, order sizes are shrinking from millions to 100 thousands for low value garments and 10 thousands for medium value garments. These changes require substantial improvement in logistics.

Bangladesh has succeeded in improving logistics through modernization of Customs clearance procedures, especially for exports and temporary imports. However, it has failed to improve the performance of its transportation system as rapidly as its neighbors. The cargo-handling technology and method of operation of the Port of Chittagong remain mired in the 1970s. The benefits of multimodal transport are unrealized as a majority of the FCL containers continue to be stuffed and unstuffed at the port. Transport of containers by rail is underdeveloped due to lack of commercial management at Bangladesh Railways. Inland customs facilities and storage are limited and the available facilities are not located in a way that will minimize overall delivery costs. Slow and uncertain vessel turnaround and container dwell times prevent producers from developing efficient supply chains from the factory to the buyers warehouse or introducing just-in-time production.

The demand for efficient logistics varies by type of export. The most demanding are garments where Bangladesh continues to suffer from long lead times for inputs due to the lack of local sources of suitable woven fabric and suitable arrangements for the storage of imported gray fabric. For ceramics, leather, and leather goods, most of the producers are small-scale manufacturers of medium-value goods for which buyers tend to be less demanding in terms of order cycle. At present, there is only one leather goods factory able to meet the tight logistics required by large-scale contract manufacturing. There are several successful exporters of ceramics and medium value tableware market but they are not prepared to supply big retailers with large orders of household goods.

The problems of effectively managing supply chains are more obvious for perishable goods, e.g. shrimps and vegetables. For exports of shrimp, there is a complex inbound supply chain from hatcheries to shrimp farms and then to factories. This involves numerous middlemen that not only reduce the returns to the hatcheries and the fish farms but also isolate them from their markets. The complexity of the supply chain from hatchery to shrimp farm causes a high mortality rate for fry. The supply chain from farm to factory to foreign buyers has problems quality control. Most of the problems occur in the selection and processing of the shrimp. The cold chain from factory to market uses refrigerated containers and is relatively robust. The export of fresh vegetables is limited to airfreight. Biman's low rates but limited capacity create a situation of excess demand in Middle East markets. For exports to Europe, capacity is not a problem but high transport costs limit profitability. As this business grows, it

will be necessary to convert to frozen vegetables and to utilize ocean freight in order to remain cost competitive.

A large number of initiatives are proposed for improving the logistics services in Bangladesh. Their common objective is to reduce order cycles to match Bangladesh's competitors and increasing reliability so that scheduled door-to-door movements become the norm rather than the exception. The most important initiative is to reform Chittagong Port's container operations. The average berth throughput of 5.6 boxes per vessel hour and 22 days average dwell time for containers places it at or near the bottom for comparable sized ports in the region. This could change with the introduction of the recently procured container-handling equipment (SSGs and RTGs) but only if there is restructuring of the workforce, computerization of planning and close interaction with the shipping lines. It will not happen with the current public sector management and politicized labor force. Without a change in management, their large investment in equipment will provide little improvement in efficiency and, more importantly, will not create the conditions for quick, predictable vessel turnaround time and that allow scheduled feeder services. With these improvements there is a potential total savings of 10-14 days in transit time for inbound and outbound supply chains.

The second most important initiative is to reduce the order cycle for the garment industry by increasing the number of customs bonded facilities including road-based ICDs in the Dhaka region and warehouse for yarn and fabric. The former will reduce the time spent in port, the informal payments to port workers, the cost for road haulage (by reducing empty backhauls) and cargo clearance times. It will also reduce the losses of cargo in transit and due to multiple handlings. The savings in order cycle time should be on the order of 5 days, including 3 days for temporary imports and 2 days for exports.

The third initiative is to continue the reforms in customs clearance procedures. The greatest success has been in the clearance of exports and temporary imports at the ports, airports and Dhaka Customs facilities. Further reductions in clearance times and informal payments can be achieved through computerization and introduction of risk management, but these gains will be less dramatic than the gains over the last five years. There has been less improvement in the clearance times for imports, especially goods entering Bangladesh through land borders. These activities involve cumbersome procedures, lengthy processing times, and excessive informal payments. The introduction of additional ASYCUDA modules to address selectivity and risk management plus better use of the PSI system should provide significant improvements in facilitating imports. The entire procedure at the land borders must be re-engineered from a land port to a cross-docking facility with the eventual goal of door-to-door movement of goods crossing the border(s) under bond.

The fourth is commercialization of the railway container services and the introduction of corridor planning to improve the utilization of available multi-modal capacity and optimize investments in new infrastructure. Bangladesh should emulate India's successful efforts at separating container unit train operations from other less profitable and less time-sensitive rail services and placing them under commercial management. Decisions on capital investments in the road and rail sector should be made considering them as part of the same corridor and choosing the service that offers the greatest improvement in service within the corridor as measured relative to cost. This decision should also consider airfreight and IWT to serve the most and least time sensitive cargoes.

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# I. Background

The growth in global trade in manufactured goods, both the volume and number of competing suppliers, has led to a dramatic increase in competition among exporters, especially in South and Southeast Asia. Product quality, production cost and proper certification remain the most important elements for increasing competitive advantage but these have already been addressed and offer Bangladesh relatively little opportunity for improving market position. Attention is now being focused on logistics, both inbound and outbound. The challenge for Bangladesh is to identify improvements in logistics services and related infrastructure that can be achieved in the short-to-medium term and that would have a significant impact on competitiveness.

One of the impetuses for this study is the termination of the Multi-Fiber Agreement at the end of 2004. This event is expected to put added competitive pressure on Bangladesh's Ready Made Garment industry. The market has already made significant adjustments through downward movement of FOB prices for Bangladesh's garment exports as well as a reduction in the C&F prices of imported textiles.<sup>1</sup> Further market adjustments will occur, but gradually over the next few years as buyers reassess their options. The increasing competitiveness in the retail sector will require that buyers gravitate towards low-cost producers, but these producers must offer products of the **quality** demanded by buyers with production procedures that are consistent with **international norms**, e.g. ISO certification and social responsibility, are treated as givens. The ability of Bangladesh's export industries to meet these requirements has been the basis for their rapid growth in trade. Now these producers are being asked to reduce their **order cycle** not only for the current product mix but also for new products. Countries that have short order cycles for raw and semi-finished materials and offer rapid and reliable delivery from the factory to the market will have competitive advantage.

Another increasingly important sort of advantage is the **flexibility** of the manufacturers in responding to the changing requirements of the buyers. Flexibility is demonstrated in various ways, including the ability:

- to handle smaller orders sizes,
- to modify product characteristics quickly
- to reconfigure production lines to produce new products, and
- to respond to changes in orders while products are in production and in transit to their destination.

Complementing this flexibility is the strengthening of **personal relations** between buyers and producers. Many of the products exported by Bangladesh have a design component that makes them vulnerable to short-term changes in consumer taste. This leads to more direct interaction between the parties to create a balance between the buyers' need for total flexibility and producers' need to allocate their production capacity in an efficient manner.

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<sup>1</sup> The relatively slow growth in garment exports over the past two years in value terms hides a much more rapid growth in volume terms as unit prices have dropped by 15% or more.

Another characteristic that has dramatically increased in importance is **reliability** in the delivery of inputs from the supplier to the factory and products from the factory to the buyer. The tolerance of buyers for missed shipments has disappeared as inventories have been eliminated from the supply chain. Increasingly, retailers are dependent on deliveries direct from the factory to retail space to meet customer demands. At the same time, producers seeking to minimize the cost of production have eliminated their supply inventories of raw materials and scheduled production runs based on the simultaneous arrival of the various inputs at a time determined by the availability of production line capacity. Delays in deliveries of inputs and shipment of products have meant that a significant portion of Bangladesh's exports of medium-value consumer goods to be shipped by air resulting in a significant decline in profitability.<sup>2</sup> Efforts to minimize the use of pure airfreight through air-sea shipments via the transshipment ports of Colombo and Singapore have had limited success.

**Table 1: Process of Industrial Upgrading**

	Upgrading Strategy
Factory	Increasing order size, More complex designs, Higher value products
Inter-firm networks	More flexible production, differentiated products
National	Integrated OEM and OBM
Regional	Inter-regional flows of product components and assembly activities

Source: G. Gereffi, "International Trade and Upgrading in the Apparel Commodity Chain", Journal of International Economics 48 (1999)

OEM– Original Equipment Manufacturer,

OBM – Original Brand Manufacturer

The advances in ICT applications for managing commercial transactions and coordinating the activities of buyers and sellers have been substantial over the last several years. The transition from telephone and fax to e-mail and text messaging and then to integrated databases and ERP has been nothing short of phenomenal. The ability to communicate visually through digital photography, graphics software and video-conferencing has dramatically reduced the time required to develop new consumer products. The ubiquitous microprocessor allows for computer controlled manufacturing at ever smaller scales of production. This is another area in which Bangladesh lags its competitors. Not only is there a lack of broadband, but also the IT skills of managers are very low and the pool of IT professionals is much smaller than that of its major competitors. This has a significant impact on logistics as supply chain management has become dependent on IT to plan, schedule, coordinate and cost the movement, storage and enroute processing of goods.

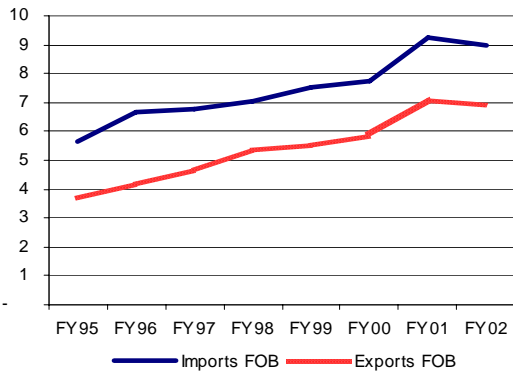
## *Foreign Trade*

Although Bangladesh's imports are 50% greater than its exports, measured in terms of value, the exports have shown more rapid growth over the last decade increasing at an average annual rate of 13.2% versus 8.6% for imports. The rates of growth have declined in the last few years due to downward pressure on unit price (Figure 1). The principal sources of imports are the Far Asia including Japan, R. of Korea, Taiwan and China (Figure 2). South Asia, especially India, is also a significant source, but has declined in importance. The extent of decline is difficult to determine because the amount of informal trade moving across the border is not known. The major destinations of the exports remains the US and EU, which account for about 1/3 and 1/2 of the FOB value of the exports, respectively (Figure 3).

<sup>2</sup> Goods costing \$5.00 for less per kilogram are shipped by airfreight at a cost of \$2.00 to \$3.50. Whereas the normal multimodal movement would have cost \$.50 per kilogram or less. Furthermore, airfreight shipments are C&F paid by the manufacturer. The FOB price remains unchanged despite the fact that the buyer does not incur the ocean freight charge.

Figure 1

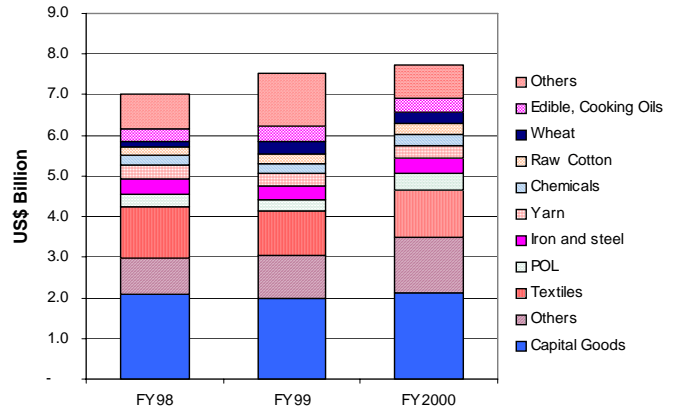
**Imports and Exports (US\$Mn)**



Source: BBS Foreign Trade

Figure 2

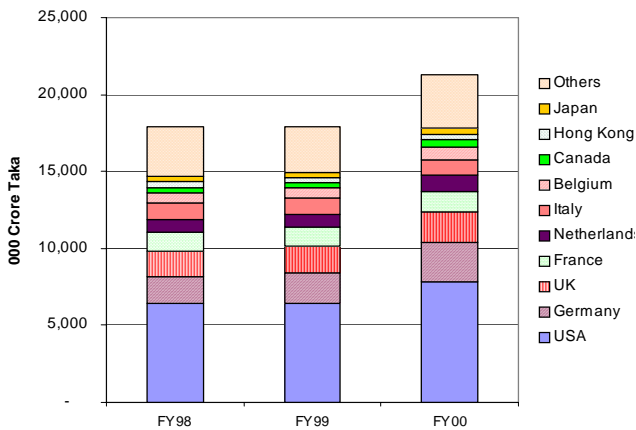
**Value of Imports**



The dominant export is Ready Made Garments followed by exports of shrimp and fish (Figure 4). Bangladesh has been able to sustain its growth in exports not only in the North American market but also in the European market, despite increasing competition from East Asia. While Bangladesh has demonstrated its an ability to produce to the standards required by these markets, it is now faced with the challenge of delivering its exports to meet continuously decreasing order cycles. For this purpose, the speed and reliability of the supply chains must be improved for both inputs to production and the shipment of products worldwide.

Figure 3

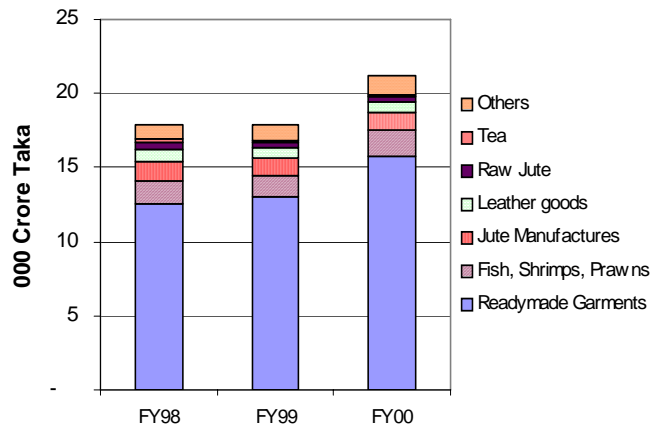
**Destination of Exports**



Source : BBS Foreign Trade

Figure 4

**Value of Exports**



Source : BBS Foreign Trade

## II. Logistics Requirements of Major Exporters

This chapter examines both the logistics for Bangladesh's principal exports and the quality of logistics services in order to identify initiatives that need to be undertaken to improve competitiveness.

### *II.1 Ready Made Garments*

The manufacture of Ready Made Garments (RMG) is Bangladesh's largest export industry and the most demanding in terms of fast, low-cost, and reliable logistics. Manufacturers produce mostly low-value garments similar to that produced in China and Vietnam. In FY01, the value of exports was \$4.86 billion versus only \$.064 billion a decade earlier. Despite a slight drop in FY02, the industry reported an increase to about \$5.25 billion in FY03.

The end of the MFA agreement will introduce a period of instability in the RMG export market. The market has already factored in the end of the agreement as Bangladesh exporters have been forced to accept price cuts, said to average about 15%, in order to maintain market share. Having accepted this reduction, they have been able to export a significantly larger volume than last year, but the large garment buyers are expected to continue adjusting their portfolio of buyers over the next two years. They have already developed a strategy of diversifying sources of supply by using multiple contracts within a country and in more than one country. With this strategy, they can adjust the amount produced by individual suppliers on an annual basis depending on operating conditions and costs. During the next two years as the market seeks a new equilibrium, it will be important for Bangladesh to solidify its position as a reliable, low-cost supplier of quality goods. In order to match future price pressures, it will be important for producers to identify new sources of savings in time and cost. Since recent savings have been achieved in production activities, it will now be necessary to focus on logistics.

### **Fabric Manufacture**

The manufacturers' use a mix of imported raw cotton for its spinning mills, imported yarn for its knitting and weaving mills, and imported fabrics for its garment factories. About 90% of the yarn used for RMG is cotton, either 100% or blends.<sup>3</sup> About 2/3 of the cotton yarn is produced by local spinning mills from imported raw cotton. This accounts for nearly 3/4 of the yarn consumed for knitwear exports but only about 1/6 of the demand for woven garments. The spinning mills are located in Gazipur, Dhaka, Narayanganj, and Chittagong. They use ring spinning and maintain several months of raw cotton inventories so that they can operate continuously. They also maintain a few weeks to one month inventory of spun yarn for sale to the knitting mills. They sell to the local knitting mills, which produce fabric for local manufacturers.

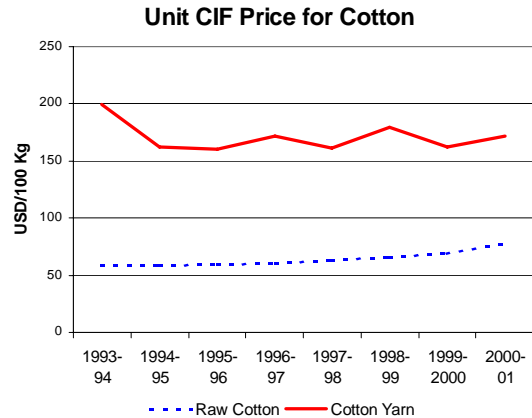
The delivery time for raw cotton averages about 1½ months. Most of the raw cotton is obtained from Uzbekistan, USA, Pakistan and West Africa. The former offers the lowest price and accounts for about 1/3 of the imports. US cotton has better quality and consistency. West African cotton offers a superior price but the inbound logistics are difficult. Most of the cotton is bought through agents who insure the quality and reliability of delivery.

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<sup>3</sup> The yarns most commonly used are cotton in the Ne 16 to 30 range and Ne 45 cotton/polyester. The most popular is 30 count carded.

The order time for cotton yarn from local mills is about 15 days for new orders and 10-12 days for repeat orders. For imported yarn, the order time is from one to two months except for yarn from India, which is delivered by road in 4-8 days. Over the last decade, the typical delivered prices for cotton yarn was between \$0.84 and \$2.04 per kilogram but prices have fluctuated by  $\pm 20\%$  over the last decade (Figure 5). The delivered price for imports from India and Pakistan is 15%-20% lower than the local ex-factory price.<sup>4</sup> The cost of raw materials accounts for about  $\frac{1}{2}$  of the cost for the yarn.

Figure 5

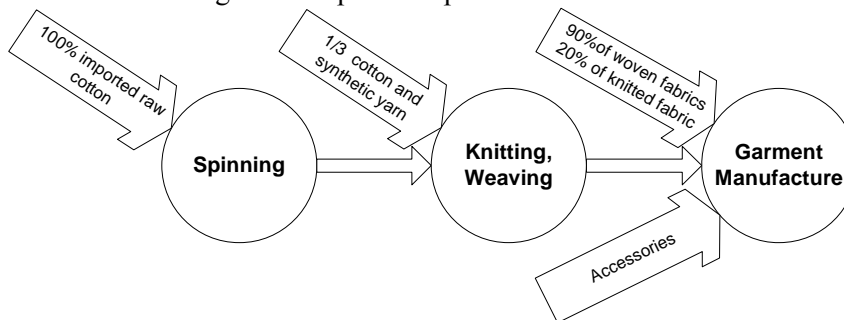


Source : BBS-Freight Trade Section

Most of Bangladesh's weaving mills are small and old. However, in the last few years, a number of integrated state-of-the-art spinning and weaving mills have been established to produce piece-dyed plain shirting, sheeting and dress material. Their capacity is equivalent to about one-quarter of total demand for woven RMG garment production. The mills work 24 hours per day, but annual machine output is 20% less than India and less than half that of Taiwan and Korea. Their efficiency is constrained by excess labor, manual production planning and low levels of capacity utilization as well as disruptions due to labor and energy.

The proportion of imported inputs of yarn and fabric are shown in Figure 6. Fabrics and accessories are purchased on CIF terms. The delivery times depend on whether the suppliers have the goods in inventory, in production or must schedule production. The shipping times are more predictable since the major suppliers are served by mainline vessels that operate a scheduled service to the transshipment hubs that serve Bangladesh. From there, there are frequent feeder service with transit times of five days and unloading times of 2-3 days. The maximum time to clear these temporary imports is two days. The time for transport in bond to the manufacturers' warehouses is less than one day unless they choose to use the rail service. The only uncertainty is how fast the container is made available once it has been offloaded in the port of Chittagong, but this rarely exceeds 2-3 days. The total transit time for fabrics obtained from East Asia is 18-25 days.

Figure 6: Imported Inputs to RMG Sector



<sup>4</sup> However, the government banned the import of yarn by land routes in 2002 thereby increasing both the delivery time and delivered cost for the yarn.

Both public and private laboratories perform testing of cotton yarn, fabrics, and garments. The latter are primarily local offices of international testing companies. They have better equipment and are more efficient than the public laboratories but also charge more. Some of the more specialized tests must be performed in Europe or Hong Kong.

## Garments

Because of their relatively long supply chains none of the manufactures has been able to compete in the logistics-intensive market for high-value fashion garments with its smaller order sizes, large number of collections per year. The garments are primarily low-value T-shirts, polo shirts, sweaters, woven shirts, trousers and parkas (Table 2). The T-shirts and polo shirts are most common with typical prices of \$1.00-\$1.50 per piece for the former and \$2.00 -\$3.00 for the latter. The quality of the product line has been improving with more elaborate construction, mix of colors and accessories. Most companies produce a mix of standard and fashion products with two collections per year although some produce four. The buyers provide designs but the fabric is often selected by the manufacturer to meet the buyer's specifications. Marketing and sales is largely dependent on local representatives of foreign buyers, i.e. buying agents or houses. Most products have life cycles exceeding one year. Medium order size has been decreasing and is now about 50,000 pieces.

The industry is subdivided by production technology between woven goods and knitwear. Although woven goods are dominant, the proportion of RMG exports that are knitwear has risen from 15% to 33% during the 1990s. The production of woven goods is primarily CMT using imported fabrics and accessories.<sup>5</sup> The local capacity for producing woven fabrics of suitable quality is limited. Although an increasing proportion of the manufacturers have the capacity to dye and process fabric, the capacity remains small relative to the demand for finished fabrics. This contrasts with the knitwear industry, which produces a large proportion of its fabric domestically.

The knitwear industry has the advantage that circular knitting is a relatively simple technology and much less capital intensive. Also, it is more integrated. About 3/4 of the larger companies perform knitting as well as garment manufacture. A much smaller proportion has their own spinning mills although there is growing recognition that this is critical in order to achieve competitive advantage.

Most of the garment factories are owned by Bangladeshis but many of the largest factories are foreign owned and located in the Export Processing Zones. The majority of the knitwear companies are family-owned and are located in the area around Narayanganj. The majority of these factories operate a single shift of eight hours although some work an additional two hours overtime. The sewing machine operators work to a high standard but the machines (Juki, Brother or Pegasus) are only partially automated, limiting both productivity and quality. Productivity is also hindered by lack of vocational training, limited technical management skills, and disruptions due to work stoppages and power outages.

**Table 2: RMG Exports by Type**  
(US\$million)

	2001/2	2000/1
<b>Knitwear</b>	1,459	1,496
T-Shirts	546	594
Sweater	518	474
Other knitted goods	395	428
<b>Woven garments</b>	3,125	3,364
Shirts	871	1,067
Trousers	637	652
Jackets	412	570
Other woven goods	1,204	1,074
<b>Household Linen</b>	126	117
Terry Towel	50	48
Home Textile	76	69

Source : BBS, Statistical Yearbook

<sup>5</sup> Cutting, Making, Trimming. This normally assumes that the buyer supplies the fabric and accessories, but many of the manufacturers purchase these inputs based on the technical specifications provided by the importer.

Most of the garments are sold to the large retail chains, e.g. H. M., Wal-Mart, Marks & Spencer, and Target, or to brand managers such as Nike. All companies produce according to orders already received. Most of these companies work through buying agents/ houses located in Bangladesh and representing large international retailers. Most of the companies surveyed sell to relatively few buying agents and there was relatively little attempt to develop new markets.

## Order Cycles

The order cycle for RMG extends from the time the buyer presents a design to the time that the finished goods are delivered to the buyer's warehouse. The time for the initial design phase depends on its complexity, the sequence of samples that must be produced and turnaround time for approval at each stage. For a new design, manufacturer will produce a fitting design to test the appropriateness of the pattern and colors. Additional samples will be required to evaluate subsequent design changes. Often a head of production sample is often required to confirm the quality of the final product and provide samples for promotion. The time for the design phase can extend from a few weeks to several months. The samples are transported by courier services and the buyers and manufacturers conduct their transactions by phone or e-mail, so there are limited opportunities for reducing the length of this phase.

The next phase of production involves assembling the local and imported inputs. The time required depends on the source of the material and accessories. It is longer for woven garments because of the greater dependency on imported fabric and accessories. Since the buyers specify the type, pattern and color of the fabric, there are limited opportunities for reducing the order time by maintaining an inventory of finished fabric and accessories. The only fabric that can be kept in inventory is gray cloth of standard specification that can be dyed to produce relatively simple patterns

Most manufacturers have large modern factories with multiple production lines devoted to different products. The production runs for individual orders are scheduled so as to ensure good utilization of labor and equipment. All inputs must be delivered prior to the start of production. If there are uncertainties in delivery times, slack time is provided to ensure that all inputs have arrived prior to the start of production. Once the inputs have been assembled, the time to produce the garment averages about one month for both woven garments and knitwear. Actual time depends on the size of the order and can vary from two weeks to two months.

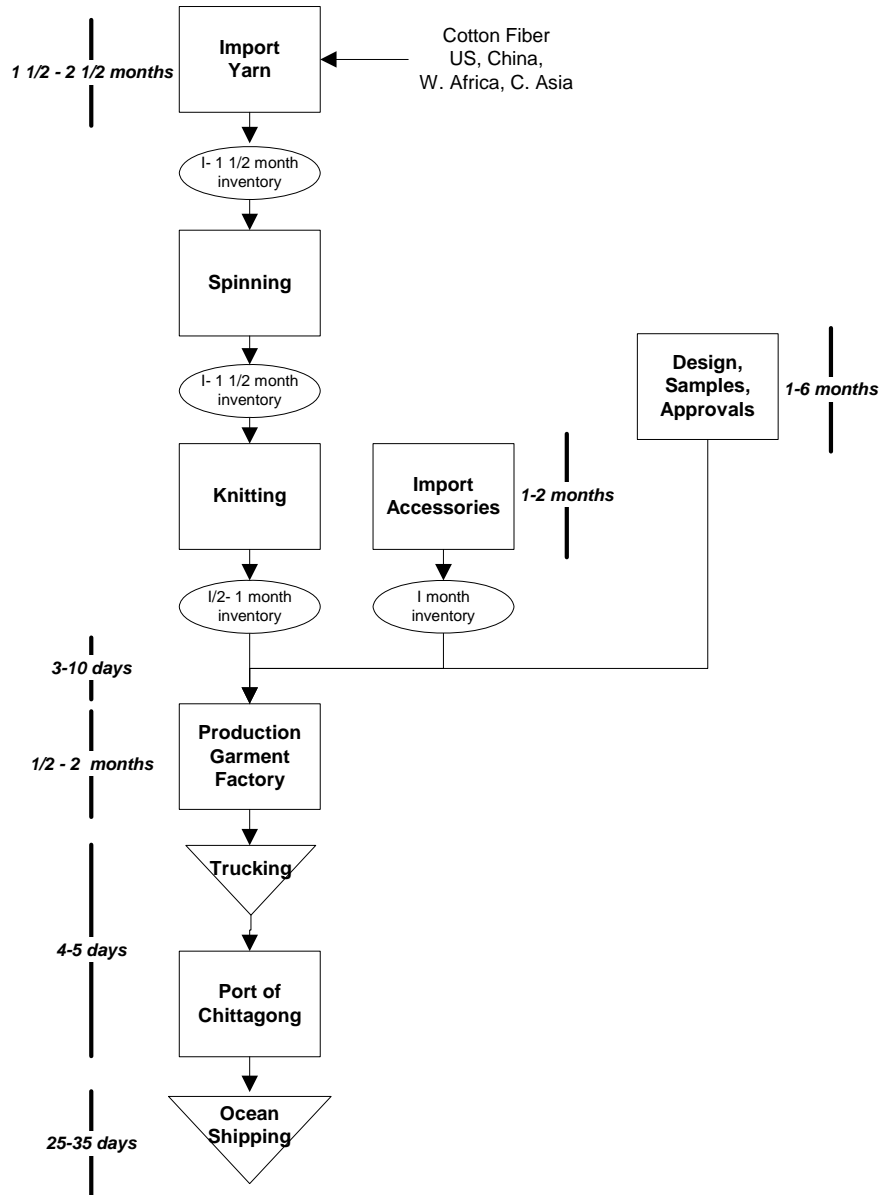
Figure 7 presents a schematic showing the time components of the knitwear order cycle. Improvements in logistics, especially in the clearance of goods, have allowed the manufacturers to reduce their order cycle by  $\frac{1}{2}$  to 1 month over the last five years. Garments are shipped directly to the buyers generally on FOB terms. Manufacturers hold only enough inventory to consolidate a shipment. The time for shipment from the factory to the buyer's warehouse depends on three sequential movements:

- a domestic land movement from the factory to the port, either as a single mode in a truck as loose cargo or as a multimodal movement in a container on rail and loose cargo in a truck,
- an ocean movement on feeder vessel up to Singapore or Colombo and then on a mainline vessel to the destination port, and
- a foreign land movement from the port of destination to the buyer's warehouse.

The manufacturer or his forwarder arranges the domestic movement, whereas the foreign buyer acting through his forwarder arranges the ocean and foreign movements. For the domestic movement, the goods are loaded into a marine container at the port, off-dock container yard near the port, or Dhaka Rail Inland Container Depot (ICD) in Kamalapur. The latter involves a more expensive and slower multimodal

movement but provides the additional protection and efficiency of stuffing the container at the ICD rather than the port.

Figure 7: Inbound and Outbound Supply Chains for Ready Made Knitwear



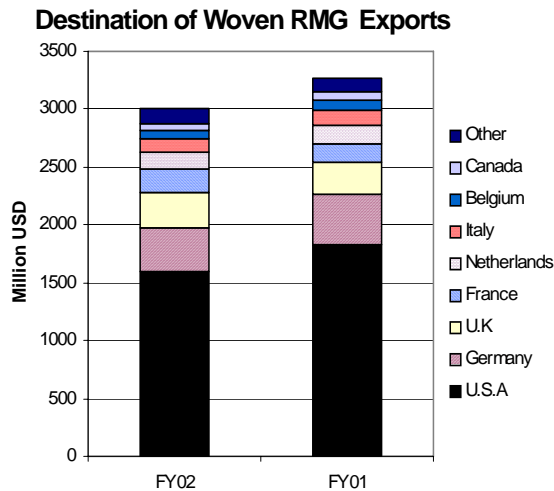
The time the container is in transit to the buyer's warehouse depends on the destination. The transit time from Dhaka/Narayanganj to Chittagong Port is usually only one day, while the time in port varies from one to four days depending on the arrival time of a feeder vessel. Very few feeder vessels operate to fixed schedules,<sup>6</sup> but there are frequent sailings. The transit time to Singapore/Colombo, including time to unload at these ports, is 6-7 days. The time the goods spent at the transshipment port waiting for the

<sup>6</sup> Neither fixed day of the week nor fixed voyage schedule.

mother vessel is uncertain. The mother vessel is generally designated by the buyer.<sup>7</sup> and operates to a fixed, day-of-the-week schedule. Since feeders do not operate to a fixed schedule, it is not possible to synchronize with the mother vessel. Instead it is necessary to include several slack days to insure the connection is made. Once loaded on the mother vessel, the remainder of the journey up to the buyer's warehouse can be tightly scheduled.

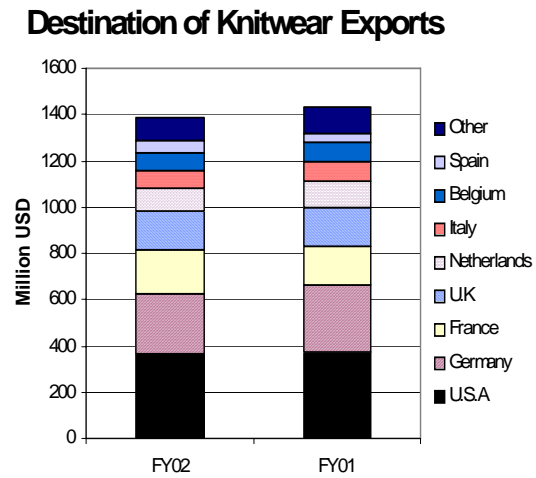
The primary destination for woven goods is the US (Figure 8) even though the duties charged Bangladesh (15%) are high relative to those of other less-developed countries (0%). This is partly explained by the fewer annual collections and the longer planning horizon of US retailers. In contrast, the primary destination for knitwear (Figure 9) is the EU, a non-quota market in which Bangladesh enjoyed GSP and now ABA status.

Figure 8



Source : Bangladesh Export Competitiveness Concept Paper

Figure 9



Source : Bangladesh Export Competitiveness Concept Paper

About 3/4 of the companies use imported finished fabrics. The order time for woven goods is typically 3½ -4½ months, which includes 1½ -2 months for design and procurement of material, one month for production and 1-1½ months for delivery. For new designs, the sample production and approval process generally adds 1-1½ months to the cycle. Because knitwear uses primarily local inputs, order times are shorter and Bangladesh products more competitive. Typical order times are in the range of 2½ -3½ months. This can be reduced to 2-2½ months for repeat designs using available inputs.

Bangladesh's order cycle is comparable to that reported in Laos where yarn and fabric must be imported from Thailand. Although the distance from their suppliers is shorter, the order times are similar. Production time is also comparable. Exports are transported from the factory in containers to the Thai ports and loaded on the ship is 3-5 days. The transit time to Singapore for transshipment is only 2 days and since the feeders operate to a day-of-the-week schedule, the time in Singapore is only a few days. The result is a savings of 1 week to ten days and a slightly lower freight rate. In contrast, Thailand produces its own fabric and has an even shorter order cycle, 2-4 weeks less than Bangladesh. This advantage is partially offset by the higher unit costs for Thai labor.

<sup>7</sup> The larger buyers select vessels based on worldwide agreements rather than minimum shipping time. Smaller buyers must balance transit time and freight rate in making this decision.

Vietnam has unit labor costs similar to Bangladesh but a slightly shorter order cycle due to tighter domestic logistics even though it imports most of its yarn and fabric from China and must transship its garments via Singapore or Hong Kong.

In China, the availability of domestic textiles and the location of manufacturing facilities near to the port reduce the order cycle an additional two weeks relative to Vietnam. For woven garments and knitwear the order cycle is 2-2½ months (3-3½ months with imported fabrics). The shipping time from the factory to the US West Coast is shorter than for Bangladesh, only about 23 days. Transit times to the US East Coast are only a few days.

Over 90% of Bangladesh’s garment exports are shipped by sea, but a substantial and increasing share are shipped by airfreight. Relatively few of these air shipments are done at the request of the buyer. Rather, a manufacturer, who is late in delivering the garments to the port, will choose airfreight rather than miss an agreed delivery date. Since door-to-door costs with airfreight are about 5 times greater than those with ocean freight, the impact on profitability is considerable. This problem is further exacerbated during the peak season when there is insufficient airfreight capacity and air freighters must be chartered in to meet demand.

### Competitive Requirements

The RMG sector has grown in value at an average annual rate of about 20%. This growth has been achieved because of the low cost of manufacturing relative to its competitors and access to quotas in the US market and GPS status in the EU. In recent years the manufacturers have had to reduce their margins in order to remain competitive and unit prices have declined over the last four years in anticipation of the end of the MFA agreement. This followed increases in the previous years (Table 3).<sup>8</sup> While the volume of exports as measured in pieces has continued to show robust growth, the growth in value of the exports has slowed. About ½ of the production is on a CMT basis.

**Table 3: Unit Price Index for RMG Exports**

1995/96	158
1996/97	172
1997/98	201
1998/99	215
1999/00	218
2000/01	196

Source BBS Monthly Bulletin

The competitive challenges facing Bangladesh’s garment industry over the next five years will continue to focus on price and quality of products, standards of manufacturing and order cycle. The industry has been successful in addressing the first three and can continue doing so assuming political stability and improving labor relations. Order cycle times will be more problematic. For knitwear, the order cycle time of 2½-3 months, assumes relatively little upfront design, is comparable to China and Vietnam for shipments to Europe and only slight greater for shipments to the US West Coast. For woven goods, the additional month required to import fabric places Bangladesh at a competitive disadvantage relative to China while its longer inbound supply chain puts it at a slight disadvantage relative to Vietnam.

<sup>8</sup> Part of the increase is explained by improvements in quality of products but this trend has continued even as unit prices have dropped.

If Bangladesh is to continue producing large amounts of low-value woven garments, it will have to significantly improve the performance of its inbound and outbound supply chains. If the knitwear industry is to continue its rapid growth, it will have to improve its outbound supply chain from factory to buyer's warehouse. The difficulty with improving these supply chains is that the garment industry has limited control over logistics services and no control over the associated infrastructure. Most improvements will require action by government. Although there has been substantial success in streamlining customs and improving trade finance, further improvements are required. The government also needs to address the delays caused by poor transport infrastructure and inefficiency due to public management of commercial transport services, most notably the Port of Chittagang and the Bangladesh Railways.

The competitive alternative for the RMG industries, the alternative is to focus on niche markets with higher value more sophisticated products as suggested in the recent evaluation of the textile industry by Ghezeri Consultants. However, these markets require greater flexibility in production and are also sensitive to order cycles. Their evaluation also suggests the need for further integration in the production of yarn, fabric and garments, which would reduce the order cycle. Among the recommendations from the Ghezeri report were a reduction in the bureaucracy and corruption involved in shipping both inputs and outputs and providing a central bonded warehouse for dyes and chemicals

## 11.2 Leather and Tableware

### Leather

Leather and leather products are similar to garments except that most of the leather is produced locally and some is exported. Only the accessories are imported. The industry has been changing over the last decade with the breakdown in the traditional pattern of integrated shoemaking into five activities, design, leather production, manufacture, assembly of components and brand management. The first and last are generally performed by the same entity which then outsources the others (Figure 10). This remains a labor-intensive activity. As the value of the product increases from slaughterhouse to retail product, the activity are shifted from low wage to high wage companies.

The change in the industry can be observed in Bangladesh where integrated shoemakers are in decline and the major activity has become production of crust leather. Bangladesh continues to export blue and crust leather but the volume has not grown, instead fluctuating about 15 million square yards as shown in

Figure 10: Leather Goods Production

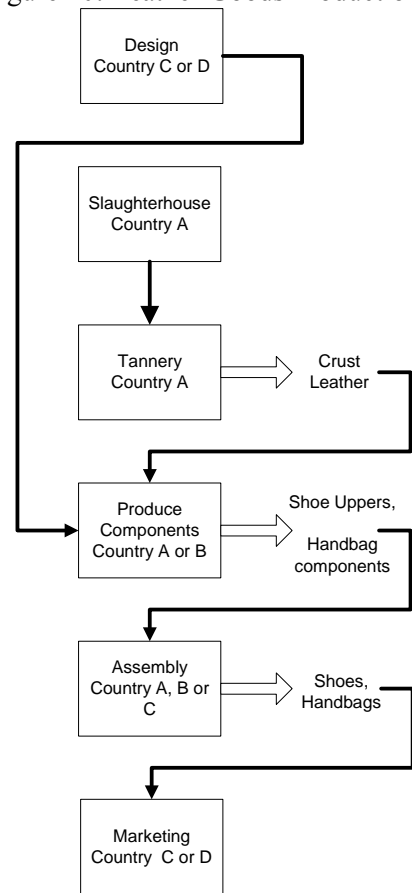
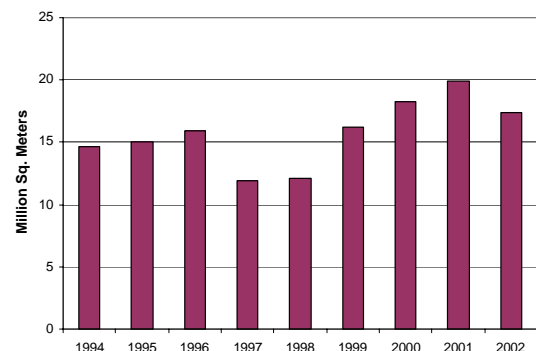


Figure 11

Production of Leather



Source: Bangladesh Desk Study Report on Leather

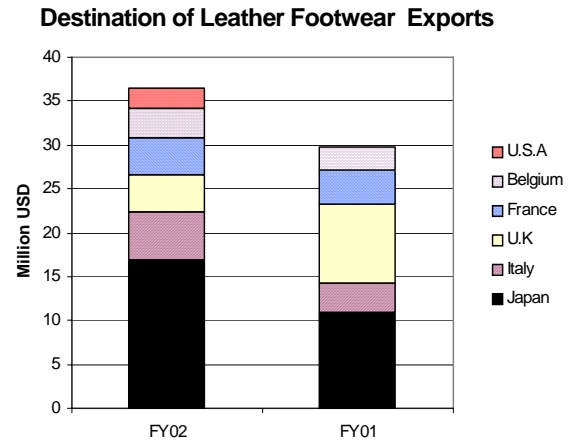
Figure 11. As a result earnings rose to \$250 million in FY2001 but have since declined to \$200 million. This leather is exported primarily to Hong Kong and Italy for production of footwear and handbags.

Figure 12



Source: Bangladesh Desk Study Report on Leather

Figure 13



Source : “Bangladesh Export Competitiveness” Concept Paper

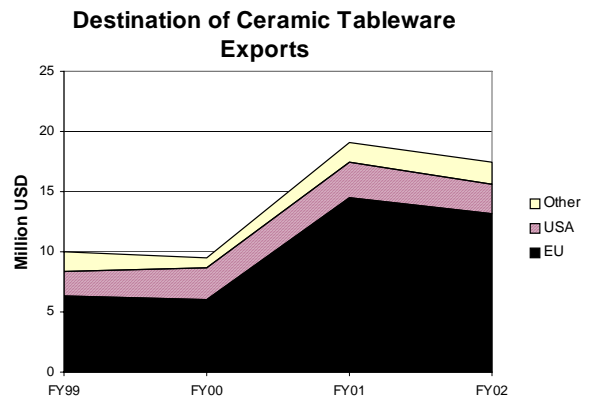
Bangladesh has had difficulty in exporting shoes and handbags. Its traditional business was to produce for small orders, but the demand has shifted to large-scale production. The logistics for leather products are less demanding than for garments because the styles change slowly and the buyer is able to hold some stock. Currently there is only one factory able to operate as a contract producer providing large volumes of lower value footwear for a European manufacturer. It imports insoles from Germany, linings from Taiwan, thread from India and accessories from Italy to produce shoes and uppers. Its output, at about 150 thousand pairs of shoes per month was sufficient to create an increase in exports of leather goods towards the end of the 1990’s (Figure 12).

For large-scale contract producers of footwear, the sources of competitive advantage include not only low cost and reliable quality but also ability to meet large orders. Most of the leather products are exported to the final markets, i.e. Japan and EU but relatively little to the USA (Figure 13). The components are of relatively low value and are shipped by sea to reduce the delivered cost.

**Tableware**

The production of tableware and other ceramics differs from garments and leather in that most of the activities are performed locally. The manufacturers are all small scale. The inputs are obtained locally except for some of the clays and glazes. These must be imported but are generic and relatively low value so that the manufacturers can maintain several months inventory. This is important because the efficiency of production is dependent on continuous firing in the kilns. Most of the exports are shipped by sea to the EU (Figure 14)

Figure 14



Source : Bangladesh Export Competitiveness Concept Paper

The designs tend to be local although there is close collaboration with the buyers. The logistics are simple and less time sensitive than for garments. For inbound logistics, it is important to minimize the delivered cost of the inputs. For outbound logistics, cargo safety is as important as is cost. Time is less important as the buyers are generally willing to hold inventory. Designs change relatively slowly and most sales are filled from warehouse inventory rather than from retailer's shelves. However, this pattern is changing as the big box retailers, such as IKEA, enter the market for low-to-medium value goods. They are less willing to hold inventory and more demanding with regards to their order cycles.

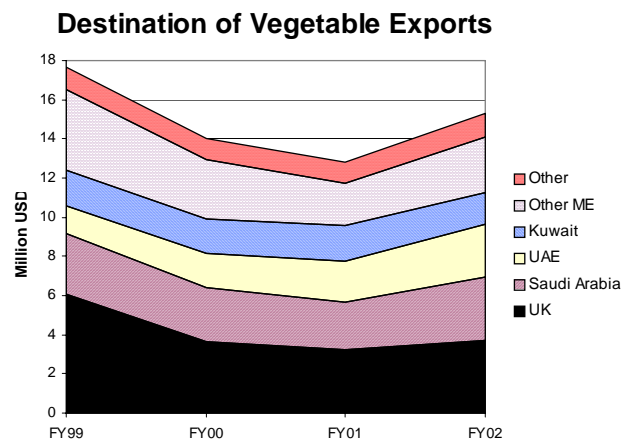
As with garments there are two possible scenarios for increasing the value of exports of leather goods and tableware. The first is to increase the volume of exports focusing on the low-to medium value products. The second is to look for specialty markets with lower volumes but higher unit value. The first scenario involves competition with major exporters such as China and India, but is the one that Bangladesh is best equipped for. It can also take advantage of the business models developed in the garment industry. However, this would require investment in large-scale production and changes in management to improve marketing and reduce order cycles. The inbound logistics are less demanding than for garments because most of the raw materials are produced locally and those that are imported are of relatively low value and can be shipped by sea. The outbound logistics are less demanding because styles change relatively slowly for the low-to-medium value products and the buyer is willing to hold some inventory. The leather exports are more demanding than tableware because most of the production is used as inputs to the production of shoes and handbags at overseas plants.

### 11.3 Fresh Vegetables

The other major exports, vegetables and shrimp, have elaborate logistics because the products are perishables and production involves small-scale rural producers. The export of fresh vegetables has declined over the last five years as a result of a decline in sales to the UK markets (Figure 15) partially offset by the growth in the demand in the Gulf area. However, in the last few years there has been relatively strong growth. The principal constraints on this growth have been problems with production and logistics. One company, BRAC, (Bangladesh Rural Advancement Committee) has been responsible for most of the fresh vegetable exports. It purchases the vegetables directly from contract farmers to whom it supplies seeds and other agricultural inputs in order to ensure the quality of their crops. It operates two small processing facilities near the farms to select, grade, test, and package the vegetables. The crops destined for Europe are sent to a larger processing facility in Tongi where additional tests are conducted as required by the EU. The vegetables are trucked from these facilities direct to the airport. BRAC provides its own refrigerated trucks and cool storage.

The major exports include French beans, bitterroot, long beans, chilies and some traditional vegetables. The total amount shipped in 2003 was about 800 tons of vegetables and 1000 tons of potato. Export shipments vary in size from one to ten tons. These are sold to wholesalers and buyers for supermarkets in Europe, the Middle East and, to lesser extent, Southeast Asia.

Figure 15



Source : Bangladesh Export Competitiveness Concept

The retail outlets for these products have been changing for small specialty stores selling primarily to South Asians to large grocery stores selling to a broader clientele. As a result, there has been increasing emphasis on delivery times and quality standards. At the same time order sizes have also increased. Most of the growth has been achieved through networking with buyers as well as through participation in vegetable trade fairs in Singapore, Dubai, California and Netherlands.

BRAC exports against year-round contracts that include standing orders for certain types and amounts of vegetables. These are shipped by air on a daily or weekly basis. In order to be competitive in the Middle East, BRAC uses the national carrier, Biman Airlines. Biman offers concessionary rates, only \$0.70 per kg., but limits the amount of space available at this rate. As a result, BRAC cannot fill all of the demand from buyers in the Middle East. Since Biman does not have concessionary rates to Europe, BRAC uses other commercial carriers for this destination and pays rates of about \$1.3 per kg.

Because the maximum permissible shipping time for leafy vegetables, which make up a majority of the exports, is 10-12 days, the markets that can be served by ocean freight are limited. The unmet demand in the Middle East could be met through shipment in ocean containers, but this would require careful planning and transshipment through Colombo. It would also require proper packing and mixing of fresh vegetables in containers. Currently only potatoes are shipped via ocean freight. These move in containers to Singapore and Malaysia. For Europe, airfreight must be used because of the time required for ocean shipment even though it reduces profitability and limits market access.

BRAC is now considering increasing the value of its products by exporting frozen vegetables to European markets. This would reduce the impact of airfreight on profitability, but, more importantly, would allow for the use of refrigerated marine containers. Shipment by sea would overcome the problem of insufficient airfreight capacity while increasing profitability. Since, the logistics are already in place, it only remains to be seen if BRAC can establish efficient freezing facilities and if the market for frozen vegetables is as strong as for fresh vegetables

## II.4 Shrimps and Prawns

The other perishable export is Tiger Prawns (*Penaeus monodon*) exported to the United States and freshwater prawns (*macrobrachium*) shipped to North Europe. Shrimp account for about 90% of the value of Bangladesh's marine exports but less than half in terms of quantity. Bangladesh has nearly tripled its production of shrimp during the last decade and exports about 1/3 of its production...<sup>9</sup>

The total value of the exports has only doubled over the same period (Figure 16) due to increasing competition. The price steadily increased through the mid 1990s, but has since declined. The current FOB price for 16-20 Shrimp (36-44 per kg) is \$11.90 at Mongla port.

Bangladesh's production remains small compared to its competitors (Table 4). Bangladesh's exports about 32 thousand tons. Thailand, the major exporter of shrimp is Thailand exported about

Figure 16



<sup>9</sup> The same ratio applies for world trade in shrimp.

135,000 tons in 2001. Other large exporters include China, India and Indonesia. The total volume of exports has been fluctuating in recent years as the demand in major markets has changed. The major destinations for exports are the EU and USA (Table 5), but there has been a shift in markets as the share of exports sent to the US and Japan have declined significantly in the last five years. The US share is expected to decrease further, albeit temporarily, due to recent anti-dumping tariffs imposed by the US.

## Production

The shrimp industry suffers from high mortality of fries, low yields at the farm because of traditional farming practices, and limited processing capacity. Traditional shrimp farming relied on collection of fry from the mangrove swamps and inland waterways, but since 1997 these have been a dramatic growth in production of fry from shrimp hatcheries. Most of the hatcheries (44 out of 48 in 2000) are located in Cox's Bazaar and Teknaf in southeastern Bangladesh where there is the right combination of fresh and salt water and a natural supply of shrimp fry to replenish the brood stock. Most of the shrimp are grown in farms located about 700 kilometers to the west in the rural areas of the Khulna division, the center of the traditional shrimp farming industry.

Fries are transported from Cox's Bazaar in polyurethane bags containing a saline mix. This involves movement by truck to the airport, then small plane to Jessore and finally movement by truck to the farms around Khulna. The yield from the fry has been relatively low with mortality rates of about 60%. This mortality is attributed to problems with the quality of the broodstock, the farming techniques, viruses and the stress associated with multimodal transport. Recent efforts to test the fry prior to shipment and more careful planning of the shipment have reduced mortality to about 30%.

There are approximately 37.4 thousand farms cultivating tiger shrimp. The average farm size is 4.5 hectare but yields are only about 0.2 tons/hectare. There are also 30 thousand hectare of farms producing fresh water shrimp with yields of about 0.4 tons per hectare. Currently the farmers use a combination of local and imported feed. The latter, artemia, is shipped in containers from the United States through Chittagong and trucked down to Cox's Bazaar.

The growing season for shrimp is 120 days and there are two seasons per year, after which the monsoon rains are used to clean the ponds. Once the shrimp reach maturity, they are packed in barrels with ice and transported by truck to processing plants around Khulna. The plants sort, grade, clean, dehead and freeze the shrimp. There are about 128 shrimp processing factories. About half of these are licensed but only 53 are certified to export to the EU. Recently some new processing plants have been established in Chittagong to take advantage of the better shipping services at Chittagong port. Shrimp and prawn are exported in frozen blocks packed in 2 kg cartons that are then packed into master cartons of 20 kg. These

**Table 4: Shrimp Production in Major Producing Countries**

Country	Annual Production in 2000	Avg. 10 Year Change
China	1242	120%
India	406	35%
Thailand	399	38%
Indonesia	399	34%
USA	153	3%
Vietnam	151	86%
Canada	131	193%
Malaysia	112	7%
Bangladesh	58	196%
World	4168	45%

Source: Globefish

**Table 5: Destination for Shrimp Exports**

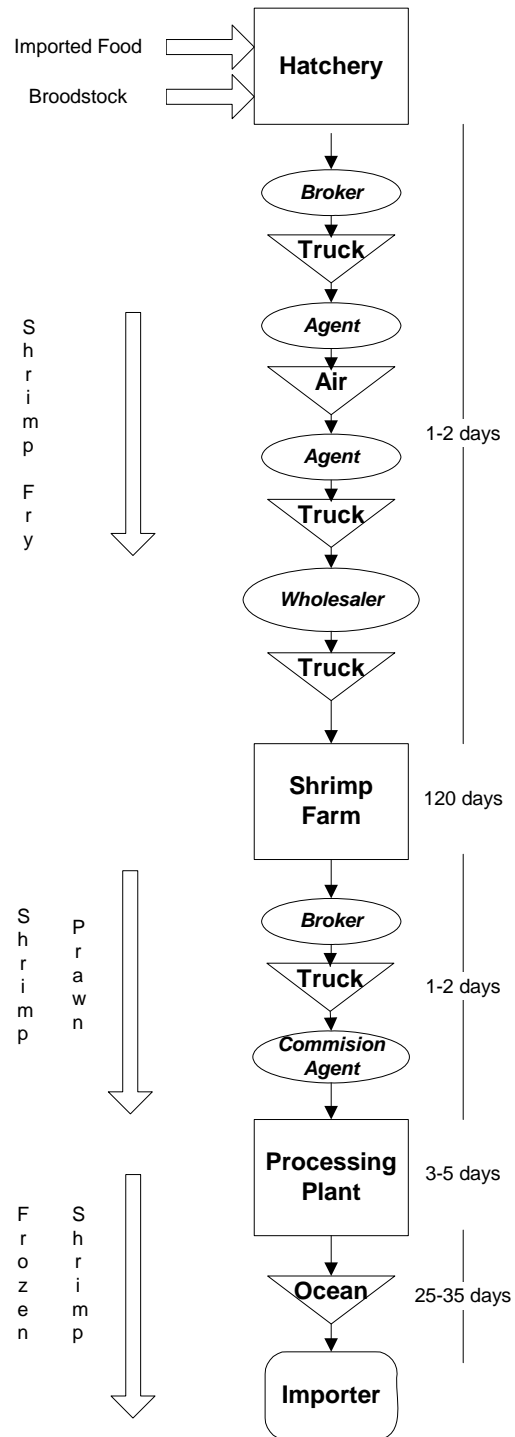
	2001/2	2000/1	1999/00	1998/9
USA	97.4	119.1	125.9	95.3
UK	62.1	59.9		
Belgium	26.5	35.0		
Netherlands	22.0	45.1		
Germany	16.2	31.7		
Japan	11.4	28.0	36.2	32.2
Thailand	7.3	9.8	22.3	12.0
France	4.4	7.6		
Other	5.0	13.7		
Total	252.2	349.8	322.4	242.2

Source : BBS, Statistical Yearbook. IBRD Competitiveness Study

Figure 17: Supply Chains for Shrimp Exports

are then loaded into refrigerated containers for transport by barge to the Port of Mongla where they are loaded onto feeder vessels.<sup>10</sup> From Mongla, the shrimp are shipped via Singapore to Northern Europe and East Coast of the United States. Typical shipping times are 30 days to Europe and 40 days to the East Coast of the US. Exports of frozen shrimp have problems with reliability of delivery, similar to that for garments, but the buyers are able to maintain sufficient inventory in cold storage to offset any delays.

The level of production has been limited by both the production techniques and cumbersome logistics. Better production techniques including the use of closed-water shrimp cultivation practices and more extensive use of imported feed could triple farm yields. Also efforts are being made to increase the value of exports by producing quick-frozen, peeled, and deveined butterfly cut shrimps. However, the growth of exports continues to be constrained by problems of quality control. The lack of control results in shipments that are underweight and have shrimp that are under-sized, mixed sizes, or have black spot. These prevent Bangladesh from obtaining better value for its shrimp exports. While the government prohibits the export of shrimp and prawns that are not frozen or processed and shrimp that do not exceed specific size limits, 71/90 per kilogram for saltwater shrimp and 61/70 per kilogram for fresh water shrimp, these regulations are not always well enforced. In 1997, problems with the quality of the shrimp caused the European Commission to ban imports of fishery products from Bangladesh. Subsequently it licensed certain processing plants. Since then, both the government and the processing plants have made substantial investments to improve the quality of the processing plants including new labs and cleaning equipment to meet the HACCP quality standard.<sup>11</sup> Despite these efforts,



<sup>10</sup> The container vessels that call at Mongla do not do so in terms of reefer containers for export.

<sup>11</sup> Hazard Analysis And Critical Control Point (HACCP) is a method for maintaining quality standards at all stages of production. It focuses on micro-biological, chemical and physical hazards. This is applied at both the shrimp farm and the processing facility. The physical, chemical and biological tests done by exporters as per HACCP include tests for salmonella, vibrio cholera, E coli, antibiotics, standard plate count, and others including heavy metal as per buyers requirements. The government standards for exports are set out in the Codex 1998 (based on 1995 Codex Alimentarius Commission) and subsequent revisions

Bangladesh continues to have a negative reputation regarding the quality of its shrimp exports. These problems of quality control are compounded by poor logistics that cause long order cycles and missed shipment dates.

## **Supply Chains**

The supply chain for shrimp farming is complex and inefficient. The hatcheries sell the fries to local brokers who transport them to the airport for sale to agents who airfreight them to Jessore. At Jessore they are purchased by brokers who transfer them to the wholesalers. The wholesalers then sell them to agents who transport them to the farms. The farms sell the shrimp to commission agents who then deliver them to the processing plants. Because of this fragmented supply chain, farmers lack direct contract with either the source of fry or the markets in which the Tiger prawn and fresh water prawn are sold.

The principal challenges for the shrimp export industry are to improve the quality of fry, the efficiency of the shrimp farms and export quality control. These require better logistics including more careful handling of the fry during transport from the hatcheries to the farms, better control of the temperature in which shrimp are transported, and a reduction in the number of transactions and middlemen so as to allow direct interaction between the shrimp farmers and both the hatcheries and the processing plants. Because frozen shrimp are high value cargo with relatively long shelf life, the growth in demand has not placed competitive pressure on the cost and time for shipment. The handling of refrigerated containers has been relatively robust and the shipping lines have been able to adjust their schedules to meet the needs for shipping during peak season.

Vietnam, one of the largest exporters of farmed shrimp, employs simpler supply chains. Its outbound logistics have problems because the farms and plants are located in the Mekong Delta away from the major ports. However, it has improved the cold chain by providing both refrigerated vans to carry shrimp for loading into containers in Saigon Port and barges to transport reefer containers direct from the factories to vessels loading in the port. A similar barge service could be established in Bangladesh to move the reefer containers from the factory to vessels calling at Chittagong. This could offer a less costly and more reliable service than relying on feeder vessels to make a second call at Mongla.

Thailand's logistics are simpler but more sophisticated. About 65% of the annual output is processed into frozen shrimp in the form of blocks or individually quick frozen prawns. These are transported direct to the international market by refrigerated cargo vessels taking 20-30 days to the United States, 7-10 days to Japan and 30-45 days to Europe.

## ***II.3 Summary***

Bangladesh's competitiveness as an exporter depends on its ability to produce and deliver goods quickly and reliably. For Ready Made Garments, the markets in which Bangladesh competes are highly competitive and very dependent on efficient logistics. Potential new markets in higher value goods would require greater flexibility in production and in the supporting logistics. The improvements in logistics that would most benefit this industry are an efficient container terminal operation at Chittagong and customs bonded warehouses for imported yarn and fabric. For exports of leather products, the challenge for Bangladesh is to move beyond the exports of crust leather and small shipments of finished products to large-scale production of components for leather products and eventually to assembly of these goods. The production of components would require investment in production facilities but only modest improvements in logistics whereas exports of finished goods would require the same improvements in the port as for garments. For growth in exports of tableware, the industry would have to open new markets, specifically with large retailers. This would require a dramatic increase in the scale of production and

similar improvements in port performance. The perishable exports, vegetables and shrimp, are even more dependent on good logistics. For vegetables, the cost and availability of airfreight has limited the growth in exports. For expansion into existing and new markets, it will be necessary to produce frozen vegetables and export them in refrigerated containers. This requires new facilities and an efficient cold chain along with improved container shipping services. For shrimp, there is the broader challenge of improving the entire supply chain so as to improve product quality, ensure more effective interaction between the hatcheries, farms and factories, and provide more efficient shipping services.

### III. Transport Corridors

The two major transport corridors that serve Bangladesh's international trade are those that connect Dhaka with West Bengal and with Port of Chittagong. Other transport corridors that serve international trade handle much smaller volumes. These include the routes connecting Dhaka and Chittagong with Assam, Meghalaya, Tripura, Bhutan and Nepal.

#### *III.1 West Bengal-Dhaka Corridor*

The West Bengal-Dhaka corridor includes the road route through Petrapole/Benapole border crossing and the rail routes through the border crossings at Darsana, Rohanpur, Benapole, and, to a lesser extent, Biral. The first is the primary route for manufactured goods imported from India and for the much smaller amount of goods exported from Bangladesh. Most of the imports of Indian fabric and yarn for the Bangladesh garment industry had moved on this route until the government prohibited use of this route for these cargoes.<sup>12</sup> The rail routes are used primarily for bulk shipments of grain, stone and other low value commodities.

Both the road and rail routes require an interchange at the border. For road transport, the cargo is transferred between Indian and Bangladeshi trucks. For rail transport, the Indian wagons move across the border but not the locomotives. Bangladesh wagons do not cross into India because they have smaller capacity and cannot travel at the speed of Indian trains. Since Bangladesh Railways requires shorter trains, the Indian rakes must be reconfigured. Even then, they cannot cross the Jamuna Bridge because of weight restrictions on the wagon.<sup>13</sup> As a result about half the wagons go to Noapara where they are offloaded to barges for shipment to eastern Bangladesh. The other half follow a circuitous routes that leads to a terminal just west of the Jamuna Bridge. The potential for growth in rail traffic, both bulk and container, is considerable but will require a lifting of the restrictions on the use of the bridge.<sup>14</sup> Additional traffic will be generated once the proposed bridge across the Padma River has been constructed as this will offers a faster land route from Khulna to Dhaka than via the Jamuna Bridge.

The road crossing at Petrapole/Benapole is a major source of delay for goods moving by truck between West Bengal and Bangladesh. On the Indian side, there has been little development of infrastructure resulting in long queues at the border. These delays have been partially offset by attempts to simplify customs procedures for exports, which are a majority of the traffic. However, the idle time spent by Indian trucks at Petrapole is much greater than the time in transit from Kolkata as shown in Table 6.

On the Bangladesh side, there has been extensive development of the land port infrastructure, but the procedures for clearing import cargo have become cumbersome. Indian trucks wait for customs before off-loading their cargo at the land port in Benapole. Non-perishable cargoes are placed in temporary storage to await customs inspection. After being cleared, their cargo is reloaded to a Bangladeshi truck. This process requires considerably more time than the transit to Dhaka. This entire transfer is done under the supervision of the Customs. Rather than encouraging the movement of cargo under seal to a location closer to its final destination where the customs formalities can be completed, Customs has introduced delays at the border.

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<sup>12</sup> This was introduced as a Non-tariff barrier to trade at the urging of the domestic textile producers. The water route from the mills in Kolkata to the garment factories located near Dhaka takes much longer and involves more handlings of the cargo.

<sup>13</sup> Also there is little incentive since the broad gauge line does not yet extend to Dhaka.

<sup>14</sup> A High Point Rental Report recently confirmed that the bridge can support wagons carrying loaded containers.

Recent improvements in the land port operations have reduced the turnaround time for Indian trucks to 3-4 days. Most of this time is spent waiting for customs officials. The additional time that cargo remains in

**Table 6: Performance Statistics for Petrapole/Benapole (hours)**

Activity	If no delays	Actual average	Coefficient of Variation
Load at Kolkata	2.5	6.6	2.48
Transport to Petrapole	2.4	5.6	.28
Time at Petrapole	21.3	99.4	.25
Time Waiting at Benapole	N/A	N/A	N/A
Unload at Benapole	1.8	10.8	1.32
Return to Petrapole	1.6	6.3	.41

Source: Das and Pohit, NCAER

the land port depends on the importer and type of cargo, but, with the exception of perishables, the time to clear customs is not be less than 4 days. More worrisome, there is no incentive to speed the transfer of cargo since customs officials benefit from informal payments while the operators of the land port make money selling the storage space for cargo waiting to be loaded on to Bangladeshi trucks.<sup>15</sup> The land port solved the problem of lack of infrastructure, but in the process created a significant impediment to trade facilitation.

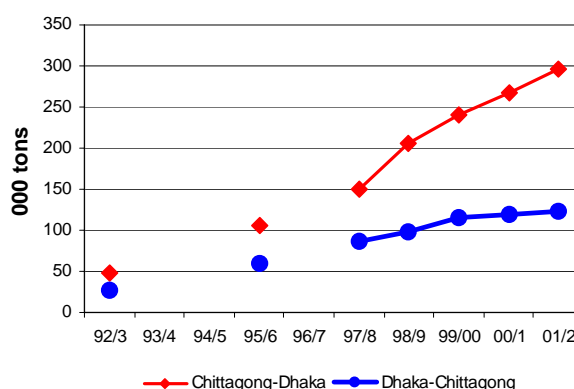
### III.2 Chittagong-Dhaka Corridor

The Chittagong-Dhaka corridor includes major road, rail and inland water routes as well as an airline connection. The road connecting Dhaka and Chittagong is a combination of two lane sections and dual carriageways. The former are gradually being upgraded to four lanes. The road can accommodate tractor-trailers with fully loaded 40' containers but most of the freight is carried as loose cargo in four and six wheel fixed-axle trucks. Congestion occurs around the urban areas of Narayanganj and Dhaka. The current transit time of 6-7 hours implies an average travel speed of only 35-40 kph. Despite the congestion, the road handles about 83% of the container cargo moving between Dhaka and Chittagong, but this is due to limitations on railroad capacity.

The rail line between Dhaka and Chittagong is single track, meter gauge with the exception of the segment between Dhaka and Tongi, which is dual gauge. Three sections along the route have capacity utilization of over 80% and act as choke points for the line. The most congested is between

Figure 18

**Container Traffic Chittagong-Dhaka Corridor**



<sup>15</sup> The operators also make money from charging for parking space used by the the Indian and Bangladesh trucks waiting to transship. Bangladeshi truckers have refused to use this area and instead park along the side of the road. On the Petrapole side of the border there has been no development of warehousing because of the small volume of imports from Bangladesh, however, a parking area has been constructed allowing the operators to profit from the queue caused by inefficient export clearing procedures.

Tongi and Pubail where about 50 train moves are scheduled each day, including eight freight trains. The container traffic on this route grew substantially over the last decade (Figure 18), but has now leveled off because Bangladesh Railways has been unwilling to increase the number of unit trains operated on this route.

The airline services include frequent daily flights by Biman and GMC using a mix of aircraft. However most of the aircraft are small, Dash 8 and Fokker 28, and have very limited airfreight capacity.

The inland water route connects the river port of Narayanganj through the Meghna and across the bay to the port of Chittagong. The IWT services are low cost and slow but the transit time is not unreasonable since the distance is relatively short. However, the traffic is limited because most of the final destinations are not on the river and the door-to-door movements require at least one and sometimes two truck movements, which add to the cost and time and also damage due to multiple handlings.

## IV. Transport Modes

### IV.1 Ports and Shipping

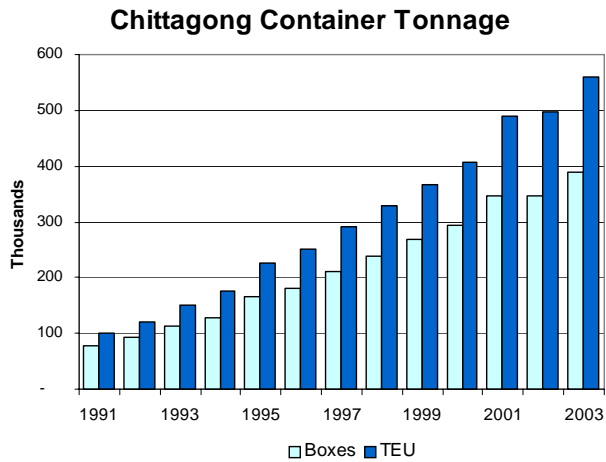
Despite problems with the various routes connecting Dhaka's industrial and commercial areas with the Port of Chittagong, the major bottleneck to movement along the corridor remains the port. Although the volume of container traffic has grown substantially over the last decade (Figure 19), the port remains a container feeder port with no direct calls because of its distance from the major shipping routes and the poor quality of its infrastructure and services. The volume is sufficient to justify several feeder calls per week with strong competition from dedicated shuttle services to both Singapore/Tanjung Pelapas and Colombo.

The feeder vessels calling at Chittagong range in size from 500 to 1000 TEU (twenty-foot equivalent unit). The frequency of the vessel calls and the amount of boxes transferred has been steadily increasing (Figure 20). Currently, container vessel calls average about two calls per day with a typical vessel transferring 600 containers (875 TEU). The vessels are similar in size to those that call at the other mid-sized ports in the region but they are self-sustaining with on-board container-handling equipment ranges from primitive to reasonably modern depending on the age of the vessel. These more costly vessels are required because Chittagong lacks Ship-to-Shore Gantry (SSGs) cranes. Average vessel productivity is very low, about 5.6 boxes per vessel hour (Table 7).

The freight rates and times for shipments to Europe and the U.S. East Coast are comparable to those for Kolkata/Haldia, Penang and Vietnam. Table 8 compares the rates from Chittagong and Haldia to selected destinations. Most of the variation in quoted rates is attributable to differences in volume discounts and transit times offered. Transshipment via Colombo has a price advantage over Singapore but large foreign buyers prefer Singapore because there are more frequent sailings and more direct services available than in Colombo.

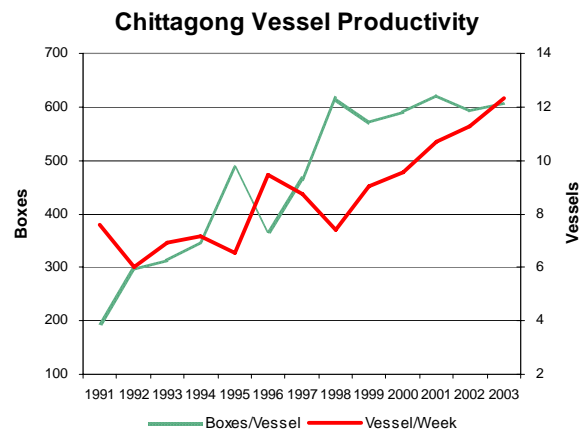
For shipments to East Asia and the Pacific Rim, Bangladesh is at a competitive disadvantage relative to China and countries further east. This disadvantage sometimes extends to shipments to the US East Coast because of the growing popularity of all water routes via the Panama Canal. This can be seen by comparing freight rates for Chittagong with those for Manila, which has a similar reliance on feeder

Figure 19



Source : CPA Statistics

Figure 20



Source:

services but uses Hong Kong and Kaoshiung for transshipment. As shown in Table 8, Chittagong has an advantage of about \$1000 per FEU to Europe but a disadvantage of about \$1300 per FEU for the US West Coast and slightly less for the US East Coast. While this amounts to a difference of less than 2% in door-to-door costs for garments and other mid-value goods, it is significant relative to the profitability of these shipments.<sup>16</sup>

**Table 7: CPA  
Container Performance Statistics**

Feeder Vessel Calls	~ 700/year
Average Container Moves/Vessel Call	600
Containers/Vessel hour	5.6
20:40 Ratio	55:45
Berth Occupancy	93%
Container Dwell Time	22 Days
LCL Boxes	~ 10% Loaded Boxes
FCL Unstuffed in Port	~ 90%
Stripping Operation	~75% in the yard
Speed Money	50%-100% of formal charges

Source: Tera Intl.

**Table 8: Shipping rates and times (US\$- Spring 2004)**

	Freight Rate		Transit Time (Days)
	TEU	FEU	
	Bangladesh		
North Europe	1000-1500	1400-2400	22-30
East Coast US	2600-3800	3800-5000	27-35
West Coast US	2200-2400	3200-4200	19-28
Singapore	230	460	5-6
	Kolkata/Haldia		
North Europe	800-1300	2100-2400	23-28
East Coast US	2600-3000	4000-4800	30-35
West Coast US	2600-3000	2800-4600	27-30
	Philippines		
North Europe	1400-1500	2800-3000	24-31
East Coast US		3000	25-32
West Coast US	1200-1800	2000-2600	13-18
Singapore	250-550		

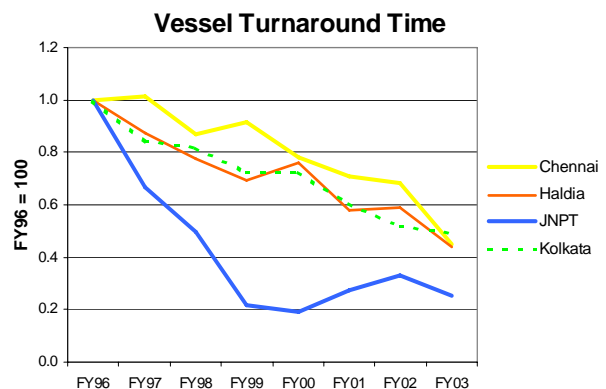
Source: Various Shipping Lines

The average time a vessel spends at berth in Chittagong is 110 hours. While this represents a 60% improvement over 1999, it still places Chittagong among the least productive container ports in the world and at the bottom for ports handling similar volumes of container. Most of the latter have SSGs and average berth times for container vessels are typically one day or less. In addition to slow turnaround time at berth there are delays waiting for tide and available berths. Furthermore, Chittagong's competitors have also been improving their performance. For example, Indian ports reduced vessel turnaround by 50%, over the last seven years (Figure 21) through a combination of investment in equipment, increased private sector participation and greater interport competition.

Berthing delays are reported as being less than one day, but with a berth occupancy of 93% there may be hidden delays as vessels adjust their sailing speed to arrive in time for a free berth. Other ports within the region limit berthing delays to less than 12 hours.

Because of long turnaround times and uncertainties regarding berth availability in Chittagong, most shipping lines do not operate a fixed day-of-the-week schedule as in other mid-sized ports, including Kolkata/Haldia and Saigon. Instead the feeder operators have a variable schedule that depends on the turnaround time in Chittagong. A typical voyage includes five days transit time in each direction, one-

Figure 21



<sup>16</sup> Typically an FEU will carry \$50-\$75 thousand worth of goods in FOB terms.

day turnaround in the transshipment port and five days turnaround time in Chittagong for a total voyage time of 16 days. However the actual can vary by  $\pm 3$  days or more. Also the voyage time may be extended during peak periods to include a call at Mongla to load shrimp and other containerized exports.

The Port of Chittagong is unusual in that it handles nearly 400 thousand containers per year, but has only recently ordered fixed container handling equipment.<sup>17</sup> Under normal circumstances, a container port would acquire a mobile container crane once volumes exceed 25 thousand containers or a Ship-to-Shore gantry crane (SSG) once the volume reaches 50-75 thousand boxes.<sup>18</sup> A second SSG would be acquired before volume reaches 100 thousand containers. CPA is now procuring four SSGs even though the current volume would justify 5-6 such cranes.

The new SSGs could have a significant impact on vessel turnaround. Assuming two cranes per vessel, the average time at berth could be reduced to 18 hours (including time for berthing, unberthing, removing and replacing the hatches, etc). Allowing for tide, the turnaround time in port could be reduced to an average of less than 24 hours.<sup>19</sup> This would reduce voyage time by almost 4 days and allow not only fixed schedules but also day-of-the-week schedules. With these schedules, the exporters could select a feeder vessel based on its arrival time at the transshipment port in order to minimize the time waiting for the arrival of the designated mother ship. The average savings in shipping time that should result is 6-9 days for outbound cargo and 3-4 days for inbound cargo. The value of the time savings in terms of the reduction in vessel costs for a voyage and in carrying costs for cargo is estimated to be on the order of \$100 million per year.<sup>20</sup>

This reduction in vessel turnaround time is unlikely to occur because it depends on having not only good equipment operators and mechanics but also adequate storage area to and from which the boxes can be transferred rapidly. The current congestion in the container yard slows the movement of containers between the vessel and the yard thereby reducing berth throughput. This congestion appears to have two causes, neither of which is being addressed by the planned investment.

The first is dwell time for inbound containers, which the CPA reports as averaging 22 days. While there are several ports that have dwell times of 20 days or more, e.g. Haldia, San Juan, and Bandar Abbas,<sup>21</sup> these ports have sufficient storage area, either in port or in off-dock facilities, to avoid serious congestion. The general industry standard for inbound boxes is between 5 and 10 days. A majority of the inbound boxes at Chittagong fall within this limit because a large portion contain materials for temporary import that stay in the port only a few days. The high average dwell time is due to a small portion of containers that remains in port for an exceptionally long time. Most of these have cargo that is unclaimed or that is being stored duty free until it can be sold out of the box.<sup>22</sup>

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<sup>17</sup> The initial order is an unusual potpourri of container handling equipment to be used in the container yard including 1 Rail Mounted Gantry, 6 Rubber Tired Gantries, 18 reach-stackers and 13 straddle carriers. This will be followed by an order for 4 SSG gantry cranes, but it not clear when these will be available.????[confirm]

<sup>18</sup> Mobile cranes designed for lifting containers normally achieve 18-20 moves per hour while new SSGs will handle 28-35 container moves per hour.

<sup>19</sup> Time at berth includes removing and replacing the hatch covers, waiting for the tide and berthing and unberthing. Turnaround time in port includes the time waiting to berth.

<sup>20</sup> Reduction in vessel operating costs at \$20 thousand per day is about \$50 million, Savings in carrying costs of 4 million tons of cargo with an assumed average value of \$2000 per ton and interest rates of 9% would be \$15 million. Assuming a 50% reduction in demand for air cargo to compensate for the inability to meet shipping schedules would be about \$35 million.

<sup>21</sup> The first two have long dwell times because they offer extended free storage periods.

<sup>22</sup> Ports in other countries that that have off-dock yards use them to store inbound containers as these tend to have the longest dwell time and are the major source of yard congestion. In Bangladesh, Customs has so far limited off-dock yards to handling outbound boxes

The second reason is the high proportion of containers that are unstuffed in the port. About 60% of the inbound boxes are FCLs (Full Container Loads) destined for Dhaka but nearly all are unloaded in the port rather than being delivered intact to their destination or to a Customs facility near their destination. This is due largely to customs restrictions and a lack of customs clearance facilities near the production areas around Dhaka. Other reasons are:

1. Road transport rates are higher for containers than for their loose cargo.<sup>23</sup>
2. Importers must provide a bank guarantee to remove the container from the port unless it is shipped by rail to the Dhaka ICD.<sup>24</sup>
3. Rail is slow and requires a connecting truck movement.

FCLs require more trucks for delivery and longer turnaround times since the cargo must be loaded into the truck, whereas the container can be quickly lifted onto a truck chassis. The CPA's plan to address these problems is to procure Rubber Tired Yard Gantries (RTGs), which will allow higher stacking of boxes. Unfortunately, this is more likely to aggravate the problem because the CPA lacks the necessary control systems to permit efficient operation of this equipment.

Efficient RTG operations require computerized control container systems to manage the yard inventory and to plan movements for the vessel to the gate. SSGs require rapid movement to and from the stacks in the yard in order to operate at anywhere near design capacity. While RTGs can increase yard capacity by increasing storage height, this reduces productivity by requiring more picks to access a box in the stack.<sup>25</sup> RTGs cannot stack and unstack containers efficiently if the location of the boxes has not been preplanned so as to minimize the average number of picks required for each box moved. The CPA operating personnel do not have experience with computerized operations and instead rely on a card-based system for controlling the inventory of boxes in the yard. If container dwell time is not reduced and stacking height increases, then the yard congestion will increase. This will reduce berth productivity and increase the turnaround time for trucks dropping off and picking up containers and the time to move containers to and from the customs inspection point and the CFS.

Efficient RTG operations also require a dramatic changing in procedures within the terminal. The practice of paying speed money to equipment operators to expedite the movement of individual boxes would have to be stopped, otherwise it will not be possible to implement pre-planned yard operations. The practice of charging for each container movement would have to be stopped; otherwise the port will have neither the incentive nor the right to plan the movements of box through the terminal. The practice of allowing ship agents and other non-CPA personnel to enter the container yard in order to search for boxes would have to be terminated, otherwise safe and efficient yard operations would not be impossible. Shipping lines must provide accurate stowage plans, preferably in electronic form and 24 hours before arrival, to support the planning effort. This will be difficult because not all of the lines are well organized and many receive do not have full details on their load until after sailing.<sup>26</sup>

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<sup>23</sup> Container haulage is more expensive because of the limited number of tractor trailers and because of the greater likelihood for empty backhaul. Ironically, most of the loose cargo is carried in vans that are fixed axle trucks with a container welded to the chassis.

<sup>24</sup> The larger freight forwarders can make do with a company guarantee.

<sup>25</sup> In order to remove a box on the bottom of a stack, at least five other boxes must be moved. With random stacking and removal, a five high stack would require an average of 3 ½ moves per box assuming there is a location nearby where the boxes covering the target box can be shifted.

<sup>26</sup> Indeed successful ports such as Singapore and Dubai initially avoided RTGs in favor of straddle carriers, because many of their shipping lines had not reached the level of organization required for preplanning box movements.

Without such changes, the berth handling rates may initially increase to 15-20 boxes per crane hour but will quickly fall back 10 boxes or less as yard congestion increases, equipment reliability decreases and yard control systems deteriorate. In this situation, the feeder services may be able to reduce their voyage time by 1-2 days, but the uncertainty of the time in Chittagong will continue and fixed schedules will not be possible.

The situation facing CPA is not unique. Similar problems occurred in Aqaba, Mombasa and various Indian ports including JNPT, Kolkata and Chennai, when new equipment was introduced without changing the management or the operating procedures, which continued to be based on general cargo operations. The experience and best intentions of the Chittagong Port Authority management cannot prevent the inefficiencies of the current system of operations being transferred to the new system. Unless there is a dramatic change in management and works rules, the result will be that expensive capital equipment will be poorly utilized and the vessels and cargo will continue to experience unreliable service.

## IV.2 Airfreight and Airports

The airfreight business in Bangladesh is quite competitive. Emirates provides a twice-weekly air freighter services to Dubai. Saudi, Alitalia and Uzbekistan provide weekly service to their hubs. These services do not go direct to the major export destinations. Cargo must be transshipped, which increases delivery times to 2-4 days for North Europe and to 4-6 days for US East Coast. The majority of airfreight is shipped direct to Asia and Europe as belly cargo on regularly scheduled passenger flights. However, space is limited. During peak season, air cargo agents charter air freighters to meet the increase in demand.

International airfreight shipments originate primarily from Dhaka. Efforts are underway to increase the volume from Chittagong. Shipments are arranged through air cargo agents rather than airlines but there are a large number of agents providing a competitive service. Biman has the exclusive franchise for cargo handling operations at the airport. Its charges are reasonable but its equipment is limited.<sup>27</sup>

Airfreight rates are high compared to ocean freight rates but not significantly higher than airfreight rates in surrounding countries (Table 9). Biman Airlines offers lower freight rates especially to the Middle East but is only able to attract marginal traffic. Most exporters are willing to pay a premium for the integrated logistics service provided by the larger international carriers. As a result, these airlines have more demand than they can serve even though the flights have been steadily increasing (Figure 22). This applies even to Thai Airways, which charges a premium for shipments to Europe because it involves backtracking through Bangkok.

**Table 9: Air Freight Rates (\$/kg)**

Destination	Dhaka	Bangkok	Manila
N. Europe	1.35-2.0		1.7-2.0
US East Coast	2.5-3.0	3.0-3.5	2.5-3.0
US West Coast		2.5-3.0	2.0-2.5
Japan, HK	1.5-1.75	1.0-2.0	

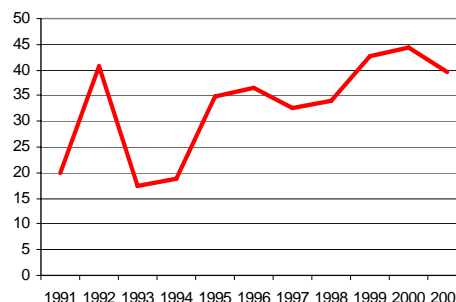
Source : Thai Airways International June 2003, various airlines, consultants estimates

<sup>27</sup> Some of the airlines have brought in their own scanners to improve security

One method of balancing cost and time is to use multimodal shipments, specifically sea-air and air-sea movements. Such an arrangement should be attractive to exporters who have missed shipment dates in Chittagong and want to connect to the mother vessel in Singapore. So far, most late shipments move entirely by air to their destination. Air-sea is not used because the airfreight rates to Singapore are relatively high, about \$1/kg, and the time savings is only 4-5 days (when the additional trucking and processing time at the airport and transshipment port are factored in). For regular shipments to Europe or the US, sea-air shipments via the Gulf don't make sense since the ocean transit times exceed two weeks versus an all sea transit time of one month.<sup>28</sup>

Figure 22

**Aircraft Movements**



Source: BBS

**IV.3 Roads and Trucking**

Bangladesh has a fairly high road density, but most of the network is made up of two lane roads in fair to poor condition (Table 10). Of the approximately 3000 km of national roads, only about ½ are listed as being in good conditions. Transport times are long due to congestion on the main arteries and at ferry crossings. Although traffic volumes remain light, well below 5000 ADT on all but a few major arteries, there is congestion because the roads are mostly narrow with pavement widths of 5.5 meters and less. Despite the limitations of the road system, the transport services for cargo are relatively efficient and account for about 60% of all domestic cargo movements.

Table 10: Condition of National Highway

District	Length (km)		Good		Fair		Poor	
	Total	Surveyed	Km	%	Km	%	Km	%
Barisal	347	203	147	9%	56	7%	0	0%
Chittagong	400	303	223	14%	74	10%	6	12%
Comilla	571	497	293	18%	204	27%	0	0%
Dhaka	572	351	230	14%	116	15%	5	10%
Khulna	340	318	154	9%	149	20%	15	30%
Rajshahi	302	284	271	17%	13	2%	0	0%
Rangpur	554	472	307	19%	141	19%	24	48%
	3,086	2,428	1,625	67%	753	31%	50	2%

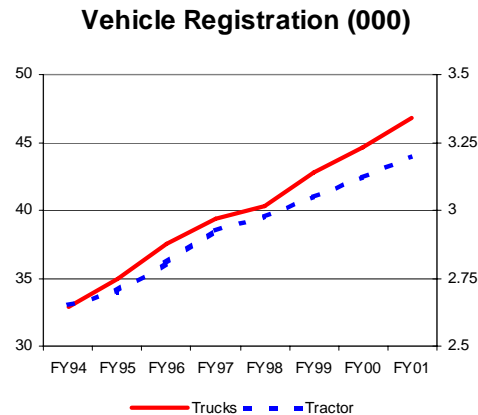
SOURCE : RHD Road Network Database, Annual Report 2000

There are a large number of trucking companies, primarily small owner-operator trucking companies. The truck fleet has been growing steadily as shown in Figure 23. However, the fleet remains relatively old, composed primarily of two axle trucks. The majority of general cargo imports and exports are transported between Dhaka and Chittagong as loose cargo in vans carrying the equivalent of one TEU (up to 15 tons assuming a 10 tons axle load). Increasingly these trucks are vans made by welding a 20' container to a truck chassis.

<sup>28</sup> Most order cycles are in two week intervals. If a two week cycle is not possible, then the next choice would be a one month cycle.

Exporters often use their own trucks to deliver cargo from factories in Dhaka to the rail ICD or from factories in Chittagong to the port. For longer trips, exporters use third party providers. Competition among these providers appears to be robust with tariffs competitively set. The rate for the 220 km trip between Dhaka and Chittagong is Tk7000, or about \$0.55 per truck kilometer, for a 10-15 ton load. For movements within the Dhaka area, in particular between the factory and the rail ICD, the average rate is Tk2500 because of the large proportion of trip time spent dispatching from the depot, loading and unloading the truck, and returning to the depot.

Figure 23



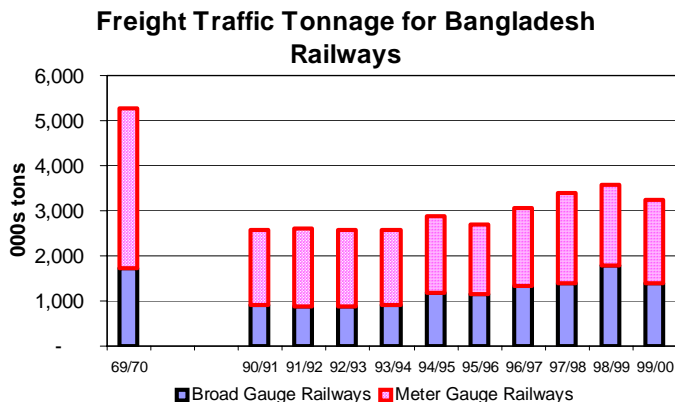
The travel time between Dhaka and Chittagong will increase as congestion increases. Major blockages are being addressed through donor-funded improvements, but planning is incremental rather than systematic. Deficiencies in specific links are addressed without an overall plan for the corridor. Furthermore, there has been no recent information collected on the level of traffic in the corridor from which to prepare a plan.

Movements of containers direct to their destination are almost exclusively shipments to factories in the EPZ near Chittagong. This is due to the higher rates and lack of customs facilities around Dhaka as well as limited opportunities for backhaul cargo. The difference in rates is expected to disappear once additional inland container depots and financing for tractor-trailer units are more readily available.

#### IV.4 Rail and ICDS

The role of Bangladesh Railways (BR) in freight transport declined dramatically from 1964 when it was nearly 8 million tons to about 3 million tons in 1972. Volumes remained at this level until 1987 when there was a further decline to 2 million. Since then, there has been a steady increase with traffic exceeding 3.5 million in 2003 as shown in Figure 24. Even with this increase, BR's market share has steadily declined as shown in Figure 25. Much of the recent gain in traffic can be attributed to the unit train operations between Chittagong and Dhaka. Containers now account for about 1/8 of the freight

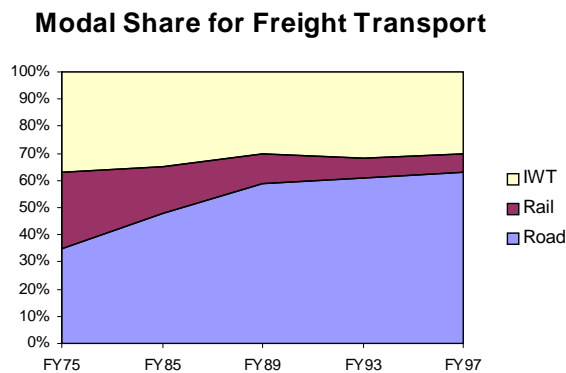
Figure 24



Source : Bangladesh Railways Annual Report

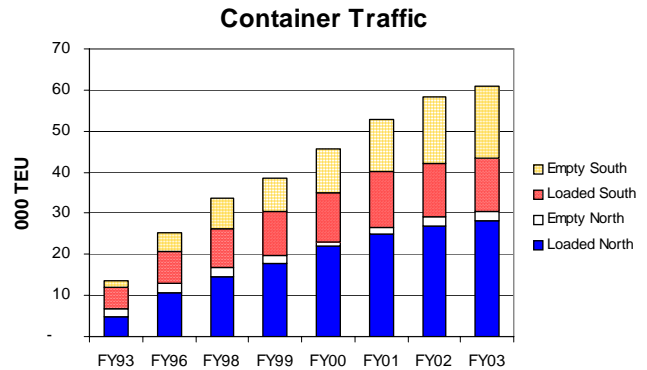
carried by BR (Figure 26).

Figure 25



Source : BBS

Figure 26



Source:Regional Rail Traffic Enhancement Project

Most of BR's capacity is dedicated to interurban passenger train movements.<sup>29</sup> Capacity is limited by short train length due to track configuration and loop lengths and long headways due to the signaling and loop configuration. For freight train operations, there is the additional constraint of the wagon braking systems that limit maximum speed to 29 kph. The large number of train operations has meant high levels of utilization on the major rail links especially on the route between Dhaka and Chittagong.

BR operates a unit train service twice a day in each direction between the Port of Chittagong and the Dhaka Rail ICD in Kamapur.<sup>30</sup> The transit time for the 298 km trip is about 8 hours. The rakes have a capacity of 76-80 TEU. These trains carry about 1/6 of the containers moving through Chittagong Port or over 1/4 of the container traffic shipped to/from Dhaka.

Inbound movements are loaded containers. The published freight rate for this movement is TK6000 per TEU. Actual cost is about Tk7000 including speed money to get the box through the port and on the train. Outbound traffic is predominantly empty boxes. The published backhaul rate is Tk3000 per TEU for loaded boxes and TK1500 for empties. Because there are no capacity constraints, loaded boxes are given priority and informal payments are less.

The unit train operation between Chittagong and Dhaka has the potential to provide an important benefit to both importers and exporters in the Dhaka area. While it has achieved substantial growth in market share in recent years, its potential is much greater than its current share would imply. The high level of demand for inbound movements has created a 3-5 day wait for wagon space. Importers have been willing to incur this delay even through the cost for a port-to-factory multimodal -truck movement is higher, at about TK 10,000, than for a pure road movement. This is due to the advantages offered by the rail movements including: less damage to the cargo by keeping it in the container, better customs service and lower informal charges for unstuffing and clearing containers at the Rail ICD relative to Chittagong Port (although both are operated by CPA). Some of these advantages would be lost once the truck ICD in the

<sup>29</sup> About 90% of train kilometers are passenger services, nearly all of which are customers travelling second-class.

<sup>30</sup> The ICD has a storage capacity for only 1,000 TEU at any one time. The Dhaka Inland Container Depot (ICD) was established in 1987 under the joint ownership of the Bangladesh Railway and the Chittagong Port Authority. Container handling operations are under the control of the Chittagong Port Authority. Since August 1991 dedicated container block trains have operated between Dhaka and Chittagong.

Dhaka area is developed, but there would still be a comparative advantage assuming the railroad has a lower operating cost and experiences less delays enroute.

Despite the high level of demand and the potential for future growth, BR has not increased the frequency of unit train operation. This is difficult to understand since the unit train operation is Bangladesh Railway's only profitable service and has helped to offset some of the losses from passenger services. At present, the annual operating losses are about one billion Taka (Figure 27).<sup>31</sup> The reasons for not increasing the container service include:

- Heavy demand on those sections that serve the passenger traffic from the northeast, e.g. between Tongi and Bhairab Bazaar and between Laksam and Chakiasma,
- Government policy favoring passenger services over freight services,
- Lacks of commercial incentives for management, which is satisfied with rationing capacity in order to collect a premium (both formal and informal) for the service, and
- Rail ICD capacity has difficulty handling three trains a day in each direction.

There are occasions when three trains operate in each direction, but this only occurs when the delay for containers waiting in the port exceeds "acceptable" limits. The additional trains are provided by canceling passenger train movements. While BR argues that there is no additional capacity on the line connecting Dhaka and Chittagong, this assumes that there are no operational changes that could increase capacity. The Swederail report<sup>32</sup> identified a number of initiatives that would increase the capacity of the existing network with relatively modest investments and changes in procedures. For example, increasing average train speed through better track maintenance and improvements in rolling stock. In lieu of operational improvements, BR would have to reduce the frequency of unutilized passenger services. Since the container trains can be run at any time during the day or night, the effect on passenger services should be minimal.

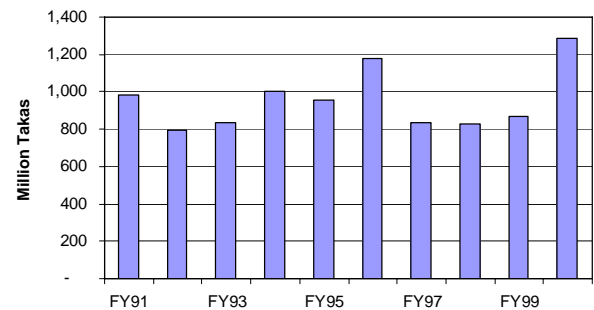
The Swederail proposed dual gauge for the line connecting Dhaka and Chittagong as a method to reduce this congestion (the link connecting Tongi and Dhaka already has dual gauge) but this idea was rejected in favor of incremental introduction of dual track or construction of a new link connecting Dhaka and Laksam

If BR changes its policy or increases track capacity, then there would be some problems at the Rail ICD in Dhaka because of limited space and road congestion in the area surrounding the ICD. In order to solve this problem, it has been proposed to establish a new ICD in Tongi, which would also be closer to most of the garment factories.

BR is supposed to operate in the public interest, but the government has made no attempt to determine the benefits of reducing road traffic by increasing the freight rail services. Nor has any thought been given to the effect of adjusting prices to encourage the use of freight services.

Figure 27

**Operating Losses - Bangladesh Railways**



Source : Bangladesh Railways Annual Report

<sup>31</sup> This does not include costs for capital depreciation which are not reported in BR's accounts.

<sup>32</sup> Bangladesh Regional Rail Traffic Enhancement Project- TA 3490 Ban, November 2003, SwedeRail, RITES, CPCS Transcom, BETS

The rail service provides a cost-effective means for repositioning of empties through lower backhaul tariff. There are no serious delays for the southbound movement and the ICD provides sufficient storage for empties. However, the benefits to exporters are limited since the ICD does not currently operate as a dry port. The shipping lines continue to charge exporters for the round trip movement of the boxes even if they are loaded in both directions. Further, they require a bank guarantee for movement of empties from the ICD to the factory for stuffing of cargo. Given their interest in controlling the box and coordinating its repositioning, the shipping lines have little incentive for offering attractive rates for a backhaul loaded movement. It is left to the freight forwarders to encourage the loading of the empties stored at the ICD with export cargo. They are able to move the boxes to the factory under a company guarantee rather than a bank guarantee and they can negotiate lower rates with the shipping lines for a loaded southbound movement. The relocation of the ICD to Tongi should encourage this business.

Rail tariffs are supposed to be based on train operating costs, but it is difficult to understand why container tariffs are comparable to truck operating costs, especially given the age of the rolling stock. With expanded services, the railroad would have to reduce its price to attract container traffic currently moving by road and thus insure a high level of utilization of its service. This would require a commercially oriented management.

As experience with India's Concor service clearly demonstrates, efficient rail transport of containers requires commercial management, if not by the private sector then by a corporatized body operating along commercial lines.<sup>33</sup> Concor is part of Indian Railways but operates as a for profit corporation run along commercial lines. Most of its rolling stock was financed through the World Bank. It provides unit train service with rail ICDs stretching across the country and currently handles about 1.4 million TEU per year. Concor operates a number of unit trains daily to and from various ports, most notably Nhava Sheva and Kolkata. It has demonstrated a willingness to open new markets, such as Nepal's Rail ICD and various joint ventures with private transport companies. It has also expanded service where there was sufficient growth in demand. At the same time, it has stopped service where traffic has not materialized.

## *IV.5 IWT*

For decades, inland water transport has been promoted as an alternative mode for transporting containers between Dhaka and Chittagong. Earlier arguments were based on the lack of road infrastructure. More recent agreements have focused on reducing congestion and delays.<sup>34</sup> A recently rejected concession for a new container terminal at Patenga had proposed using a barge service up to Narayanganj.<sup>35</sup> There has been a proposal to establish barge facilities for containers moving between Chittagong and Narayanganj involving private barge terminals operations at either end. The barge service would be privately operated under a separate contract.

The travel time for crossing the bay and continuing upriver to Narayanganj is estimated to be about 16 hours. This is considerably faster than the current rail service for inbound containers but slower than the actual transit time for rail and much slower than transit times for road transport, especially when door-to-door movement is considered. The operating costs for barging would be less than for other modes, but the door-to-door costs are likely to be comparable when the terminal handling and road transport from Narayanganj to the destination are included. In the end, the market share for the proposed barge service will depend on the behavior of the other two modes, specifically the level of congestion on the roads and

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<sup>33</sup> There are some examples of public railroads successfully operating high volume container train services, e.g. South Korea's Pusan-Seoul service, but these are generally correlated with strong government policies promoting this service.

<sup>34</sup> This concession was cancelled following rather acrimonious political maneuvering by local political interests.

<sup>35</sup> This will be competitively bid shortly with the support of IIFC

the pricing and frequency of the unit train service. An IWT service could capture a significant share of the movement of empties but it would have difficulty capturing a significant share of the movement of loaded containers.

## *IV.6 Customs*

Bangladesh Customs provides facilities to clear imports and exports at the border crossings, the international ports and airports, the Export Processing Zones in Chittagong and Dhaka and the Dhaka ICD. The shippers and consignees are represented by licensed Clearing Agents (CA) when clearing their cargo. These are licensed individuals. Very few freight forwarders offer this service. Importers and exporters select their own CA based on demonstrated ability to expedite cargo movements at a reasonable price.

Customs has undergone significant reforms in recent years. These include the introduction of:

- Simplified Administrative Document following the UN key layout,
- Pre-shipment Inspection for all non-government imports,
- Simplified tariff based on the Harmonized Code (8 digit) and
- Red and yellow (but not green) channels in Chittagong, Dhaka ICD and Benapole.

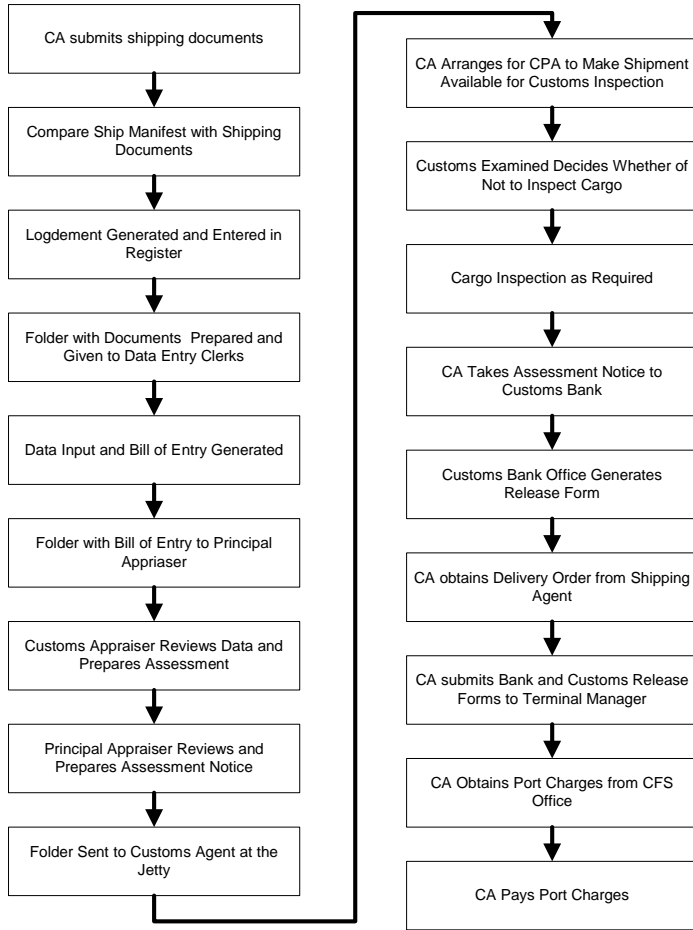
It is also in the process of expanding the applications of ASYCUDA++. Modules for processing of temporary imports and exports have already been implemented. A module for processing manifests is now being implemented and the introduction of modules for processing regular imports will be undertaken in the near future.

Customs significantly improved the procedures for clearing temporary imports of fiber and fabric and exports of fabric and garments in the period 1999-2002. The number of steps for the former was reduced by  $\frac{2}{3}$ , and for the latter by  $\frac{3}{4}$ . The procedures for temporary imports of yarn are shown in Figure 28, while those for export of garments are shown in Figure 29. As a result of these improvements, the number of signatures for temporary imports has declined to about 8 and clearance times have dropped from greater than one week to one day for exports and to 1-2 days for temporary imports. There have also been substantial reductions in the average clearance times for imports and exports as shown in Figures 30-33. The percentage of cargo requiring more than one week to be cleared is less than 20% of the shipments. This percentage suggests that those remaining more than a week have significant problems with their documents. There is a substantial difference in the time for clearing import cargoes in Chittagong and Dhaka. This is an institutional problem that may explain why many importers are willing to accept the delays associated with using the train for movement of their cargo.

Improvements in customs procedures have also brought a reduction in the amount of informal payments for clearing cargo. The payment per shipment of exports has declined from about TK5000 per shipment to TK1200-1500. The actual amount is negotiated between the shippers and the Customs Agent with both agreeing on the amount per shipment that will be reimbursed without an invoice and is therefore available to pay customs officials for expediting cargo clearance. Payments for imports remain high with charges set according to the value of the cargo.

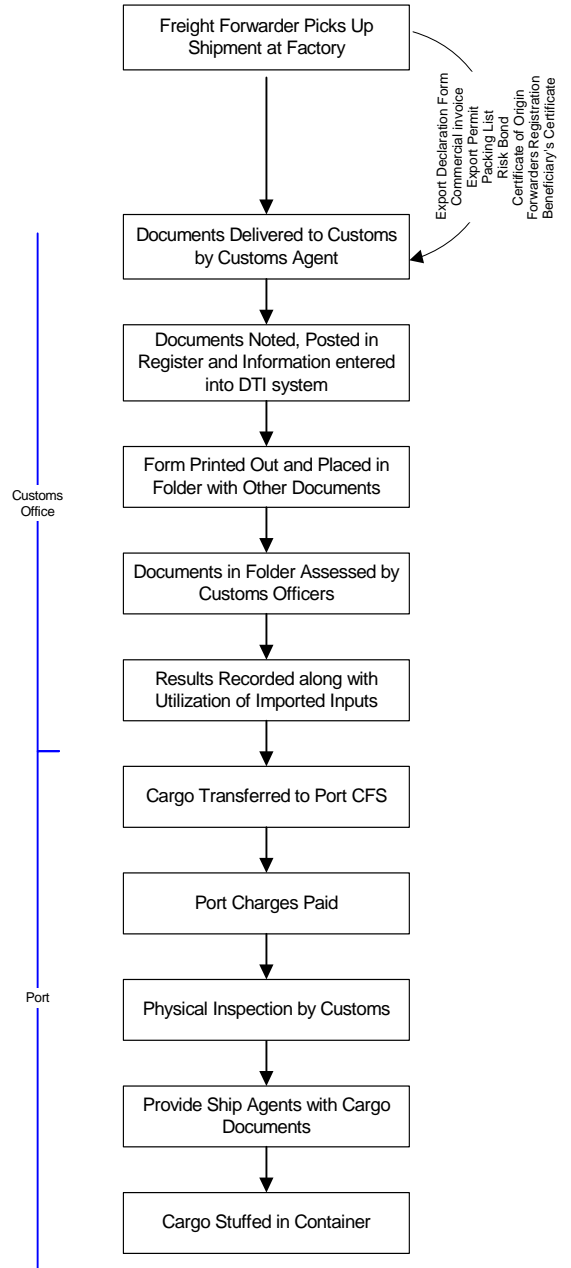
The effectiveness of customs reforms is more impressive when compared with the performance of the port, which has yet to computerize its cargo handling activities. Furthermore, the amount for paid for an export container as speed money for the dockworkers is estimated to be greater than the informal payments to customs officials.

Figure 28 :Flow Chart for Temporary Imports



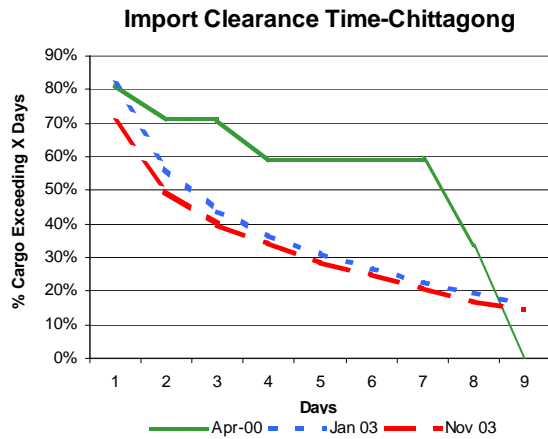
Source : Tera Intl

Figure 29 :Flow Chart for Garment Exports



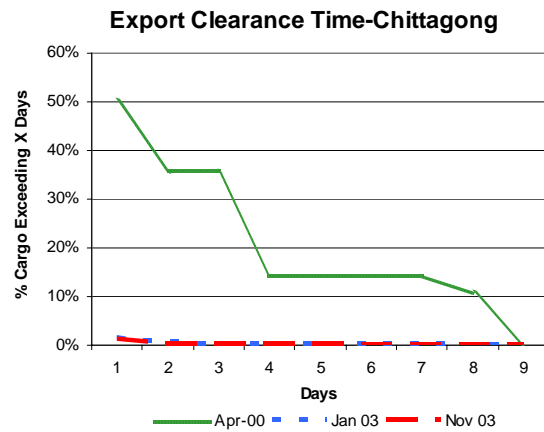
Source : Interviews

Figure 30



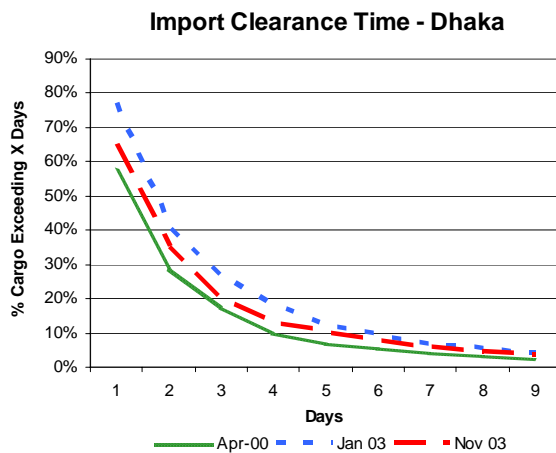
Source: Bangladesh Customs Data

Figure 31



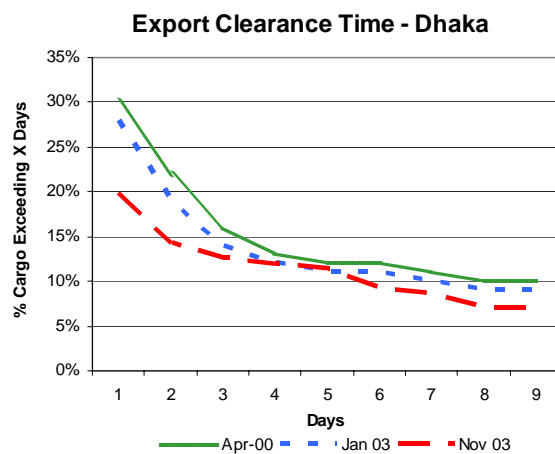
Source: Bangladesh Customs Data

Figure 32



Source: Bangladesh Customs Data

Figure 33



Source: Bangladesh Customs Data

Despite these improvements, Customs still requires excessive documentation, especially for imports, and these must be submitted in hard copy. A list of the principal documents that must be submitted is shown in Table 10. While most of these are standard for international trade, there has been a tendency for the government to add requirements that are purely local in nature. The bureaucratic response to problems and anomalies has been to introduce new procedures and documents to protect their reoccurrence. This introduces a significant increase in the cost of doing business but, in many cases, has little effect on the cause of the problems.<sup>36</sup>

<sup>36</sup> This process reached a certain level of absurdity by requiring that for multimodal movements by ocean transport, both the forwarders house bill and the marine bill of lading must be negotiable implying that there are two documents of ownership for the same cargo.

Table 10: Documents Required for Clearance of Goods Related to the Garment Trade

<b>Yarn and Fiber Imports</b>	<b>Garment exports</b>
Import permit issued by the Export Processing Zone Authority	Export Bill of Entry
Original Bill of Lading endorsed by importer	Commercial invoice issued by exporter
Letter of Credit endorsed by issuing bank	Undertaking by exporter on commercial letterhead
Packing List endorsed by issuing bank	Packing list issued by exporter
Insurance Policy and Risk and Duty Bond supplied by importer	Export Permit issued by Bangladesh bank
Utilization declaration issued by BGMEA, certifying that goods to be used to manufacture exports	Consumption statement for yarn issued by exporter
Importers pass book issued by Bangladesh Customs for recording import information	Receipt issued by truck operator
Bonded Warehouse license issued by Customs	Risk bond
Certification of VAT registration	

The input of data for the customs documents has been simplified through the introduction of the Direct Trader Input (DTI) system, a standard data entry system operated by the Customs Agents. It is used for exports and temporary imports and will be extended to imports in the near future. Like similar systems in other countries, the DTI allows for computer processing of the cargo information to facilitate valuation and assist in identifying cargo that should to be inspected. The system has been set up to limit contact between customs officials and the cargo agents thereby reducing opportunities for informal payments.

While most of the customs reforms have focused on exports and temporary imports, there have also been improvements in the procedures for imports. The introduction of a PSI (Pre-shipment Inspection)<sup>37</sup> system for non-governmental cargoes helped to reverse a substantial increase in level of informal payments. It simplified inspection procedures reducing the average time to clear cargo that has proper documentation from 10 days to five days. However, the full advantage of this system has yet to be realized. Despite the verified accuracy of the CRFs (Clean Report of Findings), Bangladesh Customs continues to check 5%-10% of the shipments that have CRFs and up to 100% of the packages in these consignments.<sup>38</sup> As a result, informal payments remain a problem. The mere threat of an inspection and the inevitable finding of some discrepancy (whether real or otherwise) is sufficient to elicit a payment. Unlike exports, this payment is linked to the value of the cargo and thus represents a substantial source of income which customs officials have been reluctant to give up.

So far the implementation of these reforms and supporting computerization have been limited to the Port of Chittagong, the ICD in Kamapur, the airport customs in Dhaka, and land customs station in Benapole. These improvements are now being implemented in Mongla port and it is expected that that they will eventually be extended to the road and rail border crossings in order to reduce delays there.

<sup>37</sup> The three PSI companies are Bureau Veritas, Intertech Testing Corporation, and Inspectorate Griffith (part of British Standards Organization)

<sup>38</sup> Formerly they inspected all shipments but only 10% of the packages in each shipment

## V. Recommendations

Bangladesh has developed a world-class garment export industry as well as smaller but successful exports activities in shrimps, ceramics, and vegetables. This success has been achieved through concerted efforts to adapt existing infrastructure, services and procedures to the demands for efficient and reliable supply of inputs to production and products to world markets. The problem is that the returns to these adaptations are diminishing while demands for further reductions in delivered time and cost and additional improvements in reliability of order fulfillment continue unabated. If Bangladesh is to remain competitive, there must be a transformation of the logistics systems.

The initiatives discussed below can provide substantial improvements in both inbound and outbound logistics. They will reduce order cycle times and delivered costs for export industries allowing them to improve their competitive position in existing markets and to enter new markets. These initiatives must be introduced soon if Bangladesh is to remain competitive in the global market for textile and garments in the post MFA era and in other markets as trade liberalization continues under WTO. Most international garment buyers have already modified their portfolio of suppliers and Bangladesh has managed to survive the initial transition. Adjustments will continue over the next few years, and Bangladesh could eventually lose market share to those who can offer shorter order times, more reliable supply chains, and less costly logistics.

### *V.1 General*

The transformation in logistics must address three endemic problems. The first is the **complexity of the procedures** required for movement of imports and exports. This complexity not only limits the transparency of the prices charged for various services but also creates opportunities for individual participants to profit from inefficiency. The most frequent complaints from those involved in trade refer to informal payments to customs to clear cargo and to port labor to move cargo through the port. While these are serious problems, other participants in the supply chain also benefit from this complexity. The complex port tariff creates opportunities for shipping lines and forwarders to introduce a complex set of port-related charges that are difficult to relate to actual port costs and contain what appear to be duplicate charges. The complex procedures for clearing cargo at the land borders have created opportunities for the operators of the land ports to develop large storage areas (land ports) and charge trucks and cargo that are delayed at the border. The complex regulations affecting trade finance have allowed intermediaries to charge for additional services needed to comply with these procedures. This complexity not only allows various middlemen to benefit at the expense of the shippers and consignees but also creates strong interest groups who are adamantly opposed to improvements in efficiency.

The second problem is the lack of **integration of the supply chains**. This is most dramatic for exports of shrimp in which a large number of middlemen are involved in both inbound and outbound logistics. It is also significant for large RMG manufacturers operating in the Export Processing Zone who should benefit from efficient movement of raw materials and finished products. Instead, they must pay various parties in order to move their goods through the Port of Chittagong. Custom's clearance facilities and procedures have not been designed to facilitate trade. In particular, they limit opportunities for a door-to-door movement of containers. Even where Customs and Chittagong Port have made significant efforts to improve performance, they have received little recognition or rewards for having done so.

The third problem is the tendency of both government and donors to focus on the performance of individual modes, routs and services rather than on the **performance of the transport corridors**. For

the Dhaka-Chittagong corridor, the complementarity between the road, rail and inland water routes is especially important given that each has serious limitations.

Trucking offers greater flexibility but cannot increase its market share unless Customs provides additional inland clearance facilities and both the port and Customs allow for expedited movements. Even with these improvements, there will be continuing problems of congestion due to the increase in road traffic. This problem can be addressed by improving maintenance, widening existing roads, adding lanes and developing parallel links and also by developing capacity in alternative modes.

Unit trains can offer a competitive service for moving containers but are limited by the existing rail capacity. Freight capacity can be increased by double tracking, improving signaling, procuring faster wagons, constructing new links, extending sidings and/or replacing passenger trains with bus services. However, this service still requires a truck movement between the rail ICD and the factory. Since the total transit time continues to be longer than for a pure truck movement, rail transport does not carry time-sensitive cargo.

The inland water route could provide significant capacity and low cost transport but would require an efficient inland water port near Dhaka with complementary customs clearance facilities. Since this mode is slower than the other modes and requires multiple handlings of the container plus trucking to the final destination, its principal market would be lower-value cargoes and repositioning of empties.

Airfreight is costly and capacity is limited, but it carries the more time-sensitive cargoes, which would otherwise move in marine containers. So far, it handles a relatively small volume of exports, mostly goods that have missed shipment dates. However, airfreight is expected to become more important as Bangladesh moves into the production of higher value goods. Current capacity limits are due not to infrastructure but to demand and should increase with demand.

The area of logistics in which Bangladesh most needs transformation is intermodal systems. These are difficult to develop because they require coordination of individual modal initiatives. Public policy and investment continue to have a significant impact on the development of logistics services but they are determined by officials in different ministries who have a narrow focus. Within the Ministry of Communications, each mode is managed by a separate entity. Customs is under the Ministry of Finance. Furthermore, its principal role is to collect taxes, prevent smuggling, and protect the borders. These are generally in conflict with efforts to expedite trade. Even the private sector is limited in its understanding of the problem. Since most exports are shipped under FOB terms and raw materials obtained under C&F terms, manufacturers are often not aware of the impact of logistics on the delivered cost of their goods and the competitiveness of these goods in foreign markets. The overseas buyers and suppliers understand this impact, but lack the ability to overcome the domestic factors that increase logistic costs and delays.

## *V.2 Major Initiatives*

Additional investment is required in all modes of transport to remove capacity constraints and increase throughput. However, the changes most immediately required are modifications of policies, processes and management rather than capital investment. A list of priority initiatives to improve logistic services for both importers and exporters was developed based on discussions with manufacturers, third party logistics providers, and government agencies involved in trade and logistics. From this list, a subset was selected based on the likelihood for successful implementation in the next few years and the expected short-term benefits. These initiatives are listed in order of priority in Table 11.

**Table 11: Recommended Action for Improving Bangladesh Logistics**

Initiatives	Action	Time Frame
1. Reform container terminal operations in Chittagong Port	Concession or Operating Lease	Start within 6 months
2. Establish bonded warehouses and ICDs/Dry Ports,	Liberalize customs procedures for establishing bonded warehouses	Within One year
3. Continue Customs reforms with greater emphasis on imports	Implementation of Asycuda ++ modules for selectivity and risk management. Introduce full EDI	Ongoing, 3 years
4. Increase capacity in the Dhaka-Chittagong Corridor	Road widening, Improve Rail Operations, Selected double tracking	Continuous
5. Improve Benapole-Dhaka Corridor performance	Simplify customs procedures, Increase cross-docking	One year

## 1. Port Reform

Chittagong port remains the most serious impediment to the efficient movement of goods in and out of the country. The CPA has attempted with some success to improve berth productivity, reduce vessel turnaround time and move containers out of the Port to off-dock facilities, but the port remains inefficient as a result of:

- an excessive large labor force with procedures and gang sizes appropriate for sustaining low productivity general cargo operations
- poor labor relations, which prevent the rationalization of operations and cause disruptions to the smooth flow of cargo
- a tariff policy that is based on individual cargo movements rather than through container movements
- lack of computerization of operations essential for efficient container handling operations
- lack of coordination with Customs to reduce container dwell time
- insufficient container storage
- lack of ship to shore gantry cranes or even mobile container cranes
- public procurement policies
- public sector monopoly

While various attempts have been made to improve container operations in past years, they have not addressed the fundamental problems of underinvestment, poor labor relations and public sector management. As a result, they have only succeeded in providing a short-term reduction in delays. In contrast, Bangladesh's neighbors have dramatically improved performance in their gateway ports by expanding the role of private sector management and are now extending these reforms to their other ports. In those ports, which have continued under public sector management, competition has been introduced to encourage better performance, e.g. Haldia and Kolkata.

Chittagong, on the other hand, continues to operate as a monopoly. A recent effort to establish a competing container terminal to be financed and managed by an experienced international container terminal operator, failed due to local political opposition as well as labor concerns.<sup>39</sup> Meanwhile, port productivity in Chittagong remains well below that of its competitors. In effect, the government has

<sup>39</sup> In spite of this failure, the government expects to establish a private concession at the New Moorings Terminal within the next year or so.

allowed port labor and local politicians to provide competitive advantage to China, Vietnam and its other competitors.

The proposed conversion of Chittagong Port from a 1950's style general cargo port handling containers with ships gear to a 1990's style SSG-RTG equipped container terminal will require a change in management style and labor practices as well as the introduction of substantial IT and commercial incentives. Simply modifying an organogram, re-engineering an organization, training equipment operators and introducing computer systems cannot achieve these changes. Such modifications might be sufficient with a smaller volume of containers or an operation based on straddle carriers or reach-stacker where a more gradual transition would be possible, but this is not the situation. This SSG-RTG operation requires technically sophisticated, commercially oriented managers and computerized planning of the ship-to-yard movement and stacking of containers in such a way as to minimize the number of subsequent moves. The ICT system must support not only a real-time yard inventory but also direct input of vessel loading plans. The workforce must be composed of equipment operators working according to well-developed operational plans not casual labor responding to the incentives of speed money.

The CPA has proposed to introduce the new system without making the necessary changes in style of management or in labor relations. This will not work. The proposal to establish a private concession at New Mornings is Chittagong's best hope for developing efficient container terminal operations, but this concession will be successful only if the managers are allowed to introduce a completely different approach for hiring and managing labor and if pricing of services is left to negotiation between the terminal and the lines. Since this concession will not be fully operational in less than two years, there is still a need for a short-term strategy to improve port performance during the critical post MFA period. Given the intransigence of cargo-handling labor,<sup>40</sup> it is difficult to see how current management can improve operations even with the new equipment.

Ultimately it will be necessary to introduce private operations in all container handling facilities as has been done in most of the world. In order to expedite this process, the CPA should consider entering into a management contract for the container terminal with a company experienced in modern terminal operations and seconding labor to work for the private managers.<sup>41</sup> Since competent terminal operators are unlikely to be interested in this type of contract without substantial incentives, the contract should include a provision for conversion to concession after a fixed period of time.<sup>42</sup>

It will also be necessary to replace the current tariff structure, an antiquated structure based on charges for each movement, with a modern structure based on unified charges for LCLs, FCLs and empties. This would eliminate the port's incentive to make extra moves in order to generate additional revenues. It would also simplify administration of the tariff and increase transparency, which would also increase profits. Initially, this exercise could be a simple aggregation of movement charges into consolidated vessel-to-gate charge.

The transformation of the container terminal to commercial operation would provide the greatest benefits of any initiative considered but would also be the most difficult to achieve. By dramatically reducing turnaround time in port and increasing the predictability of its service, the port will allow the existing self-

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<sup>40</sup> Typified by the CPA's inability to give golden handshakes to ghost labor in exchange for removing them from its rolls

<sup>41</sup> Under this arrangement, the workers would be paid directly by the company during the period of the contract

<sup>42</sup> Such a strategy while not being as effective as a concession can be used where government is not yet prepared to allow private sector management of public infrastructure as was the case in Jordan's recent decision to allow private operation of the container terminal in the Port of Aqaba following a sustained period of severe congestion and shipping line surcharges.

sustaining vessels to be replaced with less costly cellular vessels. The savings in vessel operating costs would eventually be passed on to the shipper since there is strong competition among the feeder lines and among the international lines that use these feeders. With the reduction in turnaround time, these vessels will be able to provide day of the week service thereby providing shippers with the ability to plan door-to-door movements and reduce shipping times by minimizing the time spent in the transshipment port. More reliable shipments both inbound and outbound would also reduce the amount of airfreight shipments. Taken together, the estimated savings could exceed \$100 million per year or about 2½% of the value of Bangladesh's exports.

## **2. Bonded Storage**

Bangladesh has been successful in developing a number of EPZs and granting bonded warehouse status to factories producing for export. It now needs to develop supplemental bonded facilities to reduce the cost and time for delivery of the imported materials used in the production of exports. These facilities would include:

- Off-Dock Container Yards for Inbound Containers
- Rail ICD near Tongi
- Truck ICDs to the Southeast and Northwest of Dhaka
- A common-user customs bonded warehouse

### **Off Dock Container Yards**

Off Dock Container Yards have been introduced in many countries to alleviate port congestion. They are used to store and destuff inbound containers and clear the cargo, these three activities are the primary cause of port congestion. However, Bangladesh Customs has restricted the role of off-dock container yards in Chittagong to storing and stuffing outbound containers even though there is a provision in the regulations to allow these yards to handle inbound containers. Customs has legitimate concerns that these yards provide sufficient security for import cargoes and adequate facilities for the Customs staff, but these can be easily addressed. More difficult to address will be the need to recruit additional Customs Officers to be permanently assigned to these facilities. Also it will also be necessary to license new facilities.<sup>43</sup> The benefits from this initiative would be substantial since the reduction in yard congestion in the container terminal storage yard would increase berth productivity and provide some of the savings mentioned above. This proposal should be easy to implement, as the Customs has already indicated a willingness to do so.

### **Rail ICD**

The existing Dhaka rail ICD in Kamalapur operates more efficiently than the container yard in Chittagong Port, but its location in the congested center of the city causes restricts access. A better location for this facility would a site nearer to the garment factories at a site with good road access. Since a significant number of the garment factories are located northwest of Dhaka, the plan to establish a rail ICD at Tongi should be implemented as soon as possible. A similar facility in the Narayaganj area would not be needed since the knitwear manufacturers use less imported fabric and yarn and are more likely to use road transport, which is both faster and cheaper. While the Dhaka rail ICD serves traders supplying imports to the consumers in Dhaka, it is unclear whether this facility should remain open given the increasing congestion and the potential value of the site if used for commercial purposes.

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<sup>43</sup> The growth of this demand would be offset by the development of a road-based ICD near Dhaka and the increase in frequency of unit train services between Chittagong and Dhaka

## **Truck ICD**

At present, there are no truck ICDs to facilitate port-to-door movement of containers from Chittagong and Dhaka. Instead almost all imports are cleared and destuffed in Chittagong Port with the resulting delays, additional informal payments and damage to cargo. This practice increases truck traffic between the cities as the contents of a 40' container must be transported in two fixed axle trucks. A truck ICD would allow containers to move in bond from Chittagong to Dhaka, to be cleared by Dhaka customs officials and to move directly to the importers' warehouse or factory. This would shorten transit times, decrease damage to cargo and reduce the informal payments to port workers and customs.<sup>44</sup> It would also allow for storage of the empty containers, which could then be stuffed with export cargo, thereby encouraging factory-to-port movement of containers and reducing empty backhauls. Assuming that this ICD has dry port status, it would reduce the need for bank guarantees for containers that are brought to the factory for stuffing and stripping and would allow forwarders to offer attractive backhaul rates to exporters. This ICD would require full-time customs officials permanently assigned to the facility, computer capability and up-to-date clearance procedures in order to attract full container loads to travel from Chittagong. It should be relatively easy to establish these ICDs using the same procedures as for the rail ICD.

## **Common-User Bonded Warehouse**

Customs currently authorizes the operation of the bonded facilities in:

- Chittagong Port,
- Benapole land port,
- Export Processing Zones,
- Dhaka Rail ICD, and
- Factories producing exclusively for export.

What is missing from this collection are privately managed, common-user bonded warehouses for the storage of imported raw materials. Freight forwarders have provided facilities for consolidating and managing inventories of exports for foreign buyers but not for deconsolidating and managing inventories of goods imported for production of exports. In particular, there is no facility for suppliers and other third parties to store yarn and gray cloth without paying duties and taxes.

Most export manufacturers have bonded production facilities, but relatively few have been willing to bear the risk of maintaining a large inventory of fabric in order to reduce their order cycle time for future orders. It is left to the traders and suppliers to perform this task, but they have been reluctant because the dysfunctional duty drawback system would not make it profitable.<sup>45</sup> If a customs bonded warehouse is provided for this purpose, then they could import fabric and sell it to factories under a temporary import arrangement. By establishing an inventory from which producers could quickly obtain imported fabric that can then be locally dyed, these warehouses would allow producers to reduce order cycle times by 2-4 weeks and thereby compete more effectively in existing markets. While there is no immediate precedence for this type of warehouse, the systems and procedures developed for handling temporary imports to the EPZs, the Dhaka ICD and the Off-dock container yards can be adapted for a privately operated common-user facility.

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<sup>44</sup> This assumes that a modern system for clearance is introduced. These same benefits would also be obtained from the initiatives to reform the port and the customs clearance procedures.

<sup>45</sup> Like similar systems in other countries this system is poorly managed with a long delay to obtain a refund and a significant level of informal payments to obtain this refund.

### 3. Continuing Customs Reforms

Over the last five years Bangladesh Customs made substantial progress in introducing modern practices, simplifying procedures, reducing delays and diminishing the level of informal payments.<sup>46</sup> It has accomplished these reforms despite the twin burdens of being the main source of government revenues, with fixed monthly revenue targets prescribed by NBR, and operating with limited staff as a result of a hiring ban dating back 20 years.

Customs has quite wisely focused its reform efforts on exports with a view towards improving the competitiveness of the export industries. A reform of import procedures would be more difficult as it represents a substantial threat to the income of many of the customs officials.<sup>47</sup> While the clearance time for imports with proper documents now averages only 2-3 days, there is wide variation and the level of corruption unacceptable.

Customs now faces the significant challenge of introducing the final stages of reform. There are four areas in which improvements are needed in the short-to-medium term:

1. Completing the computerization of the customs procedures,
2. Moving the customs clearance procedures away from the borders,
3. Further simplifying clearance procedures, and
4. Adding additional staff to work closer with major shippers

The successful introduction of Asycuda ++ and its supporting software needs to be extended to other modules that provide support for import documentation, assessment, and risk management. The DTI system needs to be extended to a wider range of forwarders and shipping agents. Perhaps most important, the major border crossings need online connections with the headquarters to provide more timely exchange of information and intelligence.

The latter will help to reduce the delays at the land borders, however, there needs to be a more concerted effort to move customs clearance activities away from the border to customs facilities located nearer to the cargoes final destination. Many of the initiatives mentioned above would increase the percentage of imports that could be cleared at inland destinations. In particular, there are the truck ICD (dry port) and the customs-bonded warehouses. Customs clearance facilities would need to be established at major domestic destinations and additional staff hired. A concerted effort will be needed to counter the growing business of storing cargo at the borders.

Among the major initiatives to simplify clearance procedures is the use of better selectivity, in particular the introduction of green channels. This should be supported by greater reliance on intelligence and company audits to determine when inspections should be made. The easiest measure would be to reduce the rate of inspections performed on PSI cleared cargoes. This program has provided accurate information on imports and there is little justification of inspecting 10% of the cargo that has already been inspected. Ultimately, Bangladesh Customs should introduce a full computer-based risk analysis procedure as a means for reducing corruption, but this is many years off.

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<sup>46</sup> Principal reforms include conversion of declaration documents to SAP with UN key layout, mandatory PSI for all non-government imports with a few exceptions red and yellow channels in Chittagong, Dhaka, ICD, Benapole with choice of channel based on HS codes and past shipper performance; tariffs simplified using 8 digit HS code and reduced to 5 bands (0%/7½ %/15%/22½ %/30%)

<sup>47</sup> The level of informal payments for imports are set according to the value of the cargo and are collected through the implicit threat of inspection using the Custom's inspector's discretionary power.

Not included in the above list are specific measures to reduce informal payments to Customs officials. While it is important that Bangladesh Customs continue its efforts to reduce the size and scope of these payments, this is less of a priority than insuring fast and reliable clearance of cargo. These payments are not as significant an impediment to trade as the formal procedures they are designed to avoid. The previously mentioned initiatives will reduce the level of informal payments by increasing transparency, reducing the direct contact between cargo owners and Customs officials, and reduce the number of approvals required.

#### **4. Corridor Planning**

The ADB is currently preparing projects to upgrade the road and rail infrastructure between Dhaka and Chittagong. While it is recognized that these modes need improvements, it is important to evaluate these projects as complementary investments in a multimodal corridor. Planning and evaluation should be done at the corridor level rather than the modal level so as to encourage investments in complementary infrastructure and avoid investments in overlapping capacity. For example, substantial improvements in the rail corridor and services and the introduction of a new rail ICD are likely to increase the diversion of traffic from road to rail and reduce the requirement for additional road capacity. Conversely, improvements in facilities such as trucks ICDs will increase the movement of containers by truck and reduce rail traffic. Finally, reductions in the time spent transiting the seaports and land ports would alter the split between road and rail transport and reduce the demand for air freight shipments by allowing scheduled feeder services and fewer missed shipments.

There are two ways in which the road transport can be improved. The first is to ensure that there is adequate capacity on the roads linking Dhaka and Chittagong. The second is to increase the percentage of both imports and exports transported in containers rather than as loose cargo. The first is difficult to plan as there is little information available on the current road traffic and no basis on which to project future traffic growth. Despite the lack of data, there is a widespread impression that the level of congestion on the road is increasing and will become a serious constraint within the next two years if additional capacity is not provided. The ADB is actively involved in increasing capacity where there are known bottlenecks, but it is unclear how fast the improvements will be implemented and what the impact will be on congestion over the next five years.

The second is to establish a truck ICD/Dry port with sufficient capacity for both import containers and empty containers that have been unloaded at the factory and are waiting to be loaded at another factory. At present, the movement of containerized cargo between Dhaka and Chittagong is estimated to be about 300-400 thousand TEU, which is equivalent to about 1200 truckloads per day. Considering the imbalance and adding the empty moves, the demand is probably on the order of 1000 TEU in each direction growing at 10% or more per year. The conversion from fixed axle trucks carrying loose cargo to articulated trucks carrying 20' and 40' containers would reduce the traffic level. When this is combined with the reduction in empty backhauls through storing empties at the new dry port, the traffic levels could be reduced to about 600 trucks in each direction. If the number of unit trains were doubled from their current daily capacity of 140 TEU in each direction, this service would absorb most of the projected growth in container movements expected over the next two years. As the volume of containers moving door-to-door via the ICD increases, the cost for haulage using the articulated trucks would decrease substantially.

Various proposals have been made for increasing the capacity of individual rail links between Dhaka and Chittagong, but no decision has been made as to specific investments that should be given priority and no economic justification has been provided for these investments given that faster, less expensive road transport is available. Even if such investments were to be shown to be in the national interest, they would not be operational for the next few years during the critical period for Bangladesh's RMG industry.

The only short-term improvements involve changes in scheduling to allow more frequent and reliable unit train services at competitive prices. Since BR management has been unwilling to introduce additional service, it might be better accomplished through private management in a manner similar to that used by Concor in India.

### **Dhaka-Chittagong Corridor**

For the Dhaka-Chittagong corridor, the reform of the Port of Chittagong with the complementary development of a road ICD in the Dhaka area will provide the greatest savings in transit time and cost. This could be complemented by increasing the frequency of unit trains services, revision of the pricing of these services and introduction of a new ICD at Tongi. The increase in rail capacity would be achieved by replacing low-volume passenger train movements with unit train movements but would require some increase in rolling stock. The two mechanisms mentioned would require commercialization of the management of Port of Chittagong and BR's container operations. These will not be easy as they involve changing both policy and behavior but there are ample examples from the region as to how it can be done.

Beyond the next few years, the expected increase in container and other traffic will cause serious congestion on both the road and rail networks. This will require substantial public investment to increase the capacity in these networks. The investments in capacity need to be coordinated.

### **Benapole-Dhaka Corridor**

For the Benapole-Dhaka corridor, there is even more of interplay between rail, road and water transport. Again it is necessary to consider this as a multimodal corridor and to focus on improving services as well as infrastructure. In the short run, the greatest savings in transit time and reduction cargo losses can be achieved by reducing the time spent at the land port in Benapole. This can be achieved through a system of pre-clearance, simplified document processing, and an efficient cross-docking operation. These improvements would save an average of 4 or more days for shipments. While the preponderance of cargo crossing the border is imports, a portion is temporary imports used in the production of exports. Thus these savings would not only reduce the cost of imported goods to the domestic economy but also improve the competitiveness of the export industries that use inputs from India. These savings would be especially important for the garment industry, reducing both the order time and delivered cost for yarn and fabric once the current prohibition on the use of this route for these imports is lifted.

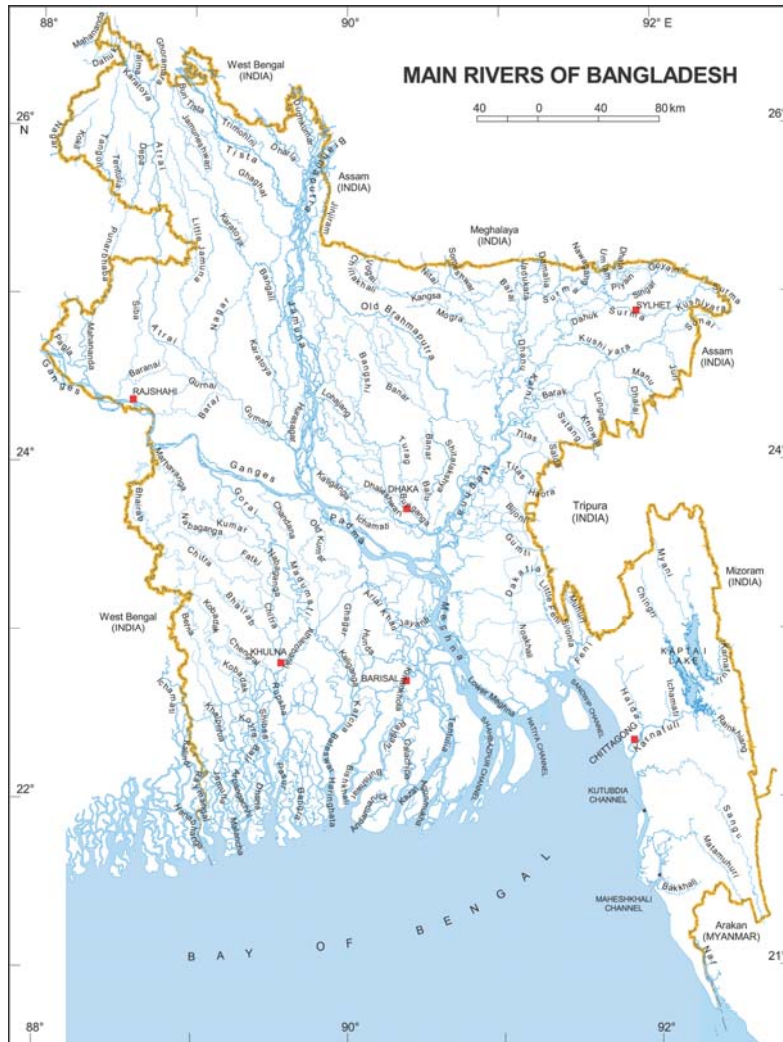
Another way to reduce the cost and time associated with crossing the border at Petrapole/ Benapole is to allow sealed containers or vans to move under bond between Dhaka and Kolkata. This would require a bilateral arrangement that incorporates a regional licensing scheme, a guarantee for duties and taxes and payment of a transit fee. These movements can be time-bound to prevent tampering. RTF markers can be used to monitor these movements and improve security.

The difficulty with implementing either of these initiatives is that the government is currently concessioning the land ports to private operators, who expect to profit by offering additional services at the land port rather than facilitating the movement of trucks and cargo through the land port. It is expected that performance at the border crossings will deteriorate as both the private operators and Customs benefit from these concessions.

Over the longer term, the completion of a broad gauge connection to Dhaka and the construction of a new bridge across the Padma will increase the corridor's capacity and reduce its transit times.

# Annexes

## Annex A: Rivers of Bangladesh



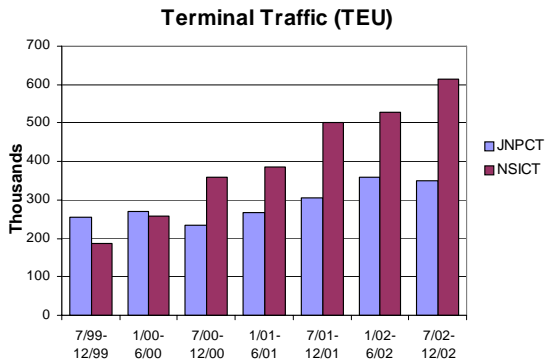
**Annex B: A Complete List of Proposed Initiatives for the Short to Medium Term**

Area	Activity	Cost	Time	Reliability	Flexibility	Transparency
Chittagong Port	New Moorings Development and Concession	√	√	√	√	
	Management Contract	√	√	√		
	Tariff Revision	√		√		√
	Berth Allocation		√	√		√
	Port Layout	√				
	Tradenet	√	√	√		√
Customs	Revise Targets		√	√		
	Asycuda		√	√		√
	Selectivity		√	√		√
	Audit		√	√		√
	Time Bound Procedures		√	√		√
	Relaxation of Barriers to Yarn and Textile Imports	√			√	
Chittagong Customs	PSI and Reallocation of Staff		√	√		√
	Simplified Manifest		√			
	ODCY with Customs Staff	√	√	√	√	
	Bonded Warehouse	√			√	
Benapole Customs	Cross Dock Operation	√	√	√	√	
	Competition at Land Ports	√		√	√	√
Dhaka Customs	ICD for Trucks	√	√		√	
Railroad	Add Freight Capacity to Dhaka-Chittagong Corridor		√	√	√	
	Least Cost Expansion of Line Capacity		√	√	√	
	Relocate Rail ICD	√	√	√		
	Private Operation of Container Services	√		√	√	√
IWT	Narayanganj Facility	√			√	
	Chittagong Barge Handling Plan	√			√	
Forwarding Services	Delay Multimodal Transport Act					
	Delay Regulation of Forwarders					
	Establish Consultative Group	√		√		√
Corridor Management	Rationalize Capacity Planning	√				
	Establish Committee to Coordinate Reforms					
	Disseminate Information	√				
Trade Finance	International Practices on B/L	√	√	√		√
	Simplify Procedures for Stand-Alone LC		√	√	√	√
ICT	Develop Broadband Capability	√	√	√		
	Allocate Adequate Spectrum for Radio Modems	√	√	√		
Marketing	Training in use of IT	√	√			
	Development of Design Capacity		√		√	
	Strategy for Increasing Value Added				√	

Area	Activity	Timing (Months)		Actor
		Best Start	Implement	
Chittagong Port	New Moorings Development and Concession	0	18	CPA, IIFC
	<b>Container Terminal Management Contract</b>	6	4-6	CPA, IIFC, Donors
	Tariff Revision	2	2-3	CPA
	Berth Allocation	2	3	CPA
	Port Layout	0	12	CPA
	Tradenet	3	24	CPA, TradeComm**
Customs	Revise Targets	3	3	NBR, UNCTAD
	<b>Asycuda</b>	0	24	NBR, WCO
	<b>Selectivity</b>	3	6	NBR, WCO
	Audit	3	6	NBR, TradeComm
	Time Bound Procedures	3	3	NBR
	Relaxation of Barriers to Yarn and Textile Imports	indefinite	indefinite	NBR
Chittagong Customs	<b>Simplified Procedures at Benapole (negotiate with India)</b>	6	24	NBR
	PSI and Reallocation of Staff	2	6	NBR
	Simplified Manifest	2	9	NBR
	ODCY with Customs Staff	0	15	NBR, Private Sector
	<b>Bonded Warehouse</b>	3		NBR, Private Sector
Benapole Customs	Cross Dock Operation	1	6	NBR, BLPA
	Competition at Land Ports	0	6	BLPA
Dhaka Customs	<b>ICD for Trucks</b>	2	12	NBR
Railroad	<b>Add Freight Capacity to Dhaka-Chittagong Corridor</b>	0	48	Bangl. Railways, Donors
	Least Cost Expansion of Line Capacity	12	24	Bangl. Railways, Donors
	Relocate Rail ICD	3	15	Bangl. Railways, TradeComm
	Private Operation of Container Services	12	6	Bangl. Railways, IIFC
IWT	Narayanganj Facility	0	18	Private Sector
	Chittagong Barge Handling Plan	1	3	CPA, Private Sector
Forwarding Services	Delay Multimodal Transport Act			Govnt of Bangladesh
	Delay Regulation of Forwarders			Govnt of Bangladesh ACAB/IFAB,
	Establish Consultative Group	0	3	TradeComm
Corridor Management	Rationalize Capacity Planning	0	Continuous	Planning Commission, Donors
	Establish Committee to Coordinate Reforms	0	3	
	Disseminate Information	3	on going	Corridor Committee
Trade Finance	International Practices on B/L	1	3	Min. of Finance
	Simplify Procedures for Stand-Alone LC	1	3	Min. of Finance

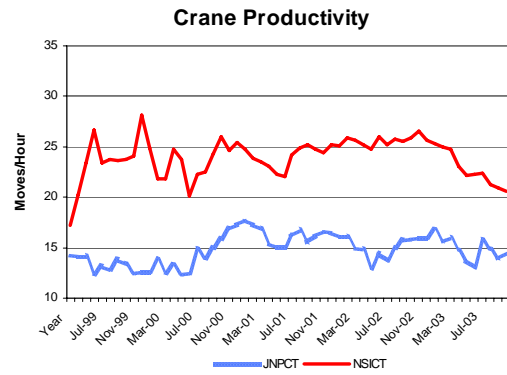
## Annex C: Nhava Sheva Port Statistics

Figure B.1



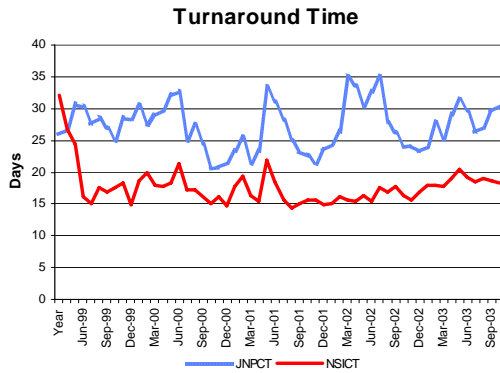
Source : Nhava Sheva Port Statistics

Figure B.2



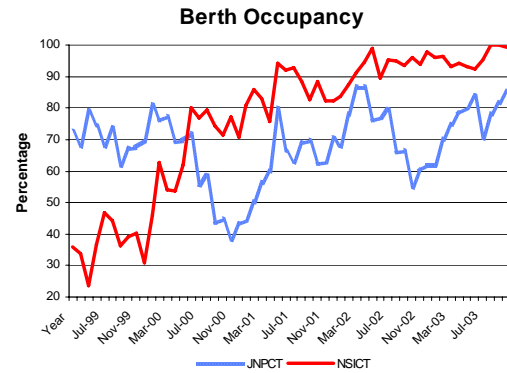
Source : Nhava Sheva Port Statistics

Figure B.3



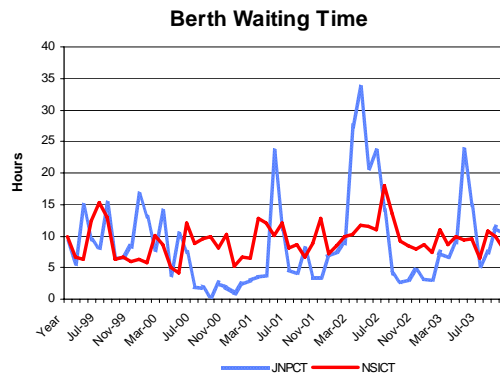
Source : Nhava Sheva Port Statistics

Figure B.4



Source : Nhava Sheva Port Statistics

Figure B.5



Source : Nhava Sheva Port Statistics

## *Annex D: Communications*

While teledensity is low in Bangladesh it has risen rapidly from 0.83 in 2001 to a reported 1.56 in 2003 with 2.1 million connections. However, it remains 2<sup>nd</sup> to last in Asia (ahead of Myanmar) where the average is 28.5. More important, its principal competitors, India, Vietnam and China have much higher levels, 16.1, 24.6 and 19.2, respectively. During the period 1998 to 2003, the density of fixed lines increased from .33 to 55, but most of the growth has been in mobile services, which only started in 1998 and is currently reported to be 1.01.

The exclusive monopoly of Bangladesh Telegraph and Telephone Board ended in 1995, but it continues to have a monopoly for landline services in the urban areas, domestic long-distance and international services. Sheba Telecommunications and Bangladesh Rural Telecom Authority have 25-year exclusive licenses (issued in 1989) to provide local telecom services in rural areas of the country. Bangladesh Broadcasting, Telephone and Technology provides digital telephone lines and World Telephone Holding Limited provides lines in Dhaka.

In 1997/8, a number of private cellular phone companies were licensed to provide GSM 900 service. These include Grameen Phone, Aktel (Telecom Malaysia International), Citycell and Seba Telecom. Today, Bangladesh Telecom Private Ltd a spin-off of BTTB provides cellular, as do four private companies.

Internet usage is limited, about 18 per 10,000 population, the fifth lowest in Asia and well below that of its major competitors, 1/25 the usage in Vietnam and 1/35 the level in China. Internet connectivity to Bangladesh is over VSAT. There are about 46 ISP in the country including services provided by BTTP and by Grameen. All local Bangladesh Internet traffic goes through Singapore, Hong Kong, UK or USA because there is no local exchange of Internet traffic. One is now planned to be introduced jointly by the countries ISPs.

## *Annex E: Export Processing Zones*

Bangladesh's export processing zones has been expanding since the initial zone was established in Chittagong in 1983. This was followed 10 years later by the zone in Dhaka, which was then expanded in 1997. There are four additional zones currently under construction in Comilla, Mongla, Uttara and Ishwardi and an expansion of the Chittagong zone is also planned. The amount of exports produced in the export processing zones has been growing steadily over the years as shown in Table D.1

Table D.1: Exports Produced in Export Processing Zones

Financial Year	Total Export <u>from</u> <u>Bangladesh</u>	Total Export <u>from EPZs</u>	% of BEPZA <u>Contribution</u>
1983-84	811	0.2	0.02
1984-85	934	4	0.43
1985-86	819	8	0.98
1986-87	1074	15	1.40
1987-88	1231	14	1.14
1988-89	1292	16	1.24
1989-90	1524	34	2.23
1990-91	1718	48	2.79
1991-92	1994	77	3.86
1992-93	2383	127	5.32
1993-94	2534	147	5.80
1994-95	3473	228	6.56
1995-96	3882	337	8.68
1996-97	4418	463	10.48
1997-98	5161	636	12.32
1998-99	5313	712	13.40
1999-00	5752	891	15.49
2000-01	6467	1068	16.51
2001-02	5986	1077	18.00
2002-03	6548	1200	18.34

Source : BEPZA

The total employment in 2002 was 136 thousand and the estimated investment was \$709 million of which Bangladesh companies accounted for about 1/6. Three other countries, Korea, Japan and China, accounted for about 60% of the remaining investment as shown in Table D.2. Garments account for about ½ the employment but only ¼ of the investment. When combined with textiles, the proportion of labor rises to 80% and ⅓ of the investment (Table D.3).

The benefits offered by the Export Processing Zones are similar to that in other countries and include duty free import and exports which enjoy MFN benefits. Other benefits are:

- GSP facility available Import on documentary acceptance (DA) basis
- Customs clearance at factory site
- Simplified sanction procedure
- Back to back L/C
- Import from DTA
- 10% sale to DTA

There are also the normal tax incentives including

- Tax holiday for 10 years followed by reduced rate for next 5 years
- Relief from double taxation
- Exemption from dividend tax
- Expatriates exempted from income tax for 3 yrs
- Accelerated depreciation on machinery or plant allowed
- Remittance of royalty, technical and consultancy fees allowed
- Duty & quota free access to EU (EBA), Canada, Norway, Australia etc

The Export Processing Zone Authority provides other protections for foreign investment such as:

- Investment protected under foreign private investment (promotion and protection) act, 1980
- 100% foreign ownership permissible
- No ceiling on foreign investment
- Full repatriation of capital & dividend
- Foreign currency loan from abroad under direct automatic route
- Non-resident foreign currency deposit allowed for 'A' type industries
- Operation of foreign currency account by 'B' and 'C' type industries allowed

Table D.2 Investment and Employment in Bangladesh Free Trade Zones

Country	Unit	Invest (mn \$)	Employ
S. Korea	52	225.44	56,089
Bangladesh	46	129.31	19,843
China	22	95.10	24,629
Japan	21	103.40	4,326
USA	10	30.04	7,908
UK	9	19.97	3,778
Germany	5	11.23	3,520
Pakistan	4	2.86	454
Malaysia	4	18.04	1,039
Taiwan	6	19.91	3,186
India	4	2.20	282
Singapore	1	29.71	4,399
Panama	1	2.57	1,953
Denmark	1	1.02	268
Thailand	2	0.91	40
UAE	1	0.30	5
Sweden	1	4.34	3,750
Italy	1	7.83	131
Belgium	1	0.70	121
Switzerland	1	0.05	10
Netherlands	3	3.20	185
Total	196	708.85	135,916

Source : BEPZA

Table D.3: Labor and Investment by Product Category

	Units	Invest	Employment	
			Local	Foreign
Garments	42	188.64	68,332	317
Textile	20	166.40	15,012	202
Terry Towel	15	23.11	4,742	8
Knit & Other Textile	15	51.37	16,986	288
Garment Accessories	23	41.09	2,986	54
Caps	7	33.02	10,535	98
Tent	3	13.52	4,324	13
Elec & Electronics	11	41.74	2,410	15
Footwear & Leather	13	47.57	5,388	15
Metal Product	11	16.52	1,112	13
Plastic Goods	11	17.80	1,212	5
Paper Product	2	0.76	119	0
Fishing Real & Golf	1	30.66	690	1
Rope	2	5.84	352	2
Service Oriented Ind.	4	4.18	372	1
Agro Product	3	1.38	285	2
Miscellaneous	13	25.49	1,059	10
Gr. Total	196	708.85	1,35,916	1044

Source : BEPZA

## *Annex F: Concor Package For Exports To Bangladesh*

KOLKATA, Dec.11, 2002

THE Customs notification, simplifying the procedures for exports to Bangladesh through the land customs stations at Petrapole and Gede in West Bengal, has prompted the Container Corporation of India (Concor) to offer a package of services to promote trade through the route.

According to the Customs notification, exporters of goods to Bangladesh by containers can have their export containers stuffed in any of Concor's inland container depots (ICDs) in the country, have the boxes sealed by the Customs authorities concerned in that ICD and moved to Bangladesh through land customs stations simply by having the seals checked by Customs officials posted at the stations. That is to say, if the seals are found intact and the seal numbers tally with shipping bills and AR4 forms, there will be no further Customs examination of the containers at the land customs stations. In other words, the Customs formalities for exports to Bangladesh will be completed at the level of the ICD concerned, once stuffing and sealing have been done.

The simplification, according to Concor sources, should encourage more exporters to Bangladesh to avail themselves of Concor's package. Under the package, domestic containers can be used for stuffing the cargo at the originating ICD. The stuffed containers then can be brought by rail from various ICDs in the country to the ICDs located at Cossipore or Shalimar by rail. From Cossipore/Shalimar, the containers will be moved by Concor to the land customs station at Petrapole/Gede by road.

At Petrapole/Gede, Concor will arrange for customs clearance at the border and de-stuffing of the materials by manual labour at Benapole located within the Bangladesh territory.

For providing the package of services, Concor will charge ex-Shalimar/ex-Cossipore a consolidated fee covering the additional handling of containers at Cossipore/Shalimar, transportation cost of the loaded container to Petrapole and the return of the empties back to Cossipore/Shalimar and the customs clearance and de-stuffing of the boxes at the border.

At present, goods movement in railway wagons is permitted between India and Bangladesh but not in containers. That is to say, containers cannot be moved directly by rail into the Bangladesh territory and vice-versa. The present simplification by Customs, it is hoped, will pave the way for movement by containers directly into each other's territory in due course.

Santanu Sanyal

## *Annex G: Cross Border Procedures*

### **Bangladesh**

Bangladesh uses its ports, Chittagong and Mongla for overseas trade and its land ports along the border with India, of which Benapole/Petrapole is the busiest. Cross-border procedures have improved moderately in recent years since the country began to actively develop its export trade but document processing is still largely manual and discourages the seamless flow of traffic. The yarn is trucked from the exporter's warehouse in Calcutta to Petrapole for clearance and transfer to Benapole where the cargo is inspected and cleared for the onward movement to the producer's garment plant. After processing, the finished goods are shipped to Europe via Chittagong. The requirement for import of yarn and export of garments is presented below.

#### Import of Yarn

#### *Payment and Shipment Arrangements*

The garment producer agrees with the yarn dealer on the purchase of the product and the yarn dealer issues a Proforma invoice for the sale of goods to the garment producer. The garment producer will use the invoice together with:

- Bond indemnifying the issuing bank of loss and liability;
- Trade License;
- Import/Export Permit;
- Certificate of Registration for Value Added Tax

and other Documents as required to apply for an L/C.

A back-to-back L/C is issued for the imported good and the resulting product to be exported. Upon approval of the L/C by the issuing bank, the importer deposits a specific sum of money as required by the issuing bank. The issuing bank then sends a message to open the L/C at the negotiating bank in Calcutta together with instructions on terms and conditions of L/C payment. These conditions usually specify the number of copies of the signed commercial invoice, Bill of lading, certificate of insurance on cargo and packing list as well as the conditions such as latest shipment date, time deadline for negotiation, negotiating bank to courier documents to issuing bank immediately after negotiation with the exporter and reimbursement in strict conformity with credit terms.

When the yarn is ready for shipment, the Indian exporter hires a freight forwarder qualified as a Clearing Agent to handle the delivery of the consignment. The freight forwarder prepares a Bill of Lading and other necessary documents required by Customs at Petrapole. The CA helps the exporter fill in the Indian Customs Export Declaration form and assemble the documents including:

- original copy of invoice,
- original copy of packing list,
- certified copy of L/C, etc.

The forwarder instructs the trucking operator to load the cargo and travel to Petrapole.

The exporter then submits the documents specified in the L/C to the negotiating bank for processing and payment. Upon successful negotiation, the bank endorses the documents and sends them to the issuing

bank in Dhaka. The issuing bank notifies the importer upon receipt of documents and requests importer to review documents to confirm their completeness and whether they are free of any discrepancies. Importer then collects documents from the issuing bank and prepares for arrival and clearance of the shipment.

#### *Clearance at Petrapole and Benapole*

At the border, the Clearing Agent presents Indian Customs with :

- Bill of Lading,
- Indian Customs Export Declaration form,
- letter of authorization of Indian Clearing Agent,
- original copy of exporter's invoice,
- original copy of packing list and
- certified copy of L/C to the Indian Customs officer for inspection against the goods.

After clearance and payment of the necessary dues, the CA hands the truck driver the shipment documents consisting of packing list, invoice and Bill of Lading. The Indian truck crosses the border to Benapole where the driver hands these documents to Bangladesh Customs while the goods are unloaded for subsequent inspection and transfer to Bangladesh truck.

When the importer is ready to clear his cargo through customs, a Bangladesh Clearing Agent presents the necessary set of documents, which include:

- Import Permit issued by Bangladesh Export Processing Zone Authority
- Copy of importer's Certificate of VAT Registration issued by the Bangladesh government;
- Original Bill of Lading endorsed by issuing bank and the importer;
- Original packing list endorsed by issuing bank;
- Insurance cover policy for the consignment issued by insurance company and endorsed by issuing bank;
- Original L/C endorsed by issuing bank;
- Utilization Declaration, a form issued by Bangladesh Garments Manufacturing Export Association (BGMEA) to certify that goods are used in the manufacturing of garments which will be exported;
- Certificate from BGMEA to certify importer's membership of the association;
- Importer Pass Book issued by Bangladesh Customs for entry of import information at the relevant Customs station;
- Bonded warehouse license issued by Customs, as evidence that importer's goods will be shipped to a warehouse certified by Customs as under bond;
- Valued Bonded Form 6 (VBF-6 Form) issued by Bangladesh Customs and filled in by importer certifying that imported goods are consistent with packing list;
- Risk and Duty Bond supplied by importer as duty insurance against risk of goods sold in the domestic market.

The Bangladesh Customs Officer compares these with the documents presented by the truck driver. The cargo is checked against the documents. If the inspection is in order and free of discrepancies, the Customs Officer then clears the documents as well as cargo and instructs the Bangladesh Clearing Agent to position his truck for loading. After loading, the Clearing Agent picks up the documents with the necessary endorsements to signify clearance of the cargo has been improved. The Bangladesh truck picks up a local Customs receipt and delivers the cargo to the importer's warehouse.

## Export of Garment

The Bangladesh garment producer negotiates the terms of payment and shipment with the foreign buyer in Europe. The terms of payment are stated in the L/C together with additional requirements such as shipment date, submission of documents within specified time limit, etc. The L/C is issued by the importer's bank and transmitted to a counterpart bank in Bangladesh, together with the Bill of Lading, invoice, packing list, certificate of origin, insurance policy. The garment producer prepares the invoice for the sale of goods under the terms agreed with the buyer, takes an insurance policy on the goods, fills a GSP form so that overseas buyer from European Union can take advantage of tariff preference on imports from Bangladesh, and ships the consignment of goods through a multimodal transport operator who furnishes a Bill of Lading and packing list.

Payment by the importer's negotiating bank in Bangladesh to the exporter is made after satisfactorily meeting the terms and conditions of the L/C and handing over the originals of the documents. The freight forwarder hired by the exporter picks up the goods at the factory by covered van and transports them to the Customs facility before taking the consignment to the Port of Chittagong where containers are available for stuffing.

Prior to shipment of the consignment, the exporter hands over a set of documents to the freight forwarder including:

- Invoice of the exporter;
- Packing list issued by exporter;
- Export permit issued by Bangladesh bank;
- Undertaking by exporter on company letter head;
- Export permit issued by BEPZA;
- Consumption statement issued by exporter concerning yarn usage;
- Risk bond supplied by exporter;
- Out pass statement in exporter's letterhead addressed to respective Customs Station;
- Truck challan (receipt) issued by truck operator in exporter's official format; and
- Cost and Freight truck receipt.

The Clearing Agent presents these documents to the Customs for processing. The cargo is loaded into the covered van and proceeds to the Customs Station for inspection. The Customs Officer checks the documents against the goods and clears them if the documents are in order. The van then proceeds to the port of Chittagong, normally traveling overnight and arriving early in the morning.

Upon arrival at the Chittagong port area, the consignment is unloaded at the container freight station (CFS). The Clearing Agent fills in an Export Bill of Entry and attaches all of the above documents to support the application. The Clearing Agent presents the Export Bill of Entry together with the supporting documents to the Customs Officer in the CFS for inspection and clearance. If the documents and the goods are in order, the Customs Officer places a "No Objection" stamp on the Export Bill of Entry to clear the goods and returns copies of the documents to the Clearing Agent. The Clearing Agent then passes the documents on to the shipping agent to prepare for stuffing of the goods into the container.

## *Annex H: Persons Interviewed*

Apex Footwear Limited - Abdul Momen, General Marketing Manager  
Agro-based Industries and Technological Development Project-Mr. Ashek, Mr Dinesh Punday  
APL Shipping - Waldo Basilla, MD, M.Mustaque Amin GM  
Asian Development Bank – Eckland  
Association of Cargo Agents of Bangladesh - Capt Saifur Rahman, et al  
Bangladesh Export Diversification Project PUC - Md Emdadul Haque  
Bangladesh Export Processing Zone Authority - A.Z.M. Azizur Rahman  
Bangladesh Knitwear Manufacturers and Exporters Association - Md, Faziuk Hoque, President, et al  
Bangladesh Railways - AFM Mustafizur Rahman, DG, AZM Sazzadur Rahman, Manager Marketing  
Bengal Fine Ceramics - Eng R. Maksud Khan Chairman  
BGMEA- Annisul Huq, Chairman  
BRAC - Aminul Alam, deputy Exec Director  
British Airways - World Cargo - Mohammad Sayfuddin Shafique  
Business Promotion Board - Fafiqul Alam Masud  
C&F and Customs Association  
Center for Policy Dialogue - Dr. M Rahmatullah  
Chittagong Customs C&F Agents Association - Md Shawkat Ali, Executive Manager  
Chittagong Port Authority - Acting Chairman Altaf Chowdhury, Haid Hussain Babul, Chief of Planning,  
Ahsanul Kabir, Terminal Manager, Ahmad Abul Kashem, Member Finance  
Consumer Products Ltd -Alamgir M.Z. Rahman, MD and CEO  
Emirates Airfreight - ABC-Air Limited - Aga Ekram Chowdhury  
ExpoLanka - Mahbulul Anam  
Foreign Investors Chamber of Commerce and Industry - Jahangir Bin Alam, Secretary  
HRC - A.S.M Salahuddin, Senior Deputy GM  
HSBC- Trade Services - Khandaker Mazre Murshed, Manager Trade Services; Riaz Choudhury,  
Relations Manager Corporate Banking  
IIFC - Nazrul Islam, Baziul Kadir, MUHAMMAD Shamsur Rahman  
Knit Asia - A. Matin Chowdhury  
Knitex Industries - Asadul Haq, Export Director  
Kuehne and Nagel, Rafi Omar, Managing Director  
Maersk Logistics and Shipping - Shamin ul Huq Dpy Manager  
Mongla Port Authority - Mr. Daud Chief Planning Officer  
National Board of Revenue - Ian Thomas (IT Implementation advisor)  
NBR, Customs - Noor Haq  
Peoples Ceramic Industries, Ltd. Luthur Rahman  
Professor Bayes  
Road and Highways Department-Md. Amjad Hossain, Addtl Chief Engineer Planning and Maintenance  
Shrimp Seal of Quality-Cedric Randoph  
Terra Consultants – Tribhuwan Narain, Ray Rolle  
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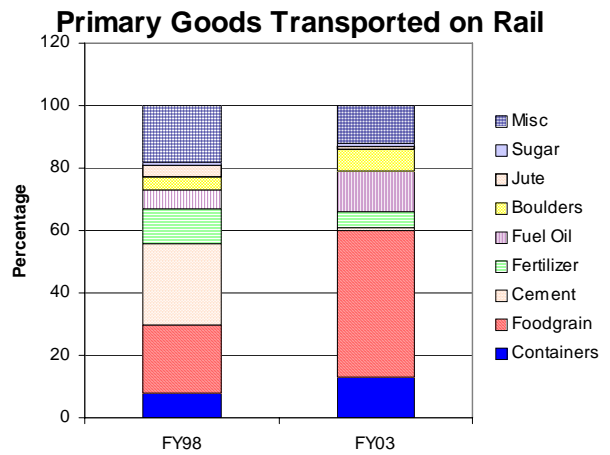
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Principal Commodities 1999/2000		
Cement	639	22.1%
Wheat	384	13.3%
Containers	355	12.3%
Rice	314	10.9%
Fertilizers	177	6.1%
Oil Fuels	160	5.5%
Marble&Stone	107	3.7%
Raw Jute	55	1.9%
	698	24.2%
<b>Total</b>	<b>2889</b>	

Figure



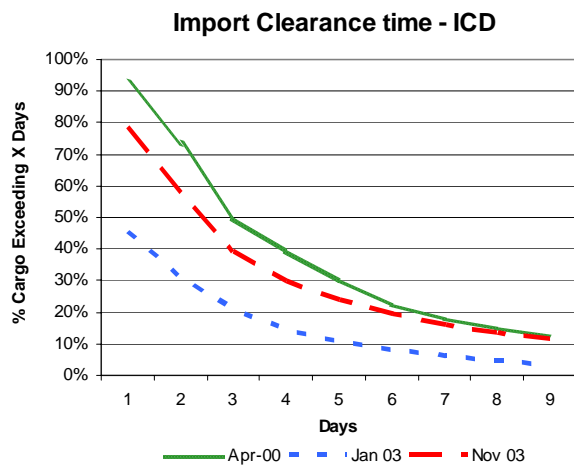
Source:Regional Rail Traffic Enhancement Project

Table : Kolkata Port Container Traffic (TEU)

	KDS		HDC	
	FY03	FY04	FY03	FY04
Import	65,524	77,515	44,853	54,054
Export	40,361	44,904	72,285	82,603
<b>Total</b>	<b>105,885</b>	<b>122,419</b>	<b>117,138</b>	<b>136,657</b>

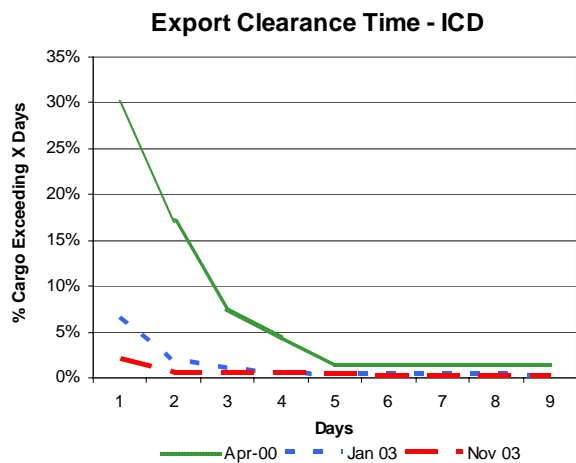
Sources:

Figure 3



Source: Customs Data

Figure 4



Source: Customs Data