

Exploring Alternative Logistic Support in Bangladesh
Facilitating Export

A Dissertation by

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This Dissertation report is submitted to the BRAC Institute of Governance and Development (BIGD), BRAC University, in partial fulfillment of the requirements, for the degree of

**Masters in Procurement and
Supply Management (MPSM)**

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Statement of the author

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Abstract

Increased participation in world trade is conventionally seen as the single most important key to rapid economic growth and development of the developing countries. The combination of increased competition among developing countries to attract foreign direct investment as locations for labour-intensive processes, crowded markets for labour-intensive manufactures, weak growth and protectionist inclinations in the advanced industrial countries can mean that what might be good for an individual exporter might not be good for all exporters. This analysis poses the vitally important policy challenge of what developing countries, confronted by the vigorous expansion of their foreign trade but no comparable rise in income, should do.

Prospects of instability and conflict in the Third World are one of the major challenges to international export-import security in the era. The challenge is hardly new or unexpected. In the recent era, Third World conflicts, intra-state, inter-state and regional, vastly outnumbered those occurring in the developed segment of the international trade system. But even as the end of the Cold War has been accompanied by the settlement of a number of long-standing regional conflicts, such as in Afghanistan, Southern Africa, Central America, Nigeria, Vietnam, Brazil and Cambodia, new anxieties about Third World conflicts and their wider geopolitical ramifications have emerged.

From a business perspective, supply chain management is not primarily about development, but is one of the most basic strategies of business to deliver output efficiently. However, in recent decades, as companies have responded to increased pressure to demonstrate their contribution to society and economic development, supply chains have gained attention as a lever through which businesses can boost their development impact. Specially, the impact of global supply chain on the business of export-import is significantly high for its direct effect on the effectiveness of the business.

The efficiency of supply chain depends on its logistics support as well as the continuous flow of the process. Any disruption between the logistics flow can destroy the whole business. The management of each and every supply chain should consider the emergency option while designing the whole process. The implementation of alternative logistics channel may need a lot of investment but the priority should be to run the economy fluently in crisis period.

TABLE OF CONTENTS

Content	Page No.
Title Page	i-ii
Statement of the author	ii
Acknowledgement	iv
Abstract	v
Table of contents	vii
List of figures, tables and charts	x
Abbreviations	xii
<i>Chapter-1: Introduction</i>	1-5
1.1 Background of the Study	1
1.1.1 Supply Chain Disruption led inflation marginally up ahead the year-end	1
1.1.2 Trade Deficit narrows down on sluggish import	2
1.2 Traffic Flows between Dhaka and Chittagong	2
1.3 Statement and Causes of the Problem	3
1.3.1 Court Cases and Supply Chain security	4
1.3.2 Recent Labor Disputes and the Effect on the Business Environment	4
1.3.3 Elections in Bangladesh and the Impact on Supply Chain Security	5
1.4 Objective of the Study	5
<i>Chapter-2: Literature Review</i>	6-10
2.1 Logistics	6
2.1.1 Elements of Logistics	6
2.2 Export of Bangladesh	7
2.3 Comparison of Export in 2012 – 2014 of Bangladesh	9

Content	Page No.
<i>Chapter-3: Critical Analysis</i>	<i>11-17</i>
3.1 Logistics Companies Struggle to Stay in Race Amid Turmoil	11
3.2 Cost of Road Freight went Higher	12
3.3 Importance of Logistics Security in Global Supply Chain	14
3.3.1 Risk to Global Supply Chain Operations	15
3.3.2 Security Breach Incidents by Trade Sector	16
3.4 Impact of Security on Efficiency and Competitiveness	16
<i>Chapter-4: Proposals and Analysis</i>	<i>18-34</i>
4.1 Development of Inland Waterway	18
4.1.1 Role of Inland Water Transport Cell in Transport of Goods	20
4.1.2 Opportunities of Inland Waterways	21
4.1.3 Advantages for the Stakeholders in River Terminals around Dhaka	22
4.1.4 Recent Government Initiative for IWT System	22
4.1.5 Container Terminal that are being Developed	23
4.1.6 Proposed River Terminals that are on the drawing board and have secured government nod	24
4.1.7 Challenges of Inland Waterways (Container Shuttle Service Business)	24
4.1.7.1 Vessel for Container Shuttle Service between Dhaka River Terminal and CTG Port	24
4.1.7.2 GOB Policy on Vessel Licensing for Container Shuttle Service between Dhaka River Terminal and CTG Port	25
4.1.7.3 Foreign Financing may be the key to build and operate new Vessels	25

Content	Page No.
4.2 Development of Dedicated Railway from Dhaka to Chittagong	26
4.2.1 Economic Feasibility of Dhaka-Chittagong direct Railway Link	27
4.2.2 Construction Costs	28
4.2.2.1 Physical Construction Cost	29
4.2.2.2 Land Acquisition and Resettlement Cost	29
4.2.2.3 Major Bridge Construction Costs	30
4.2.3 Total Project Cost	31
4.2.4 Economic Aspects and Benefits	31
4.2.5 Evaluation of the Project	32
4.2.6 Sensitivity Analysis	33
<i>Chapter-5: Conclusion and Recommendation</i>	35-38
5.1 Conclusion	35
5.2 Recommendation	37
5.2.1 What Is Involved in Developing a Logistic Strategy?	37
5.2.2 Components to Examine when Developing a new Logistics Strategy	38
<i>References</i>	39

LIST OF FIGURES, TABLES AND CHARTS

	Figures	Page
Figure 1.1	: Traffic shared by different modes of transport between Dhaka and Chittagong	3
Figure 1.2	: Political Turmoil in Bangladesh	4
Figure 2.1	: Elements of Logistics	6
Figure 2.2	: Container Handling Zone, Chittagong	7
Figure 2.3	: Bangladesh Exports (January 2013 – July 2014)	9
Figure 2.4	: Bangladesh Exports (January 2012 – January 2014)	9
Figure 3.1	: Supply Chain Security	14
Figure 3.2	: Security and the Supply Chain	15
Figure 3.3	: Security by Trade Sector	16
Figure 4.1	: Inland Waterways of Bangladesh	18
Figure 4.2	: Bangladesh Inland Freight Transport	21
Figure 4.3	: Location and Construction of Container Terminals	23
Figure 4.4	: Comparison of existing railway line and proposed railway link in between Dhaka and Chittagong	28

Tables		Page
Table 1	: Freight and passenger traffic between Dhaka-Chittagong	2
Table 2.1	: Bangladesh Exports during two consecutive financial years	10
Table 2.2	: Breakdown of Bangladesh Exports	10
Table 4.1	: Physical construction cost	29
Table 4.2	: Land acquisition and resettlement cost	30
Table 4.3	: Major bridge construction costs	30
Table 4.4	Total cost of the project	31
Table 4.5	Net present values and internal rates of return for different conditions	32
Table 4.6	Variation of B/C ratio to the different length of analysis period at 11.5% discount rate	34
Table 4.7	Variation in net present value and b/c ratio for different discount rate	34

Abbreviations

ADB	: Asian Development Bank
BAFFA	: Bangladesh Freight Forwarding Association
BGMEA	: Bangladesh Garment Manufactures & Exporters Association
BICDA	: Bangladesh Inland Cargo Depot Association
BIWTA	: Bangladesh Inland Water Transport Authority
BR	: Bangladesh Railway
CILT	: Chartered Institute of Logistics and Transport
CPA	: Chittagong Port Authority
CPI	: Consumer price index
EAB	: Exporters Association of Bangladesh
EPB	: Export Promotion Bureau
FCL	: Full Container Load
FE	: Financial Express
FICCI	: Foreign Investors Chamber of Commerce and Industry
FY	: Financial Year
GDP	: Gross domestic product
GSP	: Generalized Scheme of Preferences
ICT	: Inland Container Terminal
IMG	: International Management Group
IWT	: Inland Water Transport
IWTA	: Inland Water Transport Authority
JV	: Joint Venture
LCL	: Less Container Load
MOS	: Ministry of Shipping
RMG	: Ready Made Garment
RPL	: Rupayan Port & Logistics Services Ltd.
TEU	: Twenty-foot Equivalent Unit
UND	: United News of Bangladesh
WB	: World Bank
WTC	: Water Transport Cell

Introduction

1.1 Background of the Study

The year 2013 has been one of the most challenging years for the Bangladesh's economy in recent times. Failure to convince international agencies regarding Padma bridge project, collapse of a garment factory killing over 1,100 people and subsequent US suspension of GSP facilities, large scale financial scams and the most important of all was the unprecedented political violence for almost three months damaged the image of the country and its growth potentials. However, against all odds, Bangladesh has been able to attain a GDP growth of 6.03% in FY13. The drop in GDP growth rate from 6.23 % in FY12 is mainly attributed to slowdowns in agriculture and service sector. The slowdown in agriculture sector was suffered during the second half of FY13 due to series of *national strikes* and *consequent disruptions* to the supply chain, as the retail and wholesale trade sectors were particularly affected.

1.1.1 Supply Chain disruption led inflation marginally up ahead the year-end

To reflect changing consumption patterns and demographics, *Bangladesh Bureau of Statistics* introduced a new consumer price index (CPI) series, effective from July 2013, using 2005-06 as the base year. Using the new base year, point-to-point inflation peaked in April 2013 at 8.37% from a moderate level of 6.62% in January, before it started to ease from June onwards. By October point-to-point inflation came down to 7.03%, its lowest level in 2013. However, due to the political and economic impasse, inflation inched up to 7.15% in November. This increase was mainly driven by higher food inflation that prevailed in the preceding months due to the disruption in the supply chain as a result of continual blockades throughout the months of October and November. Food inflation shot up in October to 8.38 % from 7.93 % in September and recorded at 8.55 % in November. However, sluggish economic activity restricted non-food inflation below 6% level post August. Annual average inflation also rose marginally to 7.51% (using 2005-06 bases) in November on account of increased food inflation.

The national budget for FY14 set inflation target of 7.0% using the 1995-96 base. The equivalent target using the 2005-06 base could be in the range of 6.0 - 6.5%. The risks to the inflation target stem partly from the wage increase in private (garment) sector and the

expected wage increase in the public sector, which will create aggregate demand pressures. Another risk to food inflation in particular stems from possible supply-side disruptions due to political strife and natural disasters.

1.1.2 Trade deficit narrows down on sluggish import

The country's trade deficit in FY13 shrank to the lowest level in three years mainly due to robust exports against declining imports during that period. According to statistics released by Bangladesh bank, the deficit stood at USD 6.9 billion, marking a 38.10% drop from the last fiscal year. During FY13, export receipts surpassed USD 27 billion while import amounted to USD 34 billion. Trade deficit in FY12 was USD 11.2 billion where, export earnings and import payment stood at USD 24.3 billion and USD 35.5 billion respectively.

1.2 Traffic flows between Dhaka and Chittagong

Estimated traffic on five corridors (Dhaka-Chittagong, Dhaka-Northwest, Dhaka-Khulna, Dhaka-Sylhet and Khulna-Northwest) of Bangladesh indicates that Dhaka-Chittagong corridor ranks first and appears to be the most important one in terms of flow of passenger and freight traffic. The importance of this corridor will persist to the year 2015 also (BITSS, 1997). It is estimated that freight traffic in between Dhaka and Chittagong will increase from 10.6 million tons in 1995/96 to 18.4 million tons by 1999/2000, and will reach to 42.0 million tons by the year 2014/2015. The passenger traffic forecast is much more sensitive to the timesaving that would result from improved facilities. It is estimated that passenger trips could grow from 26.5 million in 1995/96 to almost 134.0 million passenger trips by the year 2014/2015 (BITSS, 1997). Table 1 shows the flows of freight and passenger traffic between Dhaka-Chittagong.

Table 1: Freight and passenger traffic between Dhaka-Chittagong

<i>Flows of freight and passenger between Dhaka-Chittagong Period</i>	<i>Freight (Million tons p. a.)</i>	<i>Passenger (Million passengers p. a.)</i>
1992/93	10.4	23.2
1995/96	10.6	26.5
1999/2000	18.4	65.8
2014/2015	42.0	134.0

Dhaka-Chittagong corridor is mainly dominated by road service. The existing rail road distance between Dhaka-Chittagong is 320.79 route kilometers. The link between Chittagong-Laksam is almost straight and it is 129.60 kilometers. The rail-road distance between Dhaka-Laksam is 191.19 kilometers with a huge rounding loop of about 90 kilometers and thus railway service between Dhaka-Chittagong is time consuming and less attractive. Modal split of estimated and projected Passenger and Freight Traffic are also shown in Figure 1.

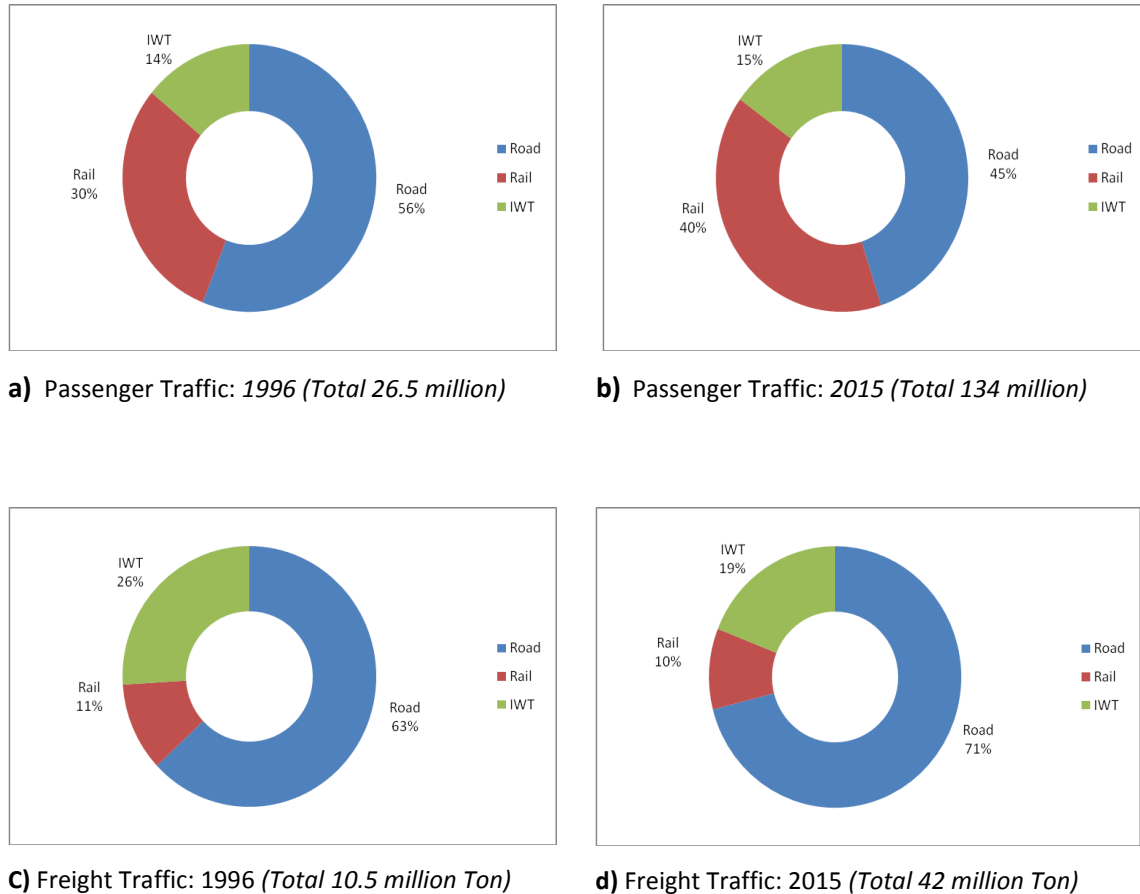


Figure 1.1: Traffic shared by different modes of transport between Dhaka and Chittagong

1.3 Statement and Causes of the Problem

On November 11th, Riot Police in Dhaka, Bangladesh clashed with protesters, leading to multiple injuries and at least one death. The demonstrations were sparked by the arrest of five opposition leaders, two of whom were members of Parliament. On the same day, over 100 garment factories in Dhaka were forced to close due to ongoing worker unrest and demands for a higher minimum wage. Unfortunately, the current instability in Bangladesh may continue as controversy continues to swirl around the 2014 January elections.

Given that, Bangladesh is the world's second largest textile exporter, many were starting to become concerned with the country's business environment. Due to the instability in Bangladesh, IMG Group, a leading firm in international supply chain security was analyzing the integrity of Bangladesh's current business environment.



Figure 1.2: Political Turmoil in Bangladesh

1.3.1 Court Cases and Supply Chain Security

After Bangladesh's 2008 elections, an International Crimes Tribunal was established to prosecute war criminals for atrocities committed during the 1971 War for Independence. During 2013 this court passed down multiple death sentences to prominent members of BNP and Jamaat-e-Islami, two prominent political parties opposed to the current government. Groups inside and outside of Bangladesh have criticized these trials as unfair and politically motivated. As a result of this perceived injustice, the convictions handed down by the tribunal have sparked protests and demonstrations throughout Bangladesh.

However, the Tribunal was not been the only legal controversy to destabilize the business environment. On November 5th 2013, 152 defendants were sentenced to death for a bloody 2009 mutiny perpetrated by a military border guard unit known as the Bangladesh Rifles. Given the sheer scale of the sentence and the fact that 70 suspects died in custody, there was concern, there could be further unrest. Such instability may pose additional challenges to supply chain security in the country.

1.3.2 Recent Labor Disputes and the Effect on the Business Environment

In addition to the recent court cases, there had been other threats to supply chain security in Bangladesh. Many garment factory workers had been staging protests across the country, demanding a higher minimum wage. There seemed to be a good deal of sympathy for these workers given the hazardous conditions they were exposed to.

As a result of these protests, the government has recently increased the minimum wage for Bangladesh's garment workers by 77 percent. While this wage increase was substantial, it was significantly less than what was demanded by some labor groups. As a result, protests over wages may continue to be a factor in Bangladesh's business environment.

1.3.3 Elections in Bangladesh and the Impact on Supply Chain Security

Bangladesh was set to hold their next national elections at the end of January 2014. Due to the enmity between the two major parties, there was concern that these elections might increase the political instability in Bangladesh. After all, 2013 had been racked by protests stemming from the controversial death sentences passed down to prominent opposition figures. Additionally, several labor groups aligned with the opposition were likely to continue their demonstrations demanding a higher minimum wage.

In response to the political turmoil, the ruling government's cabinet had resigned to make way for an all-party government to oversee the general election. However, it was uncertain if the BNP-led opposition will accept this move. Unfortunately, if the two sides did not resolve their issues soon, there was a large-scale election boycotts, threatening the legitimacy of the next government of Bangladesh.

1.4 Objective of the Study

In the export industry, the competitiveness of business depends on the responsiveness of their supply chains. Inefficiencies such as long cycle times, shortages and logistical deficiencies across chains threatened the competitiveness of the whole import and export supply chain. Bangladesh is a developing country and in the 21st century, Bangladesh earns most of its foreign currencies through exporting goods. In the world of international trade, there are various forms of transportation modes but the most popular transport mode for freight transport in Bangladesh is sea freight and sometimes air freight (For high priced materials and emergency cases). Bangladesh has two sea ports for international trade by sea freight and at the same time there is only one international airport for the export through air. The main industry zone of Bangladesh is on the North-East part of the capital Dhaka city which is situated in the center of the country. For export trading, each and every goods need to be shifted from this industry zone to either the sea port (about 300 kilometers) or the international airport (about 30 kilometers in Dhaka-Mymensingh highway). Through this pre-carriage transport, many factors can affect the smooth movement of the goods, i.e. political violence. So, an alternative logistics facility should be implemented to sustain the business in these types of unexpected circumstances.

CHAPTER-2

Literature Review

2.1 Logistics

Logistics is the art and science of management, engineering, and technical activities concerned with customer requirements, product design, maintaining and supplying resource to support objectives, plans, and operations.

(SOLE-The International Society of Logistics)

The process of planning, implementing and controlling the efficient and cost-effective flow and storage of raw materials, in-process inventory, finished goods and related information from the point of origin to the point of consumption, for the purpose of conforming to customer requirements.

(*Management of Business Logistics*, Coyle, Bardi and Langley)

The process of ensuring that the right products reach the right place in the right quantities at the right time to satisfy customer demand.

(CILT – Chartered Institute of Logistics and Transport)

2.1.1 Elements of Logistics

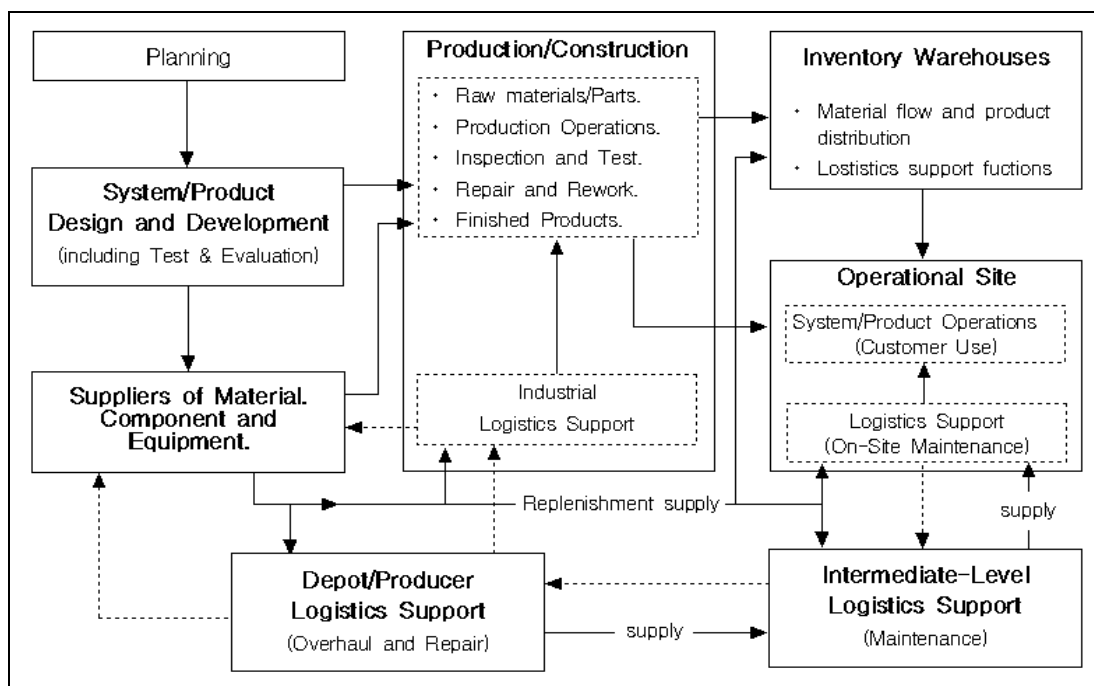


Figure 2.1: Elements of Logistics (*Benjamin S. Blanchard, "Logistics Engineering and Management," 6th ed, Prentice-Hall, 2004. p11*)

2.2 Export of Bangladesh

Bangladesh failed to achieve its export target for the last fiscal year (2012-13), falling \$981.74m short, although the export earnings witnessed 11.18% growth over the previous fiscal year (2011-12). According to the Export Promotion Bureau (EPB), Bangladesh fetched \$27.02bn from exports in the last fiscal year against its strategic target of \$28bn, reports UNB. The single-month export figure of \$2.7bn in June also fell 5.02% short of the target of \$2.84bn, showing a 16.31% growth. The total export earnings during the 2011-12 fiscal year stood at \$24.3bn compared to \$22.92bn in the previous fiscal year (2010-11).



Figure 2.2: Container Handling Zone, Chittagong

According to the President of Exporters Association of Bangladesh (EAB) Abdus Salam Murshedy, the securing of a double-digit growth is nothing abnormal for Bangladesh considering the current strength and capability of the country's export-oriented sectors. He also agreed that the main reason behind not attaining the export target for FY13 is political unrest. This put heavy pressure on the country, caused an image crisis abroad, and created challenges for exporters. Murshedy, also a former president of the Bangladesh Garment Manufacturers and Exporters Association added that international buyers are also under pressure for this reason, while the labour unrest in and around the capital, especially in Ashulia, has made the ready-made garments industry lose its competitive edge.

An immediate policy support to the exporters, initiating prompt steps may be to form a garment ‘palli’ (village) which will be connected with the main sea-ports by the inland waterway and starting work on special economic zones.

During the July-June period of FY13, the export of home textiles totalled \$791.52m falling by 12.64%; footwear exports fetched \$419.32m; primary commodities brought \$1.08bn; frozen foods including frozen fish, shrimps and others totalled \$543.84m; and agricultural products earned \$535.74m.

Of the other major performing commodities, fruit exports totalled \$71.89m with a 25.77% growth; computer services (July-May) came to \$92.53m, having 30.67% growth; cement, salt and stone brought \$6.15m, while tea export accounted for \$2.44m with a 27.81% fall.

The export trend for leather and leather products maintained their upward trend during the July-June period of last fiscal year. Leather exports totalled \$399.73m, while leather products brought \$161.62m, cotton and cotton products together earned \$124.96m, plastic products \$84.51m and rubber fetched \$13.57m.

The export of jute and jute goods during the FY13 increased to \$1,03bn, registering a 6.54% growth. Raw jute exports fetched \$229.92m with a 13.65% decline, jute yarn and twine \$506.74m, and other items brought some \$56.53m. Jute sacks and bags, however, notched a growth of 26.18% as exports totalled \$237.42m.

Engineering products, including iron and steel, bicycle and electronic products fetched almost \$367.47m. Engineering equipment fetched \$48.73m with a fall of 1.64%.

The export of man-made filaments and staple fibres totalled \$101.45m, while the export of ships, boats and floating structures fetched \$5.73m, suffering an 87.53% fall.

The export of handicrafts totalled \$6.16m, while paper and paper products \$33.73m, furniture \$31.41m, chemical products \$93.01m (including pharmaceuticals worth \$59.82m), while ores, slag and ash brought \$22.37m.

Specialised textiles, including terry towels, showed a negative growth of 10.27%, earning \$124.52m during the last fiscal year, while the export of petroleum by-products accounted for just \$313.95m.

Meanwhile, silk export notched an eye-catching 1700% growth fetching \$0.18m, followed by the export of building materials at \$1.91m with 496.88% growth.

(Source: Tribune Online Report)

2.3 Comparison of Export in 2012-2014 of Bangladesh

Exports in Bangladesh decreased to 175.90 Bangladesh Taka Billion in July of 2014 from 195.64 Bangladesh Taka Billion in June of 2014. Exports in Bangladesh averaged 29.32 Bangladesh Taka Billion from 1972 until 2014, reaching an all time high of 195.64 Bangladesh Taka Billion in June of 2014 and a record low of 0.05 Bangladesh Taka Billion in February of 1972, reported by the Bangladesh Bank.

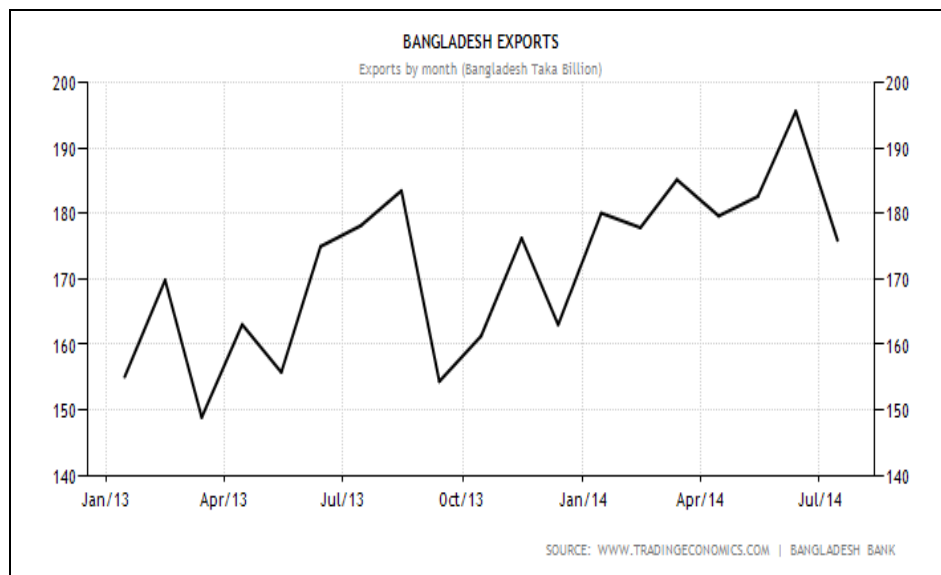


Figure 2.3: Bangladesh Exports (January 2013 – July 2014)

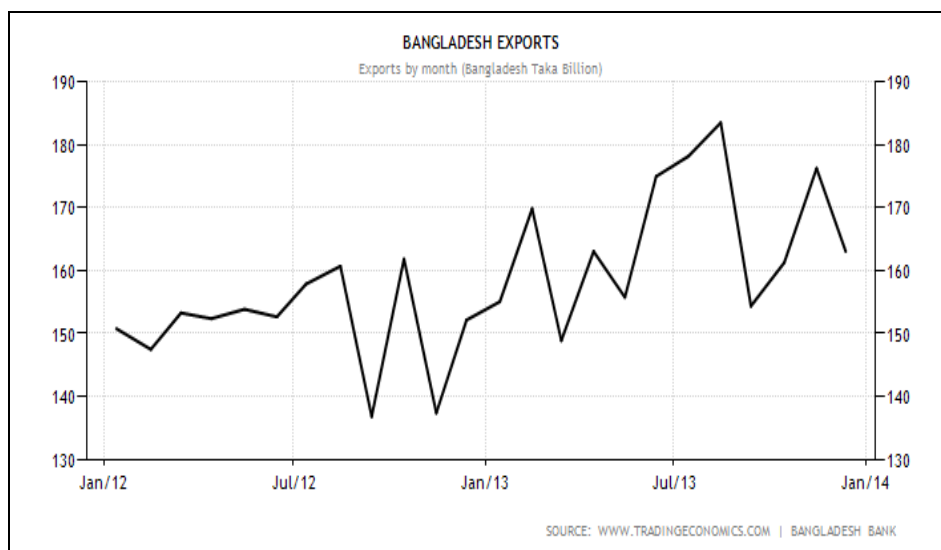


Figure 2.4: Bangladesh Exports (January 2012 – January 2014)

Table 2.1: Bangladesh Exports during two consecutive financial years

Actual	Previous	Dates	Unit	Frequency
175.90	195.64	2012-13 to 2013-14	Bangladesh Taka Billion	Monthly

Bangladesh exports mainly ready-made garments including knit wear and hosiery (75% of export revenue). Others include: Shirmps, jute, goods (including carpet), leather goods and tea. Bangladesh main export partners are United States (23% of total), Germany, United Kingdom, France, Japan and India.

Table 2.2: Breakdown of Bangladesh Exports

Bangladesh Trade	Last	Previous	Unit
Balance of Trade	-68.30	-56.40	Bangladesh Taka Billion
Exports	175.90	195.64	Bangladesh Taka Billion
Imports	244.24	252.08	Bangladesh Taka Billion
Current Account	-178.00	1107.00	USD Million
Current Account to GDP	0.40	0.20	Percent
Terms of Trade	70.10	70.80	Index Points
Remittances	1344.27	1160.06	USD Million
Capital Flows	3.80	2.09	BDT Billion
Gold Reserves	13.54	13.51	Tonnes
Crude Oil Production	4.00	4.00	BBL/D/1K
External Debt	23.30	22.10	USD Billion
Foreign Direct Investment	1300.00	1191.00	USD Million

Source: Trading Economics – Bangladesh Exports

Critical Analysis

3.1 Logistics Companies Struggle to Stay in Race Amid Turmoil

The logistics businesses are faced with the worst of time because of the prolonged turmoil in the apparel sector and the political instability. About 80 per cent companies were forced on the brink as they were not getting enough cargoes for handling, as the buyers were leaving the apparel sector amid frequent shutdowns - both political and industrial in the last few months of 2013. The political unrest was spelling short-term problems for business of freight forwarding, the repeated flare-ups of unrest in the export-oriented apparel sector caused long-term problems.

Mr Amirul Islam Chowdhury (Mizan), senior vice president of Bangladesh Freight Forwarding Association (BAFFA), said: "As many buyers are looking for alternative markets, it shows they are losing their confidence in us fast because of the political instability and resultantly the growing logistics business is at stake." He said, "Currently many orders for apparel products were being shifted to India, Vietman, Cambodia and Myanmar as the buyers found those countries more stable than Bangladesh. He was worried about that in the coming days the volume of air freights might increase as the exporters were unable to make shipments by sea due to the shutdowns affecting transportation of goods by road. Mr. Chowdhury said the entire logistic business collapsed and there could be a long-term effect of it on the business, if the trouble in the ready-made garment (RMG) sector continues. He said more than 80 per cent logistics firms were in trouble, as they were not getting enough cargoes and were failing to maintain shipment schedules.

Syed Ershad Ahmed, immediate-past president of the Foreign Investors' Chamber of Commerce and Industry (FICCI), said, transportation of raw materials from ports to Dhaka was being hampered seriously and resultantly production in factories and exports were being affected. He said the volume of cargoes both by sea and air declined indicating that Bangladesh was left at risk of losing the RMG business totally. The former FICCI president said after the glory days of jute the promising RMG sector also might lose the international market, if the current stalemate continues. He said already some

buyers were moving to other neighbouring countries where the prices are cheaper and political stability exists.

A source in the Bangladesh Inland Cargo Depot Association (BICDA) said millions of dollars were invested in the cargo depot business, but due to various reasons the logistics business was facing serious trouble. He said the overall investments in the business were left at risks, though it was masterminded to ease the pressure of export and import business on ports.

A source in a local freight forwarding company said though the short-term problem caused by the political instability could be overcome, it became a big headache that the RMG buyers were losing their confidence in the local manufacturers. He said it was inevitable to save the RMG sector and thus the billions of dollars invested in many other areas of business linked to the RMG sector. He also said the logistics business would be the worst-affected area, if the RMG sector faces further trouble in the coming days.

(Source: The Financial Express – online version)

Along with foreign competitors, currently hundreds of local freight forwarding companies are engaged in logistic business. There was a growth in investments in the sector as the trade volume of the country was increasing.

3.2 Cost of Road Freight went higher

Truck freight charges had risen five times more than normal over the last three weeks in the wake of political unrest causing disruption in domestic and international supply chain management in December 2013. On the first Friday of December, a truck fare rose to Tk125,000 from Tk20,000 to carry goods back and forth between Dhaka and Chittagong in comparison with the freight charges in the third week of November. Generally, a lorry charges Tk12,000 to Tk20,000 on the Dhaka-Chittagong route, but because of blockades and hartals the fare had gone through the roof.

As per the data of Bangladesh Truck and Covered Van Owners' Association, the freight rate on the route had risen to Tk1,25,000. In the third week of November 2013, a trucker

charged between Tk12,000 and Tk20,000 to transport goods between the two metropolises.

The hike in freight rate ranged between Tk40,000 and Tk50,000 following a 72-hour blockade enforced on November 26 by the BNP-led 18-party alliance. The fare further rose to Tk1,00,000-Tk1,25,000 after the second phase of the six-day blockade that ended in the first week of December.

“I freighted goods to the Chittagong port by a truck which charged me TK1,25,000,” said Syed Faizul Ahsan, managing director of Dotcom Sweater Limited. There was no way but to comply with the freight cost as it was necessary to deliver the shipment before the deadline, he added.

Talking to the Dhaka tribune, Ashraful Alam, owner of Top and Bottom, RMG factory, said on Friday he sent RMG products to the port city on a freight cost of Tk85,000 which was Tk16,000 only in normal circumstances.

“Since there was hardly any scope for domestic air freight, we are compelled to use lorries for transportation of goods to the sea-port and we had now been hostage to high freight charges,” he said, adding that the volatile political situation hit the business hard.

“Having no alternative to sending RMG products to the port for sea freight, we are subjected to pay as much as the carrier owners charged us as freight cost,” said Shahidullah Azim, BGMEA vice-president.

“I would incur a loss of Tk4m to Tk4.5m if I fail to deliver a shipment before deadline.” Truck owners capitalised on the situation, said Rustom Ali Khan, Bangladesh Truck and Covered Van Owners’ Association. “Over the last couple of weeks in that period, most truck owners had no business, and Friday was an opportunity for us to compensate for the loss,” he added.

On the other hand the owners were reluctant to ply their vehicles witnessing several incidents of arson attack on their vehicles during hartal and blockades. According the association, over 80 vehicles had been torched by blockaders recently. “Our business was then crippled as we could not ply our trucks fearing vandalism and arson attack,” said Rustom.

Meanwhile, apparel manufacturers showed little interest in sending products under police escort to Chittagong port during the ongoing countrywide blockades crippling the country's economy.

3.3 Importance of Logistics Security in Global Supply Chain

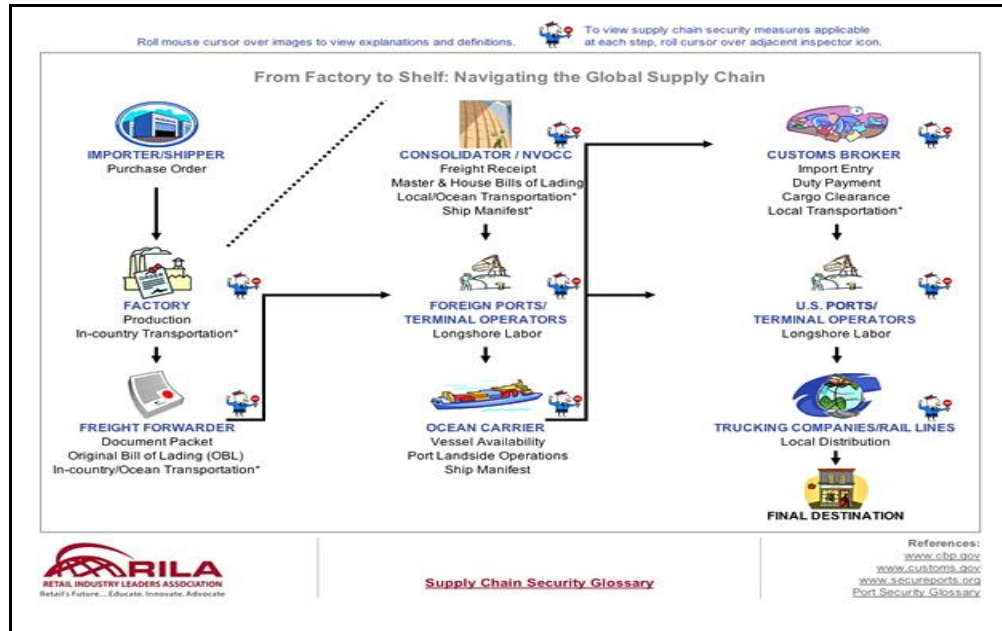


Figure 3.1: Supply Chain Security

Logistics security is an increasingly important issue in Bangladesh and is crucial to the development of the region due to the potentially damaging social and economic effects of a break in the logistics chain. Therefore, national and regional coordination of the different public and private initiatives in this area is critical.

A break in the logistics chain, whether due to an administrative failure, a criminal act or a political effect, has enormous consequences for the competitiveness of a country's economy. In addition to the direct losses caused by the event, there are repercussions along the rest of the supply chain, such as delays in delivery or failure to deliver to customers, contract losses or increases in inventory levels needed to compensate for the variability in delivery times, among other factors, which ultimately drive up national logistics costs.

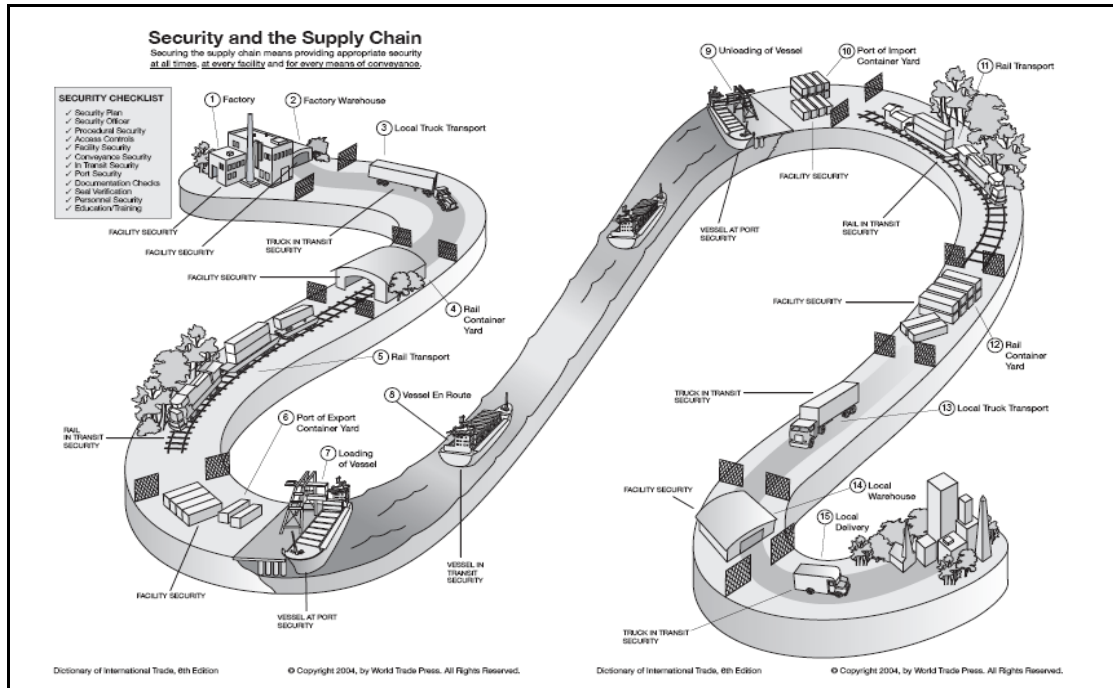


Figure 3.2: Security and the Supply Chain (*Source: MSC Security Program – Security in the Logistics Supply Chain*)

In the case of the countries of South Asia more specifically Bangladesh, the issue is even more strategic given the rising crime and political violence that are affecting logistics chains and driving up the logistics-related costs of doing business. Bangladesh invests lots of money per year to combat insecurity and violence, still too little to solve the problem and reduce the enormous loss of innumerable human lives and the damaging effects on the quality of life of the rest of the population. Moreover, the lack of security has pernicious effects on the economy, driving down competitiveness, reducing national and foreign investment, and dampening employment and productivity by making consumer products more expensive due to the extra costs involved.

3.3.1 Risk to Global Supply Chain Operations

Risk = Threat + Vulnerability + Opportunity + Consequence

- **Threat:** The factors associated with a criminal or terrorist group's existence, capability, intentions, history, and past targeting.
- **Vulnerability:** The susceptibility of an organization to the hostile actions of criminals or terrorists.
- **Opportunity:** Those conditions that offer an adversary and advantageous chance to succeed in an attack.
- **Consequence:** The negative effect resulting from a successful attack.

3.3.2 Security Breach Incidents by Trade Sector

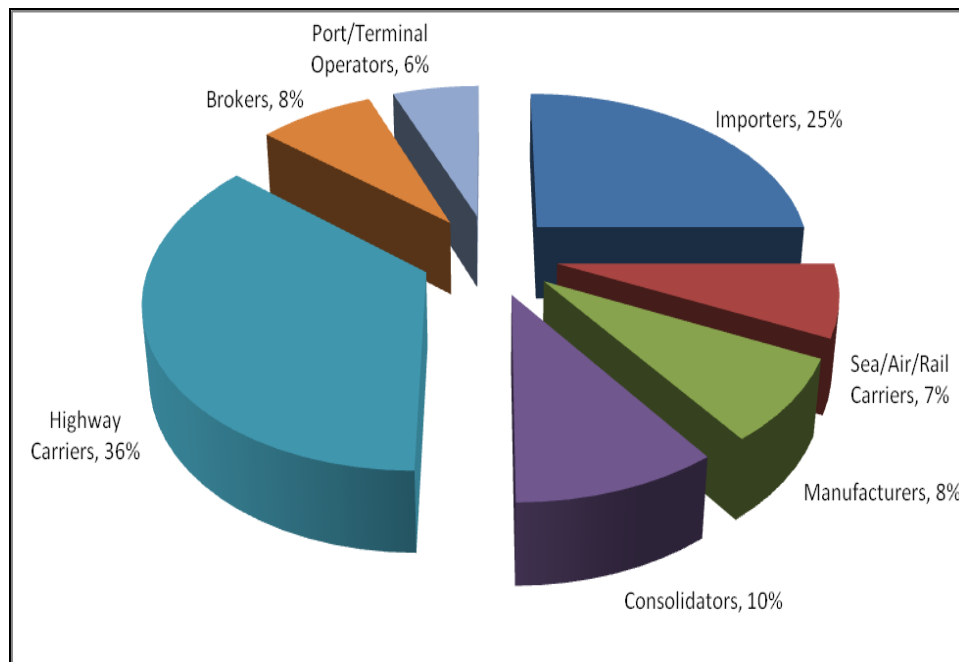


Figure 3.3: Security by Trade Sector (*Source: MSC Security Program – Security in the Logistics Supply Chain*)

3.4 Impact of security on efficiency and competitiveness

Security in the logistics chain requires a coordinated approach between the public and the private sector. The government is responsible for providing the infrastructure and services needed to ensure an acceptable level of physical security (security) as well as guaranteeing the proper functioning of transport infrastructure services (safety) under normal conditions as well as in the event of a natural disaster and political violence. Meanwhile, the private sector is responsible for implementing the internal security measures and support needed to ensure adequate risk management and functioning of its processes. Private solutions to the problem of lack of security, such as escorts, checkpoints, or armed guards in transport, among other unilaterally implemented alternatives, have proven to be inefficient precisely because of the unilateral nature of the approach, often getting in the way of other initiatives and contributing to higher logistics costs, with adverse social and economic effects on the region's inhabitants, who are the ones who ultimately bear the cost of the service inefficiencies.

Logistics security is directly related to the competitiveness of an economy, since in addition to direct losses from crimes, there are costs related to dealing with the incidents

(attorney fees, delays in collecting insurance, to name only a few), as well as significant national productivity losses, which end up making exports more expensive, to the detriment of the competitiveness of the economy.

Thus, an integrated approach to logistics chains should be taken in the framework of a long-term government policy to prevent the dispersion and isolation of investment initiatives and promote collaboration between foreign trade agencies and transport operators and trade agents, in order to achieve integral solutions that benefit national competitiveness and national welfare.

according to an *Asian Development Bank (ADB) report*. Unfortunately, the inland waterways remained largely overlooked which could have been one of the best ways for the transportation of containers and containerised cargoes from one part to another.

It sounds good that the country will soon get a new 24-hour container shuttle route on largely overlooked inland waterways for the transportation of containers and containerised cargoes from Chittagong Port to Dhaka which, the stakeholders think, will give a tremendous boost to economic growth and foreign trade.

Once opened, it will have a huge impact on the overall economy apart from removing most of the containers-laden trucks from the busy Dhaka-Chittagong highway easing traffic congestion and reducing pressure on the highway, they said. “We’re creating the new route for 24-hour containers shuttle which will connect Chittagong Port with Pangaon Inland Container Terminal (ICT) at Keraniganj near Dhaka...80 percent work is done,” said Chittagong Port Authority (CPA) Chairman Rear Admiral M Nizamuddin Ahmed at his office. He said the route would formally be opened by the last week of March next and the necessary dredging work would be completed within the next two months beginning from December.

“We’re putting things in place. The required equipment will be available by next two months. We’ll be able to operate four ships each day and a container-laden ship will remove at least 50 trucks from the Dhaka-Chittagong Highway,” the port chairman said.

Responding to a question, Nizamuddin Ahmed said it takes seven days to one month to reach a container to its destination from the port. “When the route will open, it’ll go within 24 hours, reducing cost and time.”

“We’ll be benefited in three ways. It’ll save time, reduce cost and pressure on Dhaka-Chittagong Highway easing traffic congestion,” first vice president of Bangladesh Garment Manufacturers and Exporters Association (BGMEA) Nasir Uddin Chowdhury told this correspondent over phone. Chowdhury said it takes 15 to 18 days for a container to reach Dhaka from Chittagong Port and that is not acceptable in any way. “Things will get smoother if the planned route is opened. We don’t want to see any more delay.”

Meanwhile, the newly built Pangaon Container Terminal is fully ready for container handing and the CPA is planning to operate by itself instead of appointing private operator to avert complexities.

“All works are done...the terminal is fully ready. Four-five kilometers connecting road with the terminal is also ready,” Project Director of Pangaon Inland Container Terminal Mujibur Rahman Sarker said. Chittagong Port Authority and Bangladesh Inland Water Transport Authority (BIWTA) — were given the responsibility to jointly implement the project. “Though the budget was Tk 177 crore, the project was implemented at a cost of Tk 156 crore,” Sarker said.

The idea of launching a new riverine container service between the country’s main seaport in Chittagong and the capital Dhaka to reduce transportation cost of export-import business also worked in favour of building the new container terminal.

As per the government decision, the Shipping Ministry took up the project in July 2005. While implementing the project, the Shipping Ministry took a decision that the new terminal will be operated by a private sector operator. In compliance with the decision, the CPA invited tender to appoint a private operator for the container terminal.

(Source: DhakaCourier Vol 31 Issue 19 Dated 21 November 2014; From the Editor: Talkin’ about a revolution)

4.1.1 Role of Inland Water Transport Cell in Transportation of Goods

Most of the imported goods – nearly ninety percent – reach to different parts of the country by waterways via Chittagong Port. Transportation of goods by waterways is substantially economical due to the fact that it costs one fourth or even less compared to other means of transportation, i.e. by Roads. Cost-rates (freight) of water transport would vary greatly in the past, as there was lack of discipline in this sector. For instance in Dhaka-Chittagong route, the fare would rise as high as Taka 500-700 per ton in case of scarcity of vessels and this would come down to Taka 140-150 during availability. This would make it impossible to keep market rates of products and goods stable. Consequently, the consumers at the end of the supply-chain would suffer. Considering all this, a committee was formed for directing water transport in a order to bring in regulation in operations and fixing reasonable rates of transport cost. Starting to work systematically, it has later taken the formation of the Water Transport Cell (WTC). In accordance with the opinions of the Vessel Owners, Importers and other concerned

parties, WTC is carrying out the operations with acceptable rates of transport costs and started to work as a coordinator among all stakeholders including the Importers, Vessel-Owners, Cargo Agents and Local Agents by providing other related services apart from ensuring stable transport rates of goods. For all concerned with water transport, WTC is presently performing as a One Stop Service Center.

WTC operates by some explicit regulations. Vessels interested to transport goods from Chittagong Port or off the Coast have to be enlisted into the roster maintained by WTC. Daily berthing meeting takes place with these Vessels at the conference room of the WTC. In this meeting, Vessels are allotted from the roster as needed against the demand of the importers of goods. The demands so placed by the Cargo Agents on behalf of the Importers are usually listed by a process of lottery. WTC is directly involved with all issues and activities, as may be of interest to Vessel Owners and all other concerned parties, such as fares of the allotted Vessels, claiming demurrages as arise from delayed unloading, giving dispatch in case of early unloading following the roster while loading and unloading goods into the Vessels.

4.1.2 Opportunities of Inland Waterways



Figure 4.2: Bangladesh Inland Freight Transport

According to a recent WB (World Bank) study titled “Revival of Inland Water Transport: Options and Strategies”, IWT has the potential to become a major actor in the transport of ‘containers’ between Dhaka and Chittagong. Bangladesh can rise its GDP by 1% and foreign trade by 20% if the inland water transport logistics systems are made efficient and competitive’ says a recently published ADB report.

Bangladesh has one of the largest inland waterway networks in the world, connects almost all the country’s major cities, towns, and commercial centers. Occupying about

11% of the country; some 700 natural rivers & tributaries with an overall 24,000 km-long network crisscrossing the country.

4.1.3 Advantages for the Stakeholders in River Terminals around Dhaka

- Cut off time for export shipment can be brought down to 6 hrs. Or less.
- Export loose cargo can be stuffed in containers closer to home under self control.
- LCL (Less Container Load) import cargoes can be de-stuffed closer to home and brought to respective warehouses within city limits in short spell without fear of pilferage / damage on the way.
- Raw cotton and textile products in FCL (Full Container Load) can reach factories in greater Dhaka within 24 hrs of landing in Ctg. Port
- Refrigerated or temperature controlled cargo from Khulna / Dhaka area can be shipped from these river terminals without having to drive up the Reefer truck to Chittagong Port.

4.1.4 Recent Government Initiatives for IWT System

- The GOB have taken extensive measures to equip itself with new dredgers, enhanced fund allocation by many folds, invited private sector (local & foreign) participation in dredging in bigger scale than in the past, to revive the dwindling river network.
- In 2000, a National Shipping Policy was adopted to introduce reform and private sector participation in developments of ports and inland waterways, which was once the domain of public sector undertakings.
- The Ministry of Shipping (MOS) realizing the urgent need of development of inland river Port infrastructures have encouraged private sector participation and have approved 4 private sector inland river container terminals till date. They are:
 - a) Rupayan Port & Logistic services Ltd. (Rupayan Group)
 - b) Summit Alliance Group
 - c) AK Khan Group and
 - d) Kumudini Trust of Bengal Ltd.

4.1.6 Proposed River Terminals that are on the drawing board and have secured government nod

- **Kumudini Container Terminal;** located within the city limits of Narayangonj adjacent to Khanpur Port of BIWTA.
Capacity – 150,000 TEU
- **Ananda Container Port;** sponsored by Ananda Group, the proposed site is located 30 km east of Dhaka city and north east of Narayangonj city on the bank of river Meghna in Ashariar Char, Meghna Ghat.
Capacity – 400,000 TEU
- **AK Khan Container terminal;** sponsored by AK Khan Group of Chittagong the proposed site is located northeast of Dhaka in Polash area of Narsingdi district, on the bank of river Sitalakhya.
Capacity – 250,000 TEU

4.1.7 Challenges of Inland Waterways (Container shuttle service business)

4.1.7.1 Vessel for Container Shuttle service between Dhaka River Terminals & CTG Port

- ⊕ Container Vessel size & Dimension.
- ⊕ Department of Shipping requirement for coastal vessels.
- ⊕ JICA Study (1993) recommendations on the procurement of Container Vessels
- ⊕ Ministry of Shipping Gazette Notification regarding container vessels of 140 TEU without mentioning basic dimension
- ⊕ Only New Build vessel with an original design taking into consideration of inland river parameters can meet all challenges.
- ⊕ Old Vessel imported may not necessarily meet the river and air draft and dimension parameters as stipulated by the Department of Shipping.

4.1.7.2 GOB Policy on Vessel Licensing for Container Shuttle service between Dhaka River Terminals & CTG Port

- ⊕ One Company one vessel do not conform to ground realit.
- ⊕ High financing cost in the country is an impediment in procuring vessels, particularly new build vessels.
- ⊕ The upcoming two river terminals in mid 2013 may not get adequate number of vessels in time.
- ⊕ Cannot import or build Container Vessel under any JV finance from foreign source.

4.1.7.3 Foreign Financing may be the key to build and operate new Vessels

- ⊕ Significantly lower interest rate.
- ⊕ Freight revenue is pegged to USD; hence repayment of loan is non-inflationary.
- ⊕ BB will allow foreign loan.
- ⊕ With 7 return voyages per month return on investment possible within 5 years.
- ⊕ Financing will be extremely difficult for a single vessel.

4.2 Development of Dedicated Railway from Dhaka to Chittagong

Transportation of export-import cargoes through railway has been seriously affected for the last few years. Development of a dedicated railway from Chittagong port to Dhaka container dipo might resume the pressure on the roads as well as can increase the safety of the containers.

According to the report published in the *Financial Express (FE)* (Friday June 29, 2012) 'One railway wagon that left the Dhaka ICD on June 26 remained stuck at Fazilpur of Feni, one at Laksam and another at Akhaura. Besides, they halted 97 containers loaded with export goods for the Chittagong Port, following suspension of railway connectivity. On the other hand, officials at the Chittagong Port said at least 900 containers with imported goods and destined for the Dhaka ICD remained idle at the Chittagong Port yards over the last couple of days.'

This suspension of railway communication bars plying of at least 100 containers to and from Dhaka ICD each day. The ICD, owned jointly by the Bangladesh Railway (BR) and the Chittagong Port Authority (CPA), handles around 8.0 per cent cargoes of the Chittagong Port. Meanwhile, exporters expressed their grave concern, as many of them might fail in sending their scheduled shipment, as uncertainty looms large over timely arrival of export-laden containers in the Chittagong Port.

Former president of the Bangladesh Garment Manufacturers and Exporters Association (BGMEA) Anowar-ul-Alam Chowdhury Parvez told the FE: "Containers, stuck with export goods at different points, cannot be transported by road. Specialised container equipments can move containers, and these are available only in the Chittagong Port and the Dhaka ICD." "I don't know how RMG exporters will make their shipments timely," he added.

Ahmed Karim, deputy traffic manager and in-charge of the Dhaka ICD, told the FE: "Export-bound containers are being piled up at the yards, as we've no railway wagon to load those." Many customs agents are expressing their worry to them, he added.

Md Farid Ahmed, managing director of Farco syndicate, a custom agent, told the FE: "We're in serious troubles, as the consignees are pressing us to get their imported goods." Mr Farid said many exporters might face serious financial loss, if the connectivity is not fully resumed soon.

Sources at the BR said their teams along with army contingents are trying to start an alternative down line to begin direct connectivity between the capital and the port-city.

4.2.1 Economic Feasibility of Dhaka-Chittagong direct Railway link

Dhaka with the population of almost 15 million, is the capital city of Bangladesh, and has the control of the nation's politics and economy. While Chittagong, having 4 million population, is facilitated with the nation's commercial capital and is the most advanced industrialized area and the principal sea port of the country. Thus, the south-eastern districts, between the two largest cities of the country, are densely populated and are forming the nation's most productive area. This is why, Dhaka-Chittagong Corridor appears to be the most important one in terms of flow of passengers and freight traffic in the country. It is expected that in 2015, 134 million (46.05% of total of the country) passenger traffic and 42 million tons freight will move through this corridor. Moreover, as 76% foreign trade of the country is performed by Chittagong port, this corridor has utmost importance in the context of Bangladesh transport (BITSS, 1997). Thus, the Dhaka-Chittagong corridor is the most important one and the so called "life-line" of the country for the economical growth of Bangladesh. Therefore, a faster and direct railway connection between the two principal cities is a must for the economic benefits of the country.

The Dhaka-Chittagong corridor is used by road, rail and water transport, mainly dominated by road transport. It is evident that the present transport facilities will not be able to bear such expected heavy traffic in near future. This is why; government has to build up more transport facilities in this region. Besides this, the present rail link between Dhaka and Chittagong is not a straight one; rather it has a huge rounding loop mainly because it was not planned for the present geo-political situation.

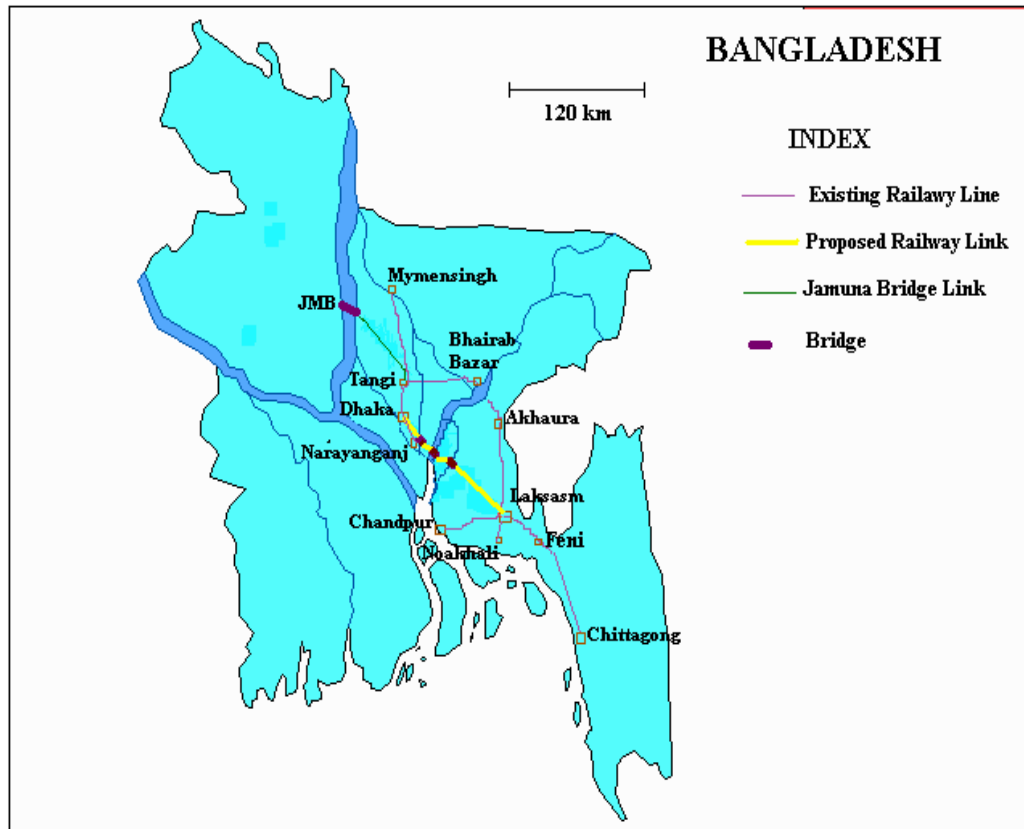


Figure 4.4: Comparison of existing railway line and proposed railway link in between Dhaka and Chittagong

A direct link between Dhaka and Chittagong that will reduce 90-km route distance comparing with the existing line, and, also to identify and quantify the total construction cost for different components of the proposed direct link and to determine the economic benefits that will result from the construction of the direct link in order to perform the feasibility study of the project. The direct link may also be used as the dedicated line for freight or container transport that will rapidly increase the GDP of the country.

4.2.2 Construction costs

Estimations of construction costs are prepared prior to constructing a project in order to determine the probable cost of the project. Thus an estimate is, at the best, a close approximation of the actual cost whose time value will not be known until the project is completed and all costs are recorded. For this study, construction costs are determined by estimating the costs of different components of the proposed facility on the basis of existing available data.

4.2.2.1 Physical Construction Cost

The total Physical construction cost includes the cost of:

- | | |
|-------------------------------|--|
| a) General Requirements | g) Telecommunications |
| b) Earthworks | h) Ancillary Works |
| c) Track Structure | i) Dayworks |
| d) Culverts and small Bridges | j) Contingency and |
| e) Station Buildings | k) k) Broad Gauge (B.G.) and Meter Gauge |
| f) f) Signalling | (M.G.) rail. |

The physical construction cost is estimated to Tk. 10925 million that is 36.85% of the total project cost. These costs are shown in Table 4.1.

Table 4.1: Physical construction cost

<i>Item</i>	<i>Amount in million BDT</i>
General Requirements	314
Earthworks	3190
Track Structure	3046
Culverts and small Bridges	1719
Station Buildings	124
Signaling	383
Telecommunications	115
Ancillary Works	88
Day Works (Provisional sum)	48
Contingency (5% of Item 1-8)	451
M.G. Rail	1447
Total	10925

(Sources: Project Concept Paper of JMB Railway Link Project. 2. BR)

4.2.2.2 Land acquisition and resettlement cost

About 1182 acres land will be acquitted which will cost Tk.874 million. The resettlement cost is amounted to Tk.692 million. The total land acquisition and resettlement cost is estimated to Tk.1700 million which is 5.7% of the total project cost. These figures are based on the similar cost of Jamuna Multipurpose Bridge Railway Link construction, which are summarized in Table 4.2.

Table 4.2: Land acquisition and resettlement cost

<i>Item</i>	<i>Amount in million BDT</i>
Land acquisition	874
Resettlement	692
Rehabilitation	88
Environment Management Project	23
Technical Support	8
Others	15
Total	1700

Sources: Contract Documents for Contract No. 1 Jamuna Bridge Railway Link Project (Oct. ' 1997); 2. Project Concept Paper of Jamuna Bridge Railway Link Project

4.2.2.3 Major bridge construction costs

It is expected that for the increasing growth of traffic movement in future, Second Major Highway Bridge Project will be undertaken in between Dhaka-Chittagong. The Bridges on the major rivers may be shared by both rail and road and this is how the project may be more viable. If rail shares the Highway Bridge, the cost will be increased by 15% only (according to the JMB railway link connection cost). The salient features and estimated construction costs for the major river bridges are shown in Table 4.3.

Table 4.3: Major bridge construction costs

<i>Bridges</i>	<i>Location</i>	<i>Length (m)</i>	<i>Width (m)</i>	<i>Estimated cost without rail (million BDT)</i>	<i>Estimated cost with rail (million BDT)**</i>
Bridge on the Shitalakhya	On the Shitalakhya near Narayangong	500	18.3	3262	3753
Bridge on the Meghna	Near Bangladesh Japan Friendship Bridge-1	930	18.3	6068	6978
Bridge on the Meghna-Gumti	Near Bangladesh Japan Friendship Bridge-2 at Doudkandi	1410	18.3	5473	6294

Sources: ** Assumed 15 per cent incremental cost for the connection of Railway Link with the Highway Bridge (according to the JMBA report)

4.2.3 Total project cost

The total cost of the project in present value is BDT 29650 million in the year 2014. The Physical construction cost as well as Land acquisition and resettlement cost is BDT 12625 million which is half (50.04%) of the total cost. The cost of the major three Bridges is BDT 12604 million, which covers 49.96% of the total cost. If 15% cost of the Bridges is accounted for rail, the total cost for rail link in between Dhaka-Chittagong will be BDT 15179 million that is 51.19% of the total project cost. Total Project cost is shown in Table 4.4.

Table 4.4: Total cost of the project

<i>Item</i>	<i>Amount (million BDT)</i>
Physical Construction Cost	10925
Land Requisition and Resettlement Cost	1700
<i>Cost of Major Bridges :</i>	
a) Bridge on the Shitalakya River	3753
b) Bridge on the Meghna River	6978
c) Bridge on Meghna-Gumti River	6294
<i>Total</i>	<i>29650</i>

4.2.4 Economic aspects and benefits

Benefits of a transport project have several components such as benefits from reduction in vehicle operating cost, facilities maintenance costs, benefits from reduction in accident as well as benefits from travel time savings, etc. It is obvious that many benefits result from the transportation improvement or, to put it more broadly, from improved transportation facilities. Some of these benefits are direct and readily apparent that result from a reduction in user costs; others are indirect including benefits to adjacent property and to general public and more difficult of discernment. Likewise, some benefits may be readily evaluated in terms of money; others defy evaluation in this fashion, although they are nonetheless as real and lasting as monetary returns. The most quantifiable and, to the analyst, the most significant benefits are those that result from a reduction in user costs. Such benefits result from decreased operating costs, higher operating speeds, fewer delays, and decreased accident losses. Usually, the imputed value of savings in time (especially for the developed countries) is the most dominant component of the benefits of transportation project, although it was not accounted in our economic analysis as suggested by some analysts for developing countries (Howe, 1976).

The tangible benefits of the proposed direct link is obtained from the savings in operating costs of BR for the transportation of expected passenger and freight traffic due to the reduction of 90 kilometers route distance between Dhaka and Chittagong. To estimate the probable benefits of the direct link, the following equation is used:

$$B = \sum B_i; \quad \text{Where,}$$

B = Total benefits in million Taka;

B_i = Benefits of i-th year's savings from passenger / freight transportation = $T_i * C_i * R_d$.

T_i = Passenger or Freight Traffic moved between Dhaka-Chittagong in i -th year in million;

C_i = Cost per passenger per kilometer or Cost/ton/km in BDT;

R_d = Reduced rail route distance (90 km. in this case).

4.2.5 Evaluation of the project

The purpose of the economic analysis is to determine the economic feasibility of the Dhaka-Chittagong direct railway link. Three methods of economic analysis have been used in our study for evaluating the economic feasibility. These are:

- (i) Net Present Value (NPV) method,
- (ii) Benefit/Cost (B/C) ratio method and
- (iii) Internal Rate of Return (IRR) method.

Considering total Bridge cost, the estimated growth of traffic based on Planning Commission report shows that at the end of 25 years' operation, the NPV will be BDT 2428 million and our passenger survey results indicate that this amount will be BDT 28849 million. If 15% Bridge cost is considered, these amounts will be BDT 16899 million and BDT 43320 million respectively for the above cases. These are shown in Table 4.5 for different scenarios.

Table 4.5: Net present values and internal rates of return for different conditions

<i>Scenarios</i>	<i>NPV (in million taka)</i>	<i>IRR (in percent)</i>
Considering total cost (Based on Planning Commission Report)	2428	11.34
Considering 15% Bridge cost (Based on Planning Commission Report)	16899	24.60
Considering total cost (Based on Passenger Survey)	28849	18.38
Considering 15% Bridge cost (Based on Passenger Survey)	43320	28.90

According to the traffic estimation of Planning Commission, a present direct benefit worth of BDT 33077 million and a present net cost of BDT 30649 million, gives a benefit / cost ratio of 1.1. The present worth benefit obtained from the saving based on our passenger survey is amounted to BDT 59498 million which gives a benefit/ cost ratio of 1.94. In this estimation, total Bridge cost has been considered. If 15% of Bridge cost is considered, the B/C ratio increases to 2.05 and 3.68 respectively for the above conditions.

From our economic analysis, it has been found that the savings provide an IRR ranging 11.34% to 28.9% in 25 years for different scenarios which are shown in Table 4.5. The benefits obtained from the projected traffic growth of Planning Commission shows that the pay back period (if total cost is considered) will be 21 years and benefits obtained from our survey results indicate that the pay back period will be 8 years.

Thus, the economic analysis of the project shows that the proposed direct link is economically feasible and potential. If indirect benefits and the monetary value of time savings for both passenger and freight traffic due to the direct improved link are included, the figure will further increase. Besides this, the probable incremental freight traffic for the proposed link has not been considered in our analysis.

4.2.6 Sensitivity analysis

The economic analysis results an arithmetical answer, the magnitude of which depends upon engineering judgement in selecting factors and estimating the future. To gain some understanding of how certain factors affect the solution, a good practice is to solve for economy by using low, medium, and high values of the critical factors, and in different combinations. The sensitivity of different factors such as sensitivity to terminal value, sensitivity to length of analysis period and sensitivity to the discount rate in controlling the result should be considered.

Table 4.6 and Table 4.7 show the sensitivity of NPW and B/C ratio of the project to the different length of analysis period and to the different discount rates including total Bridge cost and excluding the cost of Highway sharing portion respectively.

Table 4.6: Variation of B/C ratio to the different length of analysis period at 11.5% discount rate

Analysis Period	Considering Total Cost				Considering 15% Bridge Cost			
	NPW (in million BDT)		B/C Ratio		NPW (in million Taka)		B/C Ratio	
	Based on Planning Commission Report	Based On Survey	Based on Planning Commission Report	Based on Survey	Based on Planning Commission Report	Based On Survey	Based on Planning Commission Report	Based On Survey
20 Years	-1825	22621	0.94	1.74	12646	37092	1.78	3.30
25 Years	2428	28849	1.1	1.94	16899	43320	2.05	3.68
30 Years	9720	44235	1.31	2.44	24192	58707	2.49	4.62

Table 4.7: Variation in net present value and b/c ratio for different discount rate

Discount Rate	Considering Total Cost				Considering 15% Bridge Cost			
	NPW (in million BDT)		B/C Ratio		NPW (in million BDT)		B/C Ratio	
	Based on Planning Commission Report	Based on Survey	Based on Planning Commission Report	Based on Survey	Based on Planning Commission Report	Based on Survey	Based on Planning Commission Report	Based on Survey
7%	20556	62460	1.66	3.0	35027	76931	3.11	5.63
11.5%	2428	28849	1.1	1.94	16899	43320	2.05	3.68
16%	-7242	11330	0.76	1.37	7229	25801	1.45	2.62

(Source: Journal of Civil Engineering (IEB), 35 (1) (2007) 47-58)

Conclusions and Recommendations

5.1 Conclusions

The supply chain incorporates all aspects of moving material from the vendor through the manufacturing process to the final customer. The supply chain focuses on vendors, manufacturers, intermediaries, logistical services and the customer. The supply chain is no longer contained within countries borders, but encompasses all nations, whether they are vendors, manufacturers or customers. For goods exports, transporting product to an overseas market efficiently and competitively is crucial. Using a good freight forwarder is very effective, but it is also essential to understand the basics of logistics, shipping terms, pricing and documentation. Using a good customs broker and freight forwarder is the most efficient way to ship goods. In the past decade China has become a global economic leader and will soon be the world's largest economy. Economists predict that the some of the current developing nations will be some of the most important economic powers in the next decade by developing and introducing their alternative logistics channels.

As the global supply chain becomes more complex with every passing year, countries must adapt to these changes and incorporate them into their supply chain strategies. These changes could mean using vendors from developing nations or exporting goods to new markets. Countries that have traditionally operated within national or regional trading groups may feel ill-equipped to extend their global supply chain. This may be as simple feeling unable to select and manage a foreign vendor or not knowing how to sell items in a new country.

Businesses have to understand that cultural difference play a deciding role in the success or failure of a venture in a new global region. American businesses have sometimes failed in countries such as Japan which has a very difficult business environment to the US. Countries can overcome these barriers by using local agents to sell the products in a foreign nation or by licensing their products. The licensing of a product is sometimes more beneficial as it allows the licensing company to terminate the agreement if the products fails to be marketed or sold appropriately. Joint ventures can also be a way of

entering a new market. By using a partner company's local expertise the product can have a greater opportunity for success.

As a developing country, Bangladesh should always try to learn and adapt with these strategies to sustain in the competitive business world. The primary advantage of Bangladesh in the field of export business is their low labor cost as well as its' convenient freight transport facilities. The last few months of the year 2013 has proved that things may not run as smoothly as everyone thought. To overcome from these types of unavoidable situations in the future, Bangladesh should definitely establish an alternative logistics that can support the continuous flow of economy of the country.

5.2 Recommendations

When a country creates an alternate logistics strategy, it is defining the service levels at which its organizations are at their most cost effective. Because supply chains are constantly changing and evolving, and that will affect any logistics organization. A country may develop a number of logistics strategies for specific product lines or specific customers. To adapt to the flexibility of the supply chain, countries should develop and implement a formal logistics strategy. This will allow a country to identify the impact of imminent changes and make organizational or functional changes to ensure service levels are not reduced.

5.2.1 What Is Involved in Developing a Logistic Strategy?

A country can start to develop a logistics strategy by looking at four distinct levels of their logistics channel:

- **Strategic:** By examining the country's objectives and strategic supply chain decisions, the logistics strategy should review how the logistics channel contributes to those high-level objectives.
- **Structural:** The logistics strategy should examine the structural issues of the logistics organization, such as the optimum number of vessels running through the inland waterway per day and number of container wagon in one train.
- **Functional:** Any strategy should review how each separate function in the logistics channel is to achieve functional excellence.
- **Implementation:** The key to developing a successful logistics strategy is how it is to be implemented across the channel. The plan for implementation will include development or configuration of an information system, introduction of new policies and procedures and the development of a change management plan.

5.2.2 Components to Examine when Developing a Logistics Strategy

When examining the four levels of logistics channels, all components of the operation should be examined to ascertain whether any potential cost benefits can be achieved. There are different component areas for each country but the list should at least include the following:

- **Transportation:** Does the current transportation strategies help service levels?
- **Outsourcing:** What outsourcing is used in the logistics function? Would a partnership with a third party logistics company improve service levels?
- **Logistics Systems:** Do the current logistics systems provide the level of data that is required to successfully implement a logistics strategy or are new systems required?
- **Competitors:** Review what the competitors offer. Can changes to the country's customer service improve service levels?
- **Information:** Is the information that drives the logistics organization real-time and accurate? If the data is inaccurate then the decisions that are made will be in error.
- **Strategy Review:** Are the objectives of the logistics organization in line with company objectives and strategies.

A successfully implemented logistics strategy is important for countries who are dedicated to keeping service levels at the highest levels possible despite changes that occur in the supply chain.

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