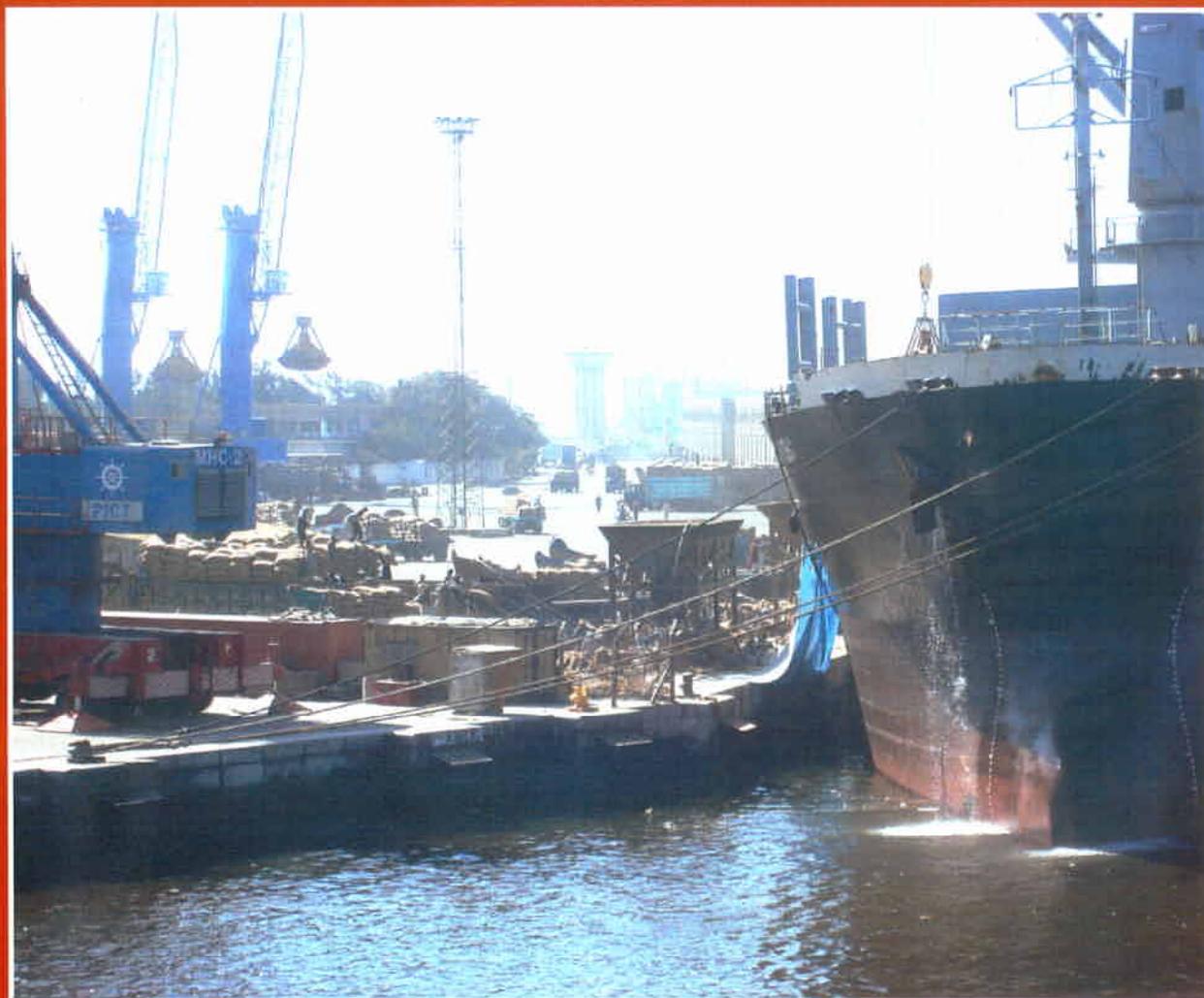


Trade and Transport Facilitation in South Asia

Systems in Transition

Volume II: Annexes



June 23, 2008



The World Bank
Sustainable Development Unit
South Asia Region

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TRADE AND TRANSPORT FACILITATION IN SOUTH ASIA

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Sustainable Development Unit
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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank	JIS	Just-in-schedule
AITD	Asian Institute for Transport Development	JIT	Just-in-time
ASYCUDA	Automated System for Customs Data	JNPT	Jawaharlal Nehru Port Trust
ATTA	Afghan Transit Trade Agreement	KDLP	Karachi Dock Labor Board
BACS	Bhutan Automated Customs System	KICT	Karachi International Container Terminal
BR	Bangladesh Railways	LCL	Less than container load
BSC	Bangladesh Shipping Corporation	MFA	Multi-Fibre Agreement
CARE	Customs Administrative Reform	MFN	Most Favored Nation
CFS	Container freight station	MRP	Maximum Retail Price
CHA	Customs House Agent	NHAI	National Highway Authority of India
Concor	Container Corporation of India	NMT	Non-motorized transport
CVD	Countervailing Duty	NTCIP	National Trade Corridor Improvement Program
CWC	Central Warehousing Corporation	PaCCS	Pakistan Customs Computerized System
DEPB	Duty Entitlement Pass Book	PICT	Pakistan International Container Terminal
DES	Duty Exemption Scheme	PR	Pakistan Railways
DFRC	Duty Free Replenishment Certificate	PRAL	Pakistan Revenue Automation Ltd
DGFT	Directorate General Foreign Trade	QICT	Qasim International Container Terminal
DRB	Duty Drawback	QR	Quantitative Restrictions
DRP	Duty Rebate Procedure	RMS	Risk management system
DWT	Deadweight tonnage	SAD	Special Additional Duty
FEU	Forty-foot-equivalent-unit	SAFTA	South Asia Free Trade Area
FCL	Full container load	SAPTA	South Asia Preferential Trade Area
FNCCI	Federation of Nepalese Chambers of Commerce and Industry	SCI	Shipping Corporation of India
GD	Goods Document	SME	Small and medium enterprises
GDP	Gross Domestic Product	TEU	Twenty-foot-equivalent unit
GOA	Government of Afghanistan	TRQ	Tariff rate quota
GOB	Government of Bangladesh	UNCTAD	United Nations Conference on Trade and Development
GOI	Government of India	US	United States of America
GOP	Government of Pakistan	VDC	Village Development Committee
ICD	Inland container depot	WB	World Bank
ICP	Integrated check posts	WFP	World Food Program
INSA	Indian National Ship-owners Association	WTO	World Trade Organization
IR	Indian Railways		

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ANNEX 1. TRANSPORT SYSTEMS IN SOUTH ASIA

1.1 Introduction

1. Inter-regional trade dominates accounts for over 95 percent of the region's total trade. India generates more than 75 percent of total regional exports; its export base is more diversified than the other countries, including primary products, textiles/garments, durable consumer goods, intermediate materials and some machineries. The other economies are smaller and their exports are concentrated on textiles, garments, leather goods, seafood and agricultural products, Table 1.

Table 1: South Asia Exports: Main Commodity Groups
(Two digit HS commodity code)

India		Pakistan		Nepal		Bangladesh	
Commodity	%	Commodity	%	Commodity	%	Commodity	%
Textiles	21.5	Textiles	68.9	Textiles	50.6	Textiles	85.8
Gem stones	17.2	Vegetables	7.3	Metal	10.2	Animals	5.6
Chemicals	10.6	Leather	5.8	Fats and Oils	9.3	Leather	3.0
Minerals	9.1	Vehicles	3.0	Chemicals	6.6	Chemicals	1.4
Metal	9.0	Furniture	2.8	Vegetables	6.0	Other	4.2
Machinery	7.0	Minerals	2.8	Foodstuffs	5.5	Exports	US\$8.2 billion
Vegetables	6.4	Animals	1.5	Plastic	2.9		
Plastic	3.2	Foodstuffs	1.5	paper	1.9		
Vehicles	3.1	Plastic	1.3	Leather	1.4		
Animals	2.8	Chemicals	1.1	Minerals	1.1		
Foodstuffs	2.7	Other	4.0	Other	4.5		
Leather	2.5	Exports	US\$13.4 billion	Exports	US\$0.8 billion		
Other	4.9						
Exports	US\$75.6 billion						

Textiles/garments are crucial for all the countries, except India. Together with leather products, fruits and vegetables and fish/crustaceans they account for well over 80 percent of exports from the smaller countries, but only about one third of India's exports.

2. Each commodity has different needs in terms of delivery cost, time, and reliability. There may also be significant differentiation within commodity groups – one combination of time, cost and reliability may be sufficient for low value, bulk items while higher standards are required for premium products. Shorter supply times can lift manufacturers to the higher value segments of the market. Unreliability can mean delivery penalties or air freighting to meet delivery schedules.

This annex considers the performance of South Asia's external transport systems:

- Shipping services
- Highways
- Railways
- Ports
- Trucking
- Air transport

The basic infrastructure and systems performance are examined, the key issues identified and possible improvements proposed. Where relevant, performance is compared with the region's major competitors to help understand what is enhancing/diminishing South Asia's competitiveness.

1.2 Shipping Services

1.2.1 Trends in Shipping Services

3. Though the roles of air and road are increasing, sea transport still dominates global trade flows. South Asia, with its concentration on trade with the rest of the world, is dependent on sea freight. Exports by air may have high value (precious stones and jewelry) but the volumes are tiny (1.2 million tons) compared with sea transport (>475 million tons). Sea trade to/from India and Pakistan has, over the last four/five years, been growing at ≈12 percent and Bangladesh's at >6 percent; world sea traffic has been rising at 4 – 5 percent.

4. More important perhaps has been the shift to containers. Over the past five years, container traffic to/from South Asia has been growing very rapidly: Bangladesh (>11 percent), India (>15 percent) and Pakistan (>13 percent). Container flows to continental South Asia now total 6.7 million TEU, Table 2.

Table 2: Container Flows: 2005

Region/Country	TEU Flow (millions)	Percent of Total Flow	Annual Growth 2000-2005
World	382	100	11.1%
Asia	201	53	13.9%
China	73	19	25.4%
Indonesia	5	1	6.2%
Malaysia	13	3	20.1%
Continental South Asia	7	2	14.4%
<i>Bangladesh</i>	1	*	11.3%
<i>India</i>	5	1	15.5%
<i>Pakistan</i>	2	*	13.0%
* >0.5 percent			

Container traffic to continental South Asia is rather less than 2 percent of global flows, and is dwarfed by the flows to China.

5. The tonnage of South Asian trade carried by container is about 80 million tons, some 17 percent of total traffic; almost all the rest are dry and liquid (overwhelmingly crude oil) bulks though there is also a small residual of break-bulk cargo (like steel). Container cargo has generally a much higher unit value¹ and carries the exports with the most intense competition. The cost and quality of container services are thus central to the competitive supply chain.

6. Until about 1996, continental South Asia was served almost entirely by feeder ships² connecting to mainline services at hub ports. A 1993 World Bank report³ estimated that dependence on feeder services increased rates by US\$ 500/TEU and cost the Indian economy some US\$ 250 million/year. Foreign lines started direct services to Nhava Sheva⁴ in 1996 and they increased with the opening of the private terminal, NSICT. Export freight rates fell from US\$1600/1700 (1995) to US\$ 900/TEU (1997).

7. UNCTAD prepares an annual index of liner shipping connectivity which combines fleet assignment, lines services as well as vessel and fleet sizes. It provides a comparative indication of the level of shipping service, Table 3.

¹ Generally, but not universally there is a large flow imbalance between the region and Europe and shipping lines have been using otherwise empty inbound containers to carry some very low value cargo including metal scrap and waste paper. The containerized metal scrap caused problems when unexploded munitions were discovered in scrap imported from the Middle East.

² The Shipping Corporation of India (SCI) provided some very limited direct services

³ India: Ports Sector Strategy

⁴ A new port outside Mumbai, opened in 1989 but which remained fairly empty for several years.

Table 3: UNCTAD: Liner Shipping Connectivity Index
(Maximum score 2004 = 100)

Rank	Country	2004	2005	2006	2006/2005
1	China	100.0	108.3	113.1	4.8%
2	Hong Kong	94.4	96.8	99.3	2.5%
3	Singapore	81.9	83.9	86.1	2.2%
4	USA	83.3	87.6	85.8	1.9%
5	UK	81.7	79.6	81.5	-1.8%
10	Malaysia	62.8	65.0	69.2	4.2%
18	India	34.1	36.9	42.9	6.0%
20	Sri Lanka	34.7	33.4	37.3	4.0%
22	Thailand	31.0	31.9	33.9	2.0%
32	Indonesia	25.9	28.8	25.8	-3.0%
38	Pakistan	20.2	21.5	21.8	0.3%
49	Philippines	15.4	15.9	16.5	0.6%
54	Vietnam	12.9	14.3	15.1	0.8%
109	Bangladesh	5.2	5.1	5.3	0.2%

China and Hong Kong have the highest connectivity. India is the highest ranked South Asian country, closely followed by Sri Lanka with Colombo port. Pakistan has half India's connectivity, and Bangladesh has an extremely low connectivity, well below its main competitors in the garment sector.

1.2.2 Present Pattern of Shipping Services

Container Services

8. Continental South Asia is served by both direct and feeder services; the mix depends upon the country and, in the case of India, region. Direct services normally require:

- o Ports allowing vessels of at least 3000 TEU capacity
- o Adequate traffic: normally more than half million containers/year
- o High port productivity

Nhava Sheva and the main ports in Pakistan, Karachi and Port Qasim, meet these criteria and receive direct services. The change in service provision is most marked at Nhava Sheva; now <15 percent of containers are shipped by feeder vessel (the main lines use interlining for smaller markets, e.g. Africa and South America). Most of the direct services provide fast schedules rather than multi-port "milk-runs" though they are not as fast as the main trunk route services. Pakistan's container services are a mix of direct and feeder services; there are some direct services to Europe but most are interlining and the fastest schedule is a service connecting through Salalah. Direct services predominate on the routes to/from Asia.

9. Chennai meets the three criteria but is still primarily served by feeder lines, only about 15 percent of containers are moved by direct services, almost all to Asia. This may be due to the preoccupation of the main lines with China and the very low rates for feeder services to Singapore. Direct services will expand when the main lines need to look actively for cargo again, either because of the anticipated fleet capacity increase or a fall in Chinese demand. Mundra receives some direct calls but these are restricted to Maersk which also operates the port⁵.

10. Other ports do not meet all the criteria; indeed ports in the Bay of Bengal may meet none of the criteria. Chittagong handles the traffic but has neither the draft nor the productivity. The low

⁵ A direct service from Kochi to the US East Coast commenced in January, 2007. This is an extension of a schedule which already serves Tuticorin. 2007 has also seen an expansion of direct services to/from Chennai.

productivity at Chittagong and the variability in ship handling times has led to an unusual pattern of feeder services; a shuttle rather than a fixed schedule. Exporters have to build slack into their delivery schedules to ensure meeting the mainline connections at the hub ports.

11. Feeder services connect primarily through Colombo or Singapore, Table 4.

Table 4: Hub Ports for India		No extensive coastal feeder services have developed, even in India. Indian cabotage laws do not allow foreign lines to provide such services although this restriction has been lifted, from time to time, and only one Indian shipping company (Shreyas) offers such services. It is not clear whether coastal interlining offers significant benefits but a number of new ports have the stated intention to become major transshipment centers ⁶ . Concor started a limited feeder operation to Pipavav to relieve pressure at JNPT.
Hub Port	Percent of Transshipment	
Singapore	38	12. Until recently, shipments between neighboring countries had to be routed via a hub port. Now, two shipping companies, at least, offer a scheduled service between India's west coast and Pakistan, encouraged by the growing trade and the revised shipping protocol which allows the carriage of third country traffic. The Chairman of one of the lines (Shreyas) is quoted as saying: <i>"We took a calculated decision to commence a service to Karachi when the volumes were low. The response to the services has been overwhelming"</i> Hindu Business May 25, 2006.
Colombo	33	
Dubai	12	
Salalah	6	
Port Kelang	3	
Other	8	

12. Until recently, shipments between neighboring countries had to be routed via a hub port. Now, two shipping companies, at least, offer a scheduled service between India's west coast and Pakistan, encouraged by the growing trade and the revised shipping protocol which allows the carriage of third country traffic. The Chairman of one of the lines (Shreyas) is quoted as saying:

"We took a calculated decision to commence a service to Karachi when the volumes were low. The response to the services has been overwhelming" Hindu Business May 25, 2006.

He also announced that Shreyas was increasing the service frequency to every five days. In June, 2005, a coastal service was launched on the east coast, connecting Vizag – Kolkata – Chittagong on a ten day fixed schedule, using a 224 TEU vessel. The service provides a three day transit time between Kolkata and Chittagong. The operator, Seaways, announced in August, 2006, that it had acquired a second vessel (365 TEU) to increase the service.

Other Sea Trades

13. While container shipping has immense importance, the great majority of the sea trade is liquid and dry bulk. Break bulk liner shipping has almost ceased, SCI now only operates two such ships. The size and type of vessel used in the bulk trades depend upon the type of traffic and the draft availability. Given the distance from the Gulf, most oil is carried in Panamax vessels. Bulk exports, like iron ore from India, can be loaded in very large vessels at some of the specialized ports. In the Bay of Bengal, large bulk vessels are, in sometimes, moored offshore and cargo transhipped to smaller vessels for delivery.

1.2.3 Participation by National Shipping Fleets

14. The role of the national fleets is limited. Even in India, the most successful country, the national fleet has not matched the growth in trade and its participation has fallen from 36 percent of India's trade, in the mid-1980s, to about 13 percent. The Pakistan private sector fleet has disappeared and the fleet of the state owned Pakistan National Shipping Corporation (PNSC) has declined from 71 vessels in 1970 to 14. In Bangladesh; the state owned shipping line (BSC) carries about 5.5 percent and the total national fleet perhaps 7 – 8 percent of Bangladesh's trade⁷.

⁶ Given the intense competition between hub ports for transshipment cargo and thus the extremely low handling charges for such cargo, it is debatable whether any such hubs are likely to make substantial profits; certainly this is the case for most Gulf ports. Nor is it very likely that Indian ports will attract substantial traffic, given their position and the high vessel charges prevalent in Indian ports.

⁷ The benefits of national shipping are relatively limited; the construction and operating costs have high F/E components. A study for Indian National Shipowners Association by the Tata Energy Research Institute (February,

15. The national fleets have little container capacity; most vessels are tankers or bulk carriers. Container vessels account for less than 2 percent of India's 8 million gross tonne fleet. PNSC purchased three container vessels but the service to Sri Lanka service never materialized. BSC has one feeder vessel. Almost all containers are thus carried in foreign ships although SCI does participate in some scheduled liner services. The UNCTAD 44:40:20 formula for liner shipping is no longer mentioned, except in Bangladesh where it remains official national policy⁸.

16. A revival in national shipping fleets may be starting. The tax regime for shipping in both India and Pakistan has been changed from corporate taxes to a "tonnage" tax which usually reduces total taxes significantly. The regime is similar to that introduced in the UK (2000), where the results were spectacular; the 25 year decline in UK shipping was reversed and the fleet increased by 250 percent in four years. In India, at least, 20 percent of profits can also be set aside, tax-free, to buy new ships. These tax changes may be responsible for the recent increase in the Indian fleet to 8 million gross tonnes, after stagnating at 6 – 7 million tonnes for the previous 20 years. Most of the top Indian ship-owners (including SCI, Great Eastern Shipping and Mercator) are buying new ships or "quality" second hand vessels, despite high prices in the world market. SCI's plans include acquiring two container ships, two Capesize ships (120,000 DWT), six Handymax (40,000 DWT) dry bulk carriers, six oil product (65,000 DWT) tankers and two very large crude carriers⁹. In October, 2005, it was reported that SCI planned to invest Rs.6,500 crore (US\$1.45 billion) to acquire a total of 34 vessels over the next five years.

17. A revival of the Pakistan national fleet may be more problematic; there is the mistrust generated in the 1990s by the reversal of tax policies and the demand for 34 percent duty on a number of new ships. The ships were arrested and eventually sold. However, there have been some recent reports of revived private sector interest in shipping.

1.2.4 National Protection

18. Some residual protection of national shipping remains; a legacy of economic self-sufficiency. In India, if a shipper wishes to move cargo along the coast in a foreign vessel, the shipper has to submit a notice to the Indian Shipowners Association, which circulates it among its members. If an Indian ship is not available, the shipper will be permitted by the Directorate General of shipping to use a foreign ship¹⁰. If an Indian ship is available, it has to match the freight rates offered by the foreign vessels.

19. Both India and Pakistan reserve public sector cargo for national shipping. Cargo reservation in India used to apply to both exports and imports but, in 2001, the export regime was liberalized and the role of Transchart (the Chartering Wing of the Ministry of Shipping) was removed. Earlier, in 1998, the practice of importing crude oil, by SCI, on a cost-plus basis was phased out to allow more competition. Recently, the Indian Oil Company was allowed to bypass Transchart altogether, on a trial basis¹¹ and a report in the Hindu Business (October 16, 2006) suggested that GOI was considering extending this relaxation to the other state oil companies. The Indian shipping industry still lobbies for protection, e.g. to ensure LNG is imported in Indian ships, as well as a return to the earlier practices involving

2003) concluded that the gross value added was about US\$ 50/gross tonne. There may be even less benefit for the shipper as the domestic shipping lines follow international market rates.

⁸ The Bangladesh Flag Vessels (Protection) Ordinance 1982 requires at least 40 percent of Bangladeshi trade to be carried in national shipping. There is presently a waiver for foreign flagged feeder vessels.

⁹ SCI placed orders for two 4,400 TEU vessels in November, 2006 for delivery November, 2008

¹⁰ GOI defends the practice by reference to other countries, such as the USA, which apply similar protection – indeed the USA requires the coastal shipping to be US built. It is by no means clear; however, whether following poor policies simply because others have similar policies has any great virtue.

¹¹ In an interview, the Indian Oil Company described Transchart as a legacy of the license raj and "erstwhile socialist and communist countries".

Transchart. In FY2004, Transchart arranged freight for 64 million tonnes of cargo (including 45 million tons of crude oil, about one-third of India's total oil imports), of which 40 million tons were carried in foreign flag ships.

20. In Pakistan, PNSC has first refusal for government cargo and a private operator has to obtain a "no objection certificate" from PNSC. More importantly, GOP gave PNSC a ten year monopoly to import crude oil for the national refineries, despite PNSC only owning one tanker. The rates/profits are high¹² and PNSC has bought new tankers from its retained earnings.

1.2.5 South Asia's Competitive Position

Container Services

21. All ten of the world's largest container shipping lines operate to South Asia and the market is highly competitive. Freight rates are market driven; when demand is high, rates rise and vice-versa. In the last five years, freight rates from Asia to Europe have varied from US\$1200 – US\$1800/ TEU. The conferences (shipping cartels) still discuss and announce rate increases but few are effective unless they reflect market conditions. Lloyd's List recently quoted an influential member of the Mumbai shipping community:

"If you were to add up all the rate restoration figures the India-Pakistan-Bangladesh-Colombo Conference has mooted over the last three years it would aggregate to more than \$3000 per TEU.....while the actual rate today is more like \$900 – 1000."

Freight rates and shipping times determine the competitive quality of shipping services. Table 5 gives a snapshot of rates though they vary with the market and the size of the shipper, Table 5¹³.

Table 5: South Asia: Export Container Freight Rates
(US\$/TEU)

Destination	Pakistan	-----India-----		Bangladesh	China
		West Coast	East Coast		
Europe	1150 – 1350	1050 - 1250	1100 - 1300	1200 - 1400	1650
US East Coast	2700 – 2750	2600	2700	2800 - 3200	
US West Coast	2750	2500	2600	2400	1800

Rates for forty foot containers (FEU) are approximately double the rate for 20 foot containers less about US\$200. Import rates are very variable but significantly lower than for exports; US\$200 – 300/TEU lower from Europe and up to US\$700/TEU lower from the USA.

22. There is relatively little difference in the rates for direct and feeder services. The feeder services combine a high rate short distance leg and much longer leg on a large mainline vessel with low rates (Colombo - Europe is US\$800 – 900, well below the rates from Nhava Sheva). The predominant service dictates the rates; thus direct services set the rate from Nhava Sheva, while feeder services set the rates from the East Coast of India.

23. Freight rates from Pakistan are US\$100 - \$150/TEU higher than those from Nhava Sheva, rates from Chennai are US\$100/TEU higher and Bangladesh rates are US\$150 – 200/TEU higher. Similar differences exist to the US East Coast and slightly larger differences to the West Coast (rates from Bangladesh are, however, slightly lower). South Asian rates are significantly lower than those from China to Europe and the US East Coast and substantially higher to the US West Coast – the world may be shrinking but distance still counts.

¹² In 2005, PNSC rates were reportedly US\$10.3/tonne, well above single voyage charter rates, which were in the US\$ 5 – 6/tonne range.

¹³ In the depressed market of 2002, container rates of US\$600/TEU were being quoted from Chennai.

24. Given the total value of export goods in a container, differences of US\$100 – 200/TEU are minor. More important, in terms of competitiveness, is the delivery time, Table 6.

Table 6: South Asia: Container Shipping Times
(days)

Destination	Pakistan	-----India-----		Bangladesh	China
		West Coast	East Coast		
Europe	19 ¹⁴	17	21	22 - 30	19 – 21
US East Coast	19 – 22	19 – 21	23	27 - 35	24
US West Coast	22 – 29	26	24	19 - 28	15

The shipping times depend upon whether the service is direct or a feeder and, if direct, whether it is a multi-port route or a trunk route service. Overall:

- o Europe: transit from Pakistan is slower than from Nhava Sheva, but faster than from China
- o US East Coast: India and Pakistan transit is faster than from China and Hong Kong
- o US West Coast: India and Pakistan transit times are longer than those from China
- o Transit time from Bangladesh is significantly longer to Europe and the US East Coast
- o Bangladesh transit time to the US West Coast is similar to that from India or Pakistan and significantly slower than from China
- o Transit times from Bangladesh show a much wider range

25. South Asia has a slight competitive edge to Europe and the US East Coast and a significant disadvantage to US West Coast. Bangladesh has the least favorable position. Ports which rely on feeder services tend to be penalized by US\$150/TEU and an additional week of transit time.

Other Sea Trades

26. Shipping freight rates for most non-container cargoes are determined by the market. With the partial exception of public sector imports, shippers or consignees make their own arrangements using either chartered or, in some cases, their own vessels. The tariffs paid for bulk cargoes are those available on the world market. Bulk ships do not face significant problems in India and Pakistan and do not incur freight penalties on account of slow ship turnaround.

27. Rates have been high for the last two years, reflecting the very high demand from China, but, over the longer term, the world rates for shipping have been low, Table 7.

Table 7: World Sea Freight Rates: Dry Bulk Carriers
(US\$ per day)

Vessel Type	Average 1990s	September 2003	March 2004
Panamax (70,000DWT)	9,973	11,625	36,000
Handymax (40,000 DWT)	8,858	12,356	36,000

Rates can rarely be reduced directly by governments; it is easier to influence rates upwards, as with the PSNC monopoly.

28. It is difficult to generalize about rates for bulk traffic as they vary by cargo, direction, distance and ship size. The main bulk cargo to India is crude oil. The distance from the Gulf is relatively short and Panamax vessels are generally adequate. For the typical voyage (five days sailing in each direction and two days in each port), the current costs are around US\$5/tonne, about 1 percent of the crude oil cost (US\$ 60/barrel). Iron ore is usually shipped in very large ships (e.g. 170,000 DWT carriers out of Goa) which provide size economies. A typical charter rate to a Korean steel mill (2004) was around US\$20/tonne, a substantial cost given the FOB price of US\$55-60/tonne. Rates have risen by 200 percent since 2002, but India's competitors (e.g. Australia and Brazil) have faced similar increases.

¹⁴ The fastest service to Europe is 15 days, most services are around 19 days

1.2.6 Future Shipping Trends and their Implications

29. The major trend in world shipping is the increasing size of container vessels. On the main East – West trunk routes, the average ship is still in the range 5,000 – 6,000 TEU but this expected to rise rapidly over the next five years. In early 2005, there were only 55 vessels in the world with capacities above 7,500 TEU but a further 168 were on order. Some ships of 10,000 TEU are already operating. These massive ships will operate on the main trunk routes and are unlikely perhaps to come to continental South Asia in the foreseeable future. However, a rise in vessel size can be expected as traffic volumes rise. There has already been a substantial increase in the size of container vessel serving Indian ports. Between 2001 and 2005, vessels on the European routes increased from 2,281/TEU → 3,070/TEU, and 1,962/TEU → 2,307/TEU on the Far East routes.

30. In future, the present trunk line ships may be cascaded to other routes, like those to South Asia. Few of the main ports can accommodate such vessels. Nhava Sheva can only handle vessels of 4000 – 4500 TEU, and then only when (a) part loaded and (b) enter/leave two hours either side of high tide. Size restrictions are similar at the Pakistan ports. The shipping lines confirm that traffic at Nhava Sheva is already sufficient to use larger ships and some would like to use vessels of >5000/TEU. Unless ports can accommodate these vessels, shipping lines may vary their services, reduce the number of direct calls and rely more on interlining through the hub ports.

1.2.7 Reducing Shipping Costs and Improving Shipping Services

31. Shipping services are provided by the private sector within a competitive market and Governments can do little directly to influence rates and service standards. But governments can play a major indirect role by providing the enabling environment for low cost, fast and efficient shipping services. Primarily, the enabling environment is the port sector (discussed in detail in Section 3.3) though government regulation of shipping services can still have some influence. There are much more immediate needs:

- *Adequate port capacity*: port congestion increases ship turnaround, raises costs, deters services and results in higher rates and possibly surcharges.
- *International levels of port productivity*: key to reducing turnaround time, increasing predictability, attracting higher levels of service, and reducing freight rates. At some ports, this may mean direct services, at Chittagong, it may mean timetabled services.
- *Adequate port drafts*: to allow the next phase of container vessels, drafts of 13.5 or perhaps even 14.5 meters will be necessary. The pressure for deeper drafts is likely to increase and ports with shallow draft may be relegated to feeder port status.
- *Lower port dues*: port charges are high compared with ports in the Middle East and East Asia (see 3.3.3). High charges may deter ships from making additional calls, especially for small volumes of containers. High charges translate into higher freight rates and economic policy may be better served by lower port revenues and lower shipping rates.
- *Removal of residual protection*: it is difficult to see the benefits of the PSNC monopoly over crude oil imports. The residual protection appears a relic from a previous era. Limiting foreign ships from cabotage may hamper the development of new frameworks of service by the major shipping lines. The positive encouragement of domestic shipping through the tax regime should be accompanied by a withdrawal of remaining protection.
- *Privatization of the state shipping lines*: in the light of the sector conditions, it is difficult to see a rationale for governments to run shipping companies. The private sector, whether local or foreign, can provide better, cheaper services.

The key to efficient, low cost shipping services, whether container or bulk trades, is an efficient port sector which can handle the ships with high productivity and minimum delays.

1.3 South Asia Port Sector

1.3.1 Containers

Major Ports

32. There are no completely specialized container ports in continental South Asia, though Nhava Sheva is approaching this. The ports generally handle most types of cargo but all the main container ports have dedicated container terminals¹⁵. The characteristics of the main ports are summarized in Table 8. Privately operated terminals have become the main management mode. With a few notable exceptions, the large ports have at least one private container terminal.

Table 8: South Asia: Main Container Handling Ports

	TEU (millions)	Country	Terminals	Management	Productivity (TEU/ship day)	Draft (meters)
Nhava Sheva	2.37	India	3	Private/Public	1123	12.0
Karachi	1.14	Pakistan	2 ¹	Private	25 – 27 ²	10.5
Chittagong	0.83	Bangladesh	1 ³	Public	300 ⁴	9.0
Chennai	0.62	India	1	Private	1151	13.4
Port Qasim	0.58	Pakistan	1	Private	22 – 24 ²	11.5
Tuticorin	0.31	India	1	Private	903	10.7
Mundra	0.25	India	1	Private	n.a.	16.0
Mumbai	0.22	India	1	Public	320	9.1
Cochin	0.18	India	1	Private	300	10.0
Kandla	0.18	India	1	Public	378	11.5
Kolkata	0.16	India	1	Public	191	6.0
Haldia	0.13	India	1	Public	198	8.0

¹ Containers, on geared vessels are also handled by private stevedores at the general berths

² Container moves/crane hour – Nhava Sheva and Chennai achieve 19 – 20 moves/crane hour.

Productivity is at international levels but below ports like Dubai, Hong Kong and Singapore

³ Construction of a new terminal has been completed; it will be concessioned to the private sector

⁴ Productivity was only 207TEU/ship day in FY2001.

33. The introduction of private operators into ports was the first shift away from the public sector monopoly over the provision and management of transport infrastructure. Change has been rapid; in India, private terminals handled 22 percent of container in FY2000 and almost 60 percent in FY05; in Pakistan, it is effectively 100 percent. Unless there is a reversal of policy, new container terminals will be operated and, at least, partially financed by the private sector.

Port Performance

34. In terms of handling productivity, there is a major divide between the private terminals (Cochin is an exception) and the public sector terminals (at Nhava Sheva, the JNPT terminal has relatively high productivity but 30 – 40 percent lower than NSICT). The low productivity at Chittagong is particularly serious, given the number of containers and the port's importance to the Bangladesh economy. The

¹⁵ There also some relatively new dedicated container terminals, privately operated, which have yet to generate traffic of 100,000 TEU/year, e.g. Pipavav and Vizag; Hazira container terminal has yet to start.

ship-turnaround time at Chittagong averages 4 – 5 days, while the more productive ports turnaround larger vessels in 24 hours¹⁶. Slow turnaround gets reflected in the shipping rates. Chittagong is the least productive of the world ports handling similar volumes of containers¹⁷.

35. The low productivity at Chittagong was partly the result of the lack of specialized container handling equipment, particularly ship-to-shore gantry cranes (SSG). The port had to rely on the ships' own cranes, and could accept only fully geared vessels. The Port Trust bought container handling equipment, delivered during 2006, but this initially had a limited impact, as a result of labor problems.

“The four rail-mounted quay gantry cranes installed by the Chittagong Port Authority (CPA) ... have been forced out of operation since November 12 because of the boycott by dock workers The dock workers want cancellation of the deal that the CPA had reached with a private firm to operate the gantry cranes and engage the CPA's own operators to do the job..... The boycott has kept at least 13 gearless vessels that are carrying over 6500 containers....waiting at the jetties and outer anchorage..... the CPA had been forced to take the services of a private operating company when its own operators failed to handle the sophisticated gantry cranes.”¹⁸

The Cochin container terminal also has labor issues which have reduced productivity. Port Trust employees may have brought old attitudes to the new terminal.

Major Issues at Container Ports

36. **Port congestion:** Congestion is a persistent problem at many of the container ports. The private terminal at Nhava Sheva had 100 percent berth occupancy within three years of opening and occupancy at the public sector terminal approached the same level. Similar levels of berth occupancy are found at Chittagong. Berth congestion results in ships having to wait for berths or slow their sailing times to match berth availability. At both ports, berth congestion was accompanied by congestion in the terminal and stacking yards. Congestion reduces productivity; at Nhava Sheva, congestion in FY2004 reduced handling from 25 → 20 moves/crane-hour. The Pakistan terminals have berth occupancy of about 50 percent, but the yards are congested by containers, limiting the speed of ship handling.

37. New terminals are being constructed (e.g., Nhava Sheva and Chittagong) and others are planned (e.g. Chennai, Karachi, Nhava Sheva and Mumbai) but annual growth rates of up to 15 - 16 percent are forecast, reflecting rapid economic growth and increasing containerization. India may face the most difficulty, given the long lead time for new developments¹⁹; overall capacity may be just sufficient, but may not be located where the containers/shipping lines want. Congestion at Nhava Sheva co-existed with under-utilized capacity elsewhere. Improved links to the Gujarat ports and continuing congestion may offset the centripetal forces which support the growth at Nhava Sheva.

38. **Extended container dwell times:** A major cause of terminal congestion is the very long dwell time of containers. There have been reductions at some ports; at Karachi, the average dwell time in 1996 was 14 days; this fell to 10 – 11 days by the early 2002s and is now 6 – 7 days. On the other hand, dwell time at Chittagong averages over three weeks and elsewhere dwell times of over 12 days are common. Average dwell times of 3 – 5 days are the international standard. In general, the long dwell times lengthen supply chains and reduce competitiveness. There are several causes:

- *Long and cumbersome customs' procedures:* previously, customs were a major cause of delay but, with the on-going reforms, customs clearance time has substantially diminished and, though significant, is not now the major cause of delay. Increased use of green channel

¹⁶ The Karachi terminals turnaround vessels in 16 hours; vessels at general cargo berths require 21 hours.

¹⁷ During 2007, the Government of Bangladesh has given the port of Chittagong very high priority and there are reports that considerable improvements have been made during the year.

¹⁸ The Financial Express, 11/28/2006.

¹⁹ Nhava Sheva was operating at full capacity by 2003, as forecast, but the third terminal did not open until the end of 2006

procedures will further reduce average clearance times. A survey at major Indian ports in June, 2005, found dwell times of 12 – 16 days, but direct customs activity only caused 10 – 20 percent of the detention time. Even at Chittagong, the majority of containers, carrying imports for temporary use are cleared within 2 – 3 days and delays are concentrated on normal imports especially a small proportion of containers which stay for very lengthy periods. Customs clearance of containers in Pakistan’s ports now averages less than a day.

- *Little direct container delivery*: while green customs channels have been established in both India and Pakistan, containers still have to be moved from ship to stacking yards before they are cleared. Direct delivery from the quayside would reduce dwell time significantly as well as congestion in the stacking yards.
- *Limited inland transport capacity*: poor inland transport reduces terminal performance:
 - Inadequate capacity can result in lengthy detention of containers, e.g. Nhava Sheva during peak periods and the monsoon.
 - Inadequate rail capacity can limit the off-take to inland container depots. Road transport usually requires cargo bonding and, in such circumstances, containers are cleared at the port rather than inland.
 - Poor roads limit the use of tractor-trailer units and result in containers being cleared and stripped in the ports with their contents moved inland as loose cargo. 75 percent of import containers are stripped at Chittagong.
- *Long free periods*: most international ports allow 3 – 5 days free storage before charging storage fees, often at rapidly escalating rates. In South Asia, free periods have been 10 days, not including weekends, providing an effective 12 day free storage period²⁰. Ports in Pakistan have started to reduce free time, first to 7 days and recently to 5 days.
- *Trader preferences*: the dwell time distribution is highly skewed; most containers are cleared within a few days, while a small proportion remains for very long periods. The median dwell time is considerably shorter than the mean. A 2006 time study at KICT estimated the mean average between container arrivals to customs clearance as 185 hours, but the median was 68 hours. The mean is increased by 20 – 30 percent of containers which remain for long periods. There are several possible causes for such delays:
 - Problems with customs documentation and clearance
 - Attempts to reach “accommodations” with customs officers
 - Inability of importers to finance the level of duties demanded

The delays may also reflect a business model. Some importers prefer to keep their goods in the port until they are sold, the goods are then cleared and the duties paid. Long dwell times may not reflect inefficiency as much as trader preference. As long as congestion is not an issue, this has little economic cost but, when terminals are congested, the economic costs are substantial.

39. ***Container Handling Charges***: Handling charges vary quite considerably between ports around the world, Table 9. Charges in Indian ports are low, relative to international levels; those in Pakistan are average or slightly above; charges at Chittagong are extremely high though comparable to some other developing countries. Charges are higher at Karachi than Port Qasim because of the Karachi Dock Labour Board levies and wharfage payments. Pakistan’s terminals are more expensive than those in India as two terminal handling charges (THC) are made, one by the shipping line and one by the terminal. Charges should be lowered at Karachi with the abolition of the KDLB.

²⁰ This does not apply to all ports; Chittagong has only a four day free storage period.

Table 9: Indicative Container Port Handling Charges

	US\$/TEU		US\$/TEU
Port Kelang, Malaysia	53	<i>India (Nhava Sheva and others)</i>	80-90 (a)
Felixstowe	100	Yantian	100
Singapore	106	<i>Port Qasim</i>	105
Shanghai	107	Rotterdam	110
<i>Karachi</i>	113 (b)	Hong Kong	142
<i>Sri Lanka</i>	159 (c)	<i>Bangladesh</i>	200 (d)

(a) Charges at the Port Trust operated ports may be significantly higher

(b) Handling charges at the general cargo berths are up to US\$ 30 lower

(c) National imports and exports; revenues from transshipment average only \$58 per TEU

(d) Including unofficial (speed money) and ancillary costs

Major reductions should be possible at Chittagong but will require a major restructuring, higher productivity and substantial labor reform. The new terminal may be able to offer such reduction if it is not burdened by the same systems as at the existing port.

40. **Limited Vessel Draft:** in the longer term, the limited drafts will become the most serious constraint (see previous discussion). Plans are in place for draft deepening at Nhava Sheva and the Pakistan ports. Bangladesh is studying the feasibility of a deepwater port, but it will be several years (or more) before such a facility becomes operational.

1.3.2 Bulk and Other Cargo

Major Ports

41. The South Asian ports handling more than 10 million tonnes are shown in Table 10.

Table 10: South Asia Ports: Non-Container Traffic
(million tonnes)

Port	Country	POL ¹	Dry Cargo + Non-POL Oils			Total
			B/Bulk	Bulk	Total	
Vizag	India	15	2	33	35	50
Kandla	India	22	4	13	17	39
Haldia	India	17	1	17	18	34
Chennai	India	11	1	22	23	34
New Mangalore	India	21	1	11	12	34
Mumbai	India	19	7	6	13	33
Mormagao	India	1	*	30	30	31
Paradip	India	1	*	29	29	30
Karachi	Pakistan	11	4	7	11	21
Chittagong	Bangladesh	4	n.a	n.a	15	18
Port Qasim	Pakistan	6	1	7	8	14
Tuticorin	India	1	2	10	12	13
Cochin	India	10	*	1	2	12

¹ Petroleum, oils and lubricants

* <500,000 tonnes

B/Bulk = Break Bulk

42. The top eight ports, by volume, are all located in India. Most ports handle both POL and bulk dry cargo, but there are exceptions. Most bulk cargo is handled mechanically; approximately 60 percent of bulk handling has been mechanized, in Indian ports, with grain and fertilizer being the major exceptions. Break-bulk traffic has declined very substantially but remains important at some ports (such as Mumbai) and for some products (such as steel imports for the automobile sector).

43. Most bulk and other cargo are handled by the Port Trusts. Privately managed bulk terminals operate at Port Qasim and Karachi is planning to create private terminals from some of its existing berths. In India, there are a few private ports handling bulk cargo; for example, Hazira, Mundra and Pipavav but the traffic is still limited. Elsewhere, the traditional port trust system continues largely unchanged²¹.

Port Performance

44. **Bulk Cargo:** In India and Pakistan, cargo handling speeds are adequate to turn round ships quickly with no significant berthing for bulk traffic. Sudden, uncoordinated surges of traffic can, however, cause congestion, as was clear in 2007 at Kandla with the simultaneous import of large volumes of grain and fertilizer. Handling productivity is related to shipment and vessel size, so ports with deep water berths, handling larger ships, tend to have higher handling rates.

45. Karachi's bulk cargo comprises mainly coking coal and fertilizer. The handling rate for coal is 8,000 tonnes/day is reasonably high, by international standards, and close to the average of the main Indian ports which range from 6,000 tonne/day (Haldia) to 11,300 tonnes/day (Visag). Handling rates for fertilizer are lower as it generally bagged on the quayside. Karachi averages of 3,300 tonnes/day, rather higher than in India, where rates range from 2,100 tonnes/day (Chennai) to 4,000 tonnes/day (Kandla). Most bulk cargo at Port Qasim is handled mechanically; the average rates achieved are shown in Table 11.

Table 11: Port Qasim: Bulk Cargo Handling Rates
(tonnes/ship-day)

Commodity	Handling Rate	Commodity	Handling Rate
Bulk oil	35,000	Chemicals	8,500
Iron ore	13,000 – 16,000	Wheat	6,000
Coal	10,000 – 12,000	Oil seeds	4,000 – 5,000

The iron ore handling rate is well below those achieved in India but the iron ore is being unloaded in Port Qasim and loaded in India.

46. Handling rates at India's Main Ports depend upon the vessels and the volumes, Table 12.

²¹ In India, Ennore port is a corporation, established under the Companies Act, 100 percent owned by GOI. This was the model to which Port Trusts were expected to move but none have so far made the transition.

Table 12: India Main Ports: Cargo Handling Rates
(tonnes/ship-day)

Port	Bulk Liquids	Bulk Dry Cargo		Break-Bulk
		Mechanized	Conventional	
Kandla	20,600	-	4,500	2,800
Haldia	19,100	9,400	5,700	1,600 ²
Kolkata	10,900	-	1,000 ³	500 ²
Chennai	14,500	11,400	n.a	1,100
New Mangalore	24,500	38,800	7,300	2,200 ²
Mumbai	17,900	-	1,200 ²	1,600
Mormagao	8,700 ¹	51,500	6,100	2,400 ³
Paradip	9,500 ¹	17,200	6,800	1,100 ³
Tuticorin	5,000 ¹	13,400	5,000	1,300
Cochin	22,000	2,500 ²	3,500 ²	1,300 ³
Ennore	-	32,800	-	-

¹ < 3.0 million tonnes/year ² < 1.0 million tonnes/year ³ < 0.5 million tonnes/year

Overall, the cargo handling rates incorporated in vessel charter terms are broadly the same for India as for its major competitors, e.g. 40,000 tonnes/day for iron ore and 25,000 tonnes/day for coal.

47. The exception to this broadly satisfactory situation is Chittagong, where small vessels and low productivity combine. Though productivity has increased by some 60 percent, the average handling rate for non-container cargo is only about 1,500 tonnes/day.

48. **Break Bulk Cargo:** Handling rates are substantially lower than for other traffics (one of the main reasons for containers). High productivity can be achieved for bulk cargo, even at port trusts, if mechanized or partly mechanized. Break bulk handling is labor intensive and the over-manning and restrictive practices at traditional port trusts have their greatest impact. Break bulk handling at Karachi is undertaken largely by private stevedoring companies and they manage a handling rate of 2,500 tonnes/day. This is significantly higher than in Chennai or Mumbai, but rather lower than the bagged cargo handling rates at Kandla, Table 30. Karachi's handling rate for steel is 6,400 tonnes/day; Mumbai achieves 1,600 tonnes/day.

Port Issues for Non-Container Cargo

49. **Bulk Cargo:** There are few general issues but individual ports face particular problems:

- *Port capacity:* congestion is not a serious general problem, but additional capacity will be required. The iron ore berth at Port Qasim, for example, operates at 61 percent occupancy and additional capacity will be needed if the steel mills expand as planned.
- *Port Drafts:* some ports in India have sufficient draft to handle very large vessels but other ports face restrictions, mostly acutely in the Bay of Bengal. Bulk users at Port Qasim face both draft and navigation restrictions and would like to use larger vessels than presently permitted. If India expands its coal imports for the energy and steel industries significant transport cost savings could be achieved by using very large vessels, requiring deeper drafts than normally available.
- *Cargo handling charges:* Handling rates for bulk cargo are often negotiated; they are in line with international rates, or perhaps rather lower. At Karachi, the rates are US\$ 4 – 6/tonnes and this often includes services like as bagging, re-handling or stacking. Rates are similar at Port Qasim, though lower for some traffics (oil seeds have a rate of US\$ 2.5/tonne and fertilizer US\$ 3.9/tonne).

50. **Break Bulk:** There are few issues beyond increasing productivity. Part of this increase may be achieved by further containerization – streamlined customs procedures may encourage the increased consolidation of small consignments (LCL containers). The main potential for improving performance is likely to come from better management and higher labor productivity. It is arguable whether this is possible under the Port Trust model; it may need the private sector. However, privatization of port trust operations in either Bangladesh or India seems unlikely.

1.3.3 Increasing the Port Sector's Contribution to Trade Competitiveness

51. Ports are key to external trade supply chains. Their cost and efficiency affect competitiveness directly, through cargo handling charges and service efficiency, and indirectly, through their impact on freight rates. Most ports in South Asia provide reasonable services; Chittagong is a rather glaring exception. Providing sufficient capacity is essential to maintaining competitive services. Deeper drafts would help reduce shipping costs and provide the capability to handle the expected increase in vessel size. The evidence suggests that increasing the role of private sector management would raise productivity, particularly for containers and break bulk cargo, especially if accompanied by competition within and between ports. Trade competitiveness would be strengthened by reducing port costs and port charges on both vessels and cargo:

52. **Port costs:** For many ports, reducing costs means reducing labor, even though staffing has already fallen:

- Employment at India's Main Ports has dropped from 120,000 in 1990 to 69,000 in 2005.
- Karachi has reduced its labor force from about 14,000 to 5,000.

But, manning levels at most Port Trusts have not fully adjusted to containerization and mechanized bulk handling and remain seriously overstaffed. The Mumbai Port Trust still employs 22,000 workers even though much of its traffic has moved to Nhava Sheva and staff account for almost 75 percent of its total costs (less depreciation). Staff costs are almost as high at Chennai, accounting for two-thirds of cost. Chittagong is reputed to be the most overstaffed port in the region, with upwards of 23,000 employed. Some workers were bought out but there is still a very long way to go.

53. Even KPT's 5,000 workers are too many in relation to operational activity; they form almost 60 percent of KPT's costs (less depreciation). KPT still has a large operations and traffic department workforce but the work is largely undertaken by the private sector. Labor costs are aggravated by the Karachi Dock Labor Board (KDLB) whose 4,000 members undertake little actual work²²; they are neither needed nor wanted and add US\$ 17/TEU and about US\$ 1/tonne for general cargo, equivalent to 15 – 20 percent of the total handling charges.

54. JNPT, the Port Trust running Nhava Sheva, was established without the legacy of the older Port Trusts. Staffing is very much lower and make up only 8 percent of total costs. Port Qasim falls between JNPT and Karachi; though almost entirely a landlord port, it still employs 1,650 staff who account for over 40 percent of total cost. Further labor streamlining would seem possible.

55. **Port Charges:** Port costs are a major factor in determining port charges but so are the profit levels. Profitable ports, able to finance their investment, are desirable but excessively profitable ports may not be. Excessive profits become a tax on trade. Lower port charges could be promoted by:

- *Lower port dues on vessels:* Cargo handling charges at most South Asian ports are broadly in line with international ports, but charges on vessels is extremely high. Pakistan has the highest charges and these were the origin of the Pakistan Ports Surcharge, remnants of which still

²² Container terminal operators and private stevedoring companies employ their own workers but still have to pay for large KDLB gangs who attend and observe the work. In addition, the operators have to pay a KDLB cess to compensate KDLB members when there is no 'work' available.

persist. Recently, under NTCIP, vessel dues have been reduced, but they are still very high, and those in India are not much lower, Table 13.

Table 13: Port Dues: 2,800/TEU Vessel
(US\$ per vessel call)

Port	Country	Port Dues
Karachi, Port Qasim	Pakistan	30,000
Nhava Sheva	India	26,000
Yantian	China	14,000
Singapore	Singapore	6,000
Hong Kong	China	6,000
Colombo	Sri Lanka	5,500
Jebel Ali	Dubai	3,100
Salalah	Oman	2,100

Source: a major shipping line

Total port dues at Indian and Pakistani ports are four to five times higher than those at Colombo.

- *Revised terminal concession agreements:* Both India and Pakistan give high priority to the private sector financing new terminals. Competition for the right to invest/operate port terminals is welcome²³ but it is important to ensure that the framework is efficient. Presently, the concessions are bid on the basis of the revenue share to the Port Trust. These shares are high and appear to be rising: Cochin - 33 percent, JNPT III - 35 percent, Chennai – 37 percent. The concessionaire will pass on these payments to the users and thus ultimately external trade. The justification for such high payments seems weak as the operators are financing new terminals rather than taking over an existing terminal. An alternative might be to specify a payment to the Port Trust (fixed, per TEU, or percentage of revenue) and award to the lowest user charge. Competition would be maintained, the Port Trust financed and the port user would benefit from lower charges.
- *Revised regulation of port tariffs:* the role of TAMP in India should be revisited. The present cost-plus approach featherbeds ports with excess staff. It seems strange that as the potential for competition increases (more ports and terminals increase), TAMP is tightening its regulation. Of particular concern is the rule (August 2005) that returns on capital in private terminals should be in line with those in the public sector, substantially diluting the incentive for increased efficiency and raising the incentives for excess capital. More effective would be competition and, where not possible, the application of an (inflation – x%) formula.

56. **Professional Port Management:** While the private terminals have professional port managers, this is often not the case with Port Trusts. Senior management often comes from outside the port profession; in Pakistan, active and retired naval officers, and, in India, members of the Indian Administrative Service. Neither background assures the commercial, marketing and operational skills needed in an increasingly competitive sector. Governments should be seeking to employ/develop the professional expertise necessary for the management of commercial ports within the framework of outward looking economic policies. Ports cannot guarantee success, but costly and inefficient ports can easily become critical constraints to export growth/diversification and deterrents to inward investment. The port of Chittagong may well be the single greatest impediment to accelerated economic growth in Bangladesh. International port services require international class port management.

²³ India promotes competition for terminal development and between terminals; thus the existing terminal operator cannot bid for the second terminal at a port, but may bid for subsequent terminals. Bids from consortia with participants from China have faced, so far, insuperable problems in obtaining security clearances.

1.4 Roads and Highways

57. Road transport is the principal land freight mode. Afghanistan, Bhutan and Nepal have no domestic rail networks²⁴ and the freight role of the railways has shrunk to minor levels in Bangladesh and Pakistan. In India, rail plays a key role for bulk freight but gave up the wagon-load, general cargo market to trucks. Throughout South Asia, trucks carry a substantial majority of inland freight:

- Pakistan: 95 percent of ton-kms; rail freight is largely confined to public sector shipments.
- Bangladesh: 60 percent of the freight market; inland water transport carries >30 percent, and rail very little.
- India: about 70 percent of ton-kms; trucks are even transporting low value bulk cargo (e.g. iron ore to Paradip port) because of rail capacity constraints.

58. The road sector is central to the competitiveness of supply chains. An expansion in rail freight is both desirable and possible, but the absolute importance of road transport is unlikely to diminish, especially as the markets for higher value and higher volume goods increase with per capita incomes.

1.4.1 Present Road Infrastructure in South Asia

59. Bangladesh, India and Pakistan have extensive road networks which provide motorized access to most of their populations²⁵. The more mountainous countries, Afghanistan, Bhutan and Nepal, have more limited networks and lower levels of access. A higher proportion of the road in Bangladesh, India and Pakistan are paved than in most low income countries. The level of motorized access may be high but the quality of much of the network is low:

- The paved roads have generally low geometric standards; a substantial proportion has pavement widths of 5.5 meters or less. Many roads do not have sufficient capacity and service quality is low. Much road investment is widening roads to full two lane standards.
- Much of the network was built with bitumen macadam, which gives a relatively rough surface.
- Road maintenance has been under-funded for years and, much of the network is deteriorated. Rehabilitation/reconstruction as well as additional traffic capacity is required.
- Investment in roads received relatively little priority and even less was given to high quality highways, though Pakistan was, to an extent, an exception.

60. The main roads on the major trade corridors were of relatively low quality; until the last few years, all ports were served by two lane roads with high traffic flows competing with pedestrians, bicycles, agricultural tractors and non-motorized vehicles, especially in and around urban areas. Access to some major ports is further limited by their location within mega-cities. Port traffic has to use urban roads which were designed for neither heavy vehicles nor the present levels of traffic.

61. The provision of multi-lane roads only started in the mid-1990s and they still total less than 10,000 kms. The multi-lane roads are primarily widened two lane roads, through rather than around urban areas. This may reduce the need for land acquisition and population resettlement, but generally provides highways of lower quality than those on new alignments. The roads have no access control and are also used by slow non-motorized transport. The additional capacity provided may be overtaken by traffic within a very few years. Up to now, very few multi-lane, controlled access expressways have been constructed in South Asia; a few sections in India, and a few sections in Pakistan.

62. China decided that a modern highway network was a national priority. Since 1992, road investment has risen dramatically; increasing tenfold to over US\$ 2 billion by 1996, US\$ 13 billion in

²⁴ Both Afghanistan and Nepal have short spur rail lines which link with railways in adjoining countries.

²⁵ Not all have all-weather access. India is currently implementing a large rural roads program, PMGSY, aimed at providing access to all villages with a population of 500 people or more.

1997, US\$32 billion in 2001 and US\$38 billion in 2002. Over 60 percent of the investment went to the National Trunk Highway System (NTHS), to connect all cities with >500,000 population. Started in 1992, the 35,000 km was to be completed by 2020. Despite some implementation problems, the results have been startling: by 2002, 27,000 km had been constructed, including 25,130 km of multi-lane, controlled access expressways. A further 25,600 km of four-lane highways, without controlled access were also built; in total, 52,000 km of multi-lane highways in ten years²⁶.

63. Truck trip times in South Asia are increased by the numerous check posts on the principal trade routes. In India, they are found at state borders and often at district boundaries; they are operated by several departments, e.g. finance, forestry, and transport. They are intended to collect taxes, monitor goods in transit across states, check on licensing, etc. Some municipalities, such as Mumbai, still collect octroi on the goods entering the area for sale. In Pakistan, a similar pattern of multiple check posts is found. These checks add time and unpredictability to trucking. There is little coordination between the agencies; there are few multi-purpose posts; normally each agency operates its own post. The delays at each post are normally short but in some areas, such as Bihar, two hour delays are reported as standard. As part of NTCIP, GOP has taken the decision to reduce the total number of check-posts and cut the number of agencies operating them from seven to two.

1.4.2 Road Infrastructure Plans

India

64. The multi-laning of the Golden Quadrilateral (linking Delhi, Kolkata, Chennai and Mumbai) started in 1995 and is now approaching completion (5,846 km). Construction is continuing on the North-South and East-West Highways (7,274 km), and the National Highway Authority of India (NHAI) is starting programs to upgrade a further 10,000 km of National Highways and improve road connectivity to ten Major Ports (650 km). While China completed some 5,000 km of highway annually, India has been achieving about 600 km. As one report commented:

“While some progress along these lines must have been made in India, the view taken here is that it is much too little, much too late, to meet the developmental needs of the Indian economy, and certainly has been dwarfed by the transformation that has taken place in China.”²⁷

One study of India’s road needs estimated that, by 2015, India would need to:

- Widen 15,000 km of two lane National Highways to controlled access four lane highway
- Widen 16,500 km of intermediate width National Highway to full two lane highway
- Upgrade 25,000 km of State Highways

65. The total cost was estimated at about US\$ 37 billion, the equivalent of China’s annual highway expenditure, currently estimated at US\$38 – 45 billion. Some have suggested that the proposed program grossly under-estimates likely needs, assuming that the economy continues to grow rapidly, and that much greater investment will be necessary. The announced plans of GOI are rather similar to those outlined above, with the addition of a very limited expressway network, and a total cost of US\$50 billion, Table 14.

²⁶ While NTHS is clearly an extra-ordinary engineering feat, some have suggested that parts of network are over-designed, in terms of geometric capacity in relation to traffic, while much of the network is under-designed in terms of structural capacity and will require strengthening within a few years.

²⁷ “Comparative Evaluation of Highway and Railway Development in China and India: 1991-2002” C. Harral and J. Sondhi, World Bank, July, 2004

Table 14: India: National Highway Development Plan²⁸

Highway Component	Kms	Financing	US\$ billion
Balance of Golden Quadrilateral and NS-EW	8,774	GOI	11.7
4-laning of National Highways	10,000	BOT (Toll)	14.5
2-laning of National Highways, paved shoulders	20,000	BOT (Annuity)	6.2
6-laning of National Highways,	6,500	BOT (Toll)	9.2
Expressways	1,000	BOT (Toll)	3.7
Ring roads, grade separation, service roads, etc		BOT	3.7

66. Even the relatively modest infrastructure improvements have had important impacts. Truck transit times between Mumbai and Delhi, the most important trade corridor, have fallen from the typical 5/6 days reported in a 2000 survey²⁹ to 2/3 days.

Pakistan

67. The South – North corridor, connecting Karachi to the Punjab and Peshawar, is served by two highways, N5 and N55. The N5 is, by far, the most important; it connects seven of Pakistan’s eight major population centers and is estimated to carry >50 percent of the country’s total inter-urban traffic. Its upgrading to four lanes will be completed in 2007/8, but only very limited sections have been constructed to expressway standards³⁰ and, along most of the route, motor vehicles compete with other road users. Truck speeds for containers are 40 – 50 kph and trips between Karachi and Lahore take 48 hours. For trucks, carrying bulk cargo, Karachi to Lahore takes 3/4 days (1,280 km) and 4/5 days to Peshawar (1728 km). Trips of similar length, in Europe, take 15 hours and 24 hours respectively³¹.

68. A major investment program, totaling Rs. 216 billion (≈US\$ 3.6 billion) is planned for the North-South corridor as part of the NTCIP. The motorway/expressway network will be extended and additional capacity and controlled access provided.

Bangladesh

69. Present service standards on the highway linking Chittagong to Dhaka are poor; operating speeds for trucks are 35 – 40 kph and the 220 km haul normally takes 6/7 hours. The four lane sections of the road are being gradually extended but not to expressway standards; acute bottlenecks along the route are being addressed but without a long term strategic plan for the corridor.

70. It seems unlikely that the investment will provide the capacity or service quality required in the medium term, given increasing traffic flows. Either alternative modes will have to be developed – such as revitalizing the rail operation (especially for containers) or developing an efficient inland waterway shuttle – or additional highway capacity will have to be provided.

Afghanistan

71. Decades of conflict led to the virtual destruction of the highway network. Most of the arterial roads are being reconstructed and a program is underway to complete the national circumferential highway. Some doubts have been expressed on the structural standards adopted, e.g. the Kabul – Kandahar road, but otherwise, Afghanistan will have a network adequate to support its international trade as its highways are not congested with motorized or non-motorized traffic. The deficiencies in

²⁸ Presentation at the Conference of Chief Secretaries, 20 May, 2006

²⁹ Some trucks, with ‘special’ arrangements, could make the trip in 3/4 days, others would take 6/7 days)

³⁰ One section, the motorway connecting Islamabad and Lahore, cannot be used by normal most trucks; the underpowered, overloaded trucks cannot climb the gradient and a new alignment has to be constructed.

³¹ Slow truck operating speeds are not only the result of inadequate infrastructure; see Section 3.4.2

Afghanistan's road network will be much more in its secondary and rural road networks and within Kabul city.

Nepal

72. Kathmandu is presently linked to Birganj, the main border crossing, by a rather circuitous route. The Government is proposing a much more direct route to reduce journey times significantly but the cost of such a direct route will be high. If trade with China develops further, or Nepal becomes part of a land link, between India and China, the capacity and operating characteristics of the highway linking with China will need to be upgraded.

1.4.3 Constraints to Highway Development

Finance

73. To provide international standard highways, along their major trade corridors, Bangladesh, India and Pakistan will need to increase substantially highway investment. Public finances are, however, seriously constrained; the tax proportion of GDP is relatively low and governments have found it difficult to widen the tax net and improve revenue collection. Compared with many countries, fuel taxes are relatively low but there is resistance to increasing them, especially on diesel³². Given the constraints on public sector financing, governments are seeking other ways to fund the expansion in highway capacity³³.

74. External financing from the International Financial Institutions (IFIs) and bilateral donors (particularly Japan) is one source. Substantial loans have been made for both national and Provincial/State highways. The World Bank has a highway loan portfolio of over US\$ 4 billion in India alone. The levels of donor funding may seem large, they are small relative to need, especially in India. Donor funding can be no more than a very partial solution except, perhaps, for specific corridors such as the Dhaka – Chittagong. Other sources of funding will be needed.

75. The GOI and, to a lesser extent GOP, see great potential in mobilizing private sector capital, financed by road tolls. India has already awarded several BOT contracts (mainly to large construction companies) as well as annuity contracts. From official statements (as illustrated in Table 32), it appears that private sector financing is seen as the key to highway development, with public funding restricted to viability gap financing (subsidy) for roads on which toll revenue alone would not attract private sector interest.

76. Private sector participation can provide significant benefits, in addition to the finance. The private sector:

- takes the construction risk and the highways may be better constructed, at lower cost and within a shorter time;
- manages/maintains the highway and has the incentive to be efficient and innovative; and
- takes responsibility for tolls and may be better able to reduce revenue leakage.

However, private finance is not without financial and operational disadvantages:

- Private finance is normally significantly more costly than public finance
- The private sector often requires guarantees on toll revenue or the future traffic levels.

³² Diesel is used in agriculture and no really effective means has been found to police differential diesel taxes. Higher taxes on diesel would require increased taxes on kerosene which is a substitute for diesel.

³³ Even before the NTCIP. The National Highway Administration's finances were under strain. Based on present funding, it would take almost 8 years to complete the existing portfolio of projects.

- Tolls are not costless; additional capital, collection and management costs. The road user faces delay and inconvenience, as well as the toll.
- Tolls deter traffic. China found that the diversion to toll roads was significantly less than expected and India has found the same, especially with respect to trucks.

77. Private finance has potential in South Asia but it is perhaps not the solution. China strongly encouraged private funding but <10 percent of the highway investment came from private sources; over 90 percent came from the public sector. India has a more developed long-term capital market but, on the basis of international experience, it is difficult to expect more than 15 – 20 percent of funding will be generated from the private sector. How the remaining funds will be generated remains a key issue.

Construction Capacity

78. Both India and Pakistan have announced substantial increases in their infrastructure plans but they both face constraints on getting highways constructed. The construction industries have improved in recent years, adopting more modern technologies and better equipment, but their scale is still small in relation to the proposed programs. The South Asian construction sector may not have the capacity to meet the rapidly rising demand, and it will take time for the capacity to develop.

79. An influx of foreign contractors might be expected to come and take advantage of the opportunities. Large contract packages have been specifically design to attract such contractors. The efforts have been largely unsuccessful. Chinese, Korean, European, Turkish and South African contractors will bid on small World Bank financed contracts in Africa but do not bid on much larger contracts in South Asia. Where foreign contractors have bid, they have entered into joint ventures and have generally left responsibilities and management to their local partners³⁴. On occasion, foreign contractors have been awarded contracts and then failed to deliver.

80. It is not obvious why foreign contractors do not bid. Several factors may possibly contribute: a perceived security threat in Pakistan, a perception of a xenophobic business environment, taxation regimes which appear complex and discriminatory, etc. However, all the major port management companies are willing to invest in South Asia, and most of the major computer/IT companies are establishing large operations. The constraints may be more sector specific and related to:

- *Low contract prices and profit expectations*: domestic firms may bid low and expect major design revisions and large cost variation orders during the contract to increase payments. Corruption may be involved and this is often difficult for the outsider to negotiate.
- *Dispersed activity*: road construction necessarily extends over many kms, significantly adding to complexity and risks in comparison with, for example, a port.
- *Poor reputation of the sector*: road construction and related activities, like aggregate supply, is reputed to be infiltrated by local mafias and/or political interests. They all demand their share. Road construction is thus difficult and expensive for the outsider without the knowledge or the contacts to deal with these complications.
- *Dependence on government for payment*: private projects are increasing but most roads are still financed by government which has a generally poor reputation with regard to payments.
- *Governments perceived as poor Employers*: dispute resolution is almost always very lengthy and normally ends up in the courts.

³⁴ The Business Standard, 12 January, 2007, reported that foreign participation (sole or joint venture) had fallen from 40 percent in the Phase I of NHDP to 20 percent and 16 percent in subsequent phases. Of the 134 projects in Phase II, 14 contracts were being constructed by sole foreign contractors and 15 contracts by joint venture. In Phase III, only one contract (out of 18) was awarded to a sole foreign contractor and two to joint ventures.

81. While recent surveys show that the business and regulatory environment is improving in South Asia, the sector specific constraints may make it unlikely that there will be a major reversal in international contractors' reluctance to work in the road sector. It seems very probable; therefore, that the expanded highway programs will have to be constructed by the domestic sector. It remains a major question whether/how they will meet these demands efficiently and cost-effectively.

Implementation Capacity

82. The planning and management of the highway sector in South Asia may be improving but remains weak. Modern systems for investment and maintenance planning are available but may not be extensively used³⁵. Unless strengthened, dramatic expansion in highway investment may overwhelm the planning and management capacity. Lengthy delays are commonplace because the essential pre-construction activities, such as land acquisition, have not been completed in time. The procedures are often cumbersome and time consuming, involving other government departments and agencies. However, this is known and should be factored into pre-construction planning.

83. There is a reluctance to commit the necessary resources for adequate planning and design; it has a much lower priority than construction and is thus under-funded. Highway design costs are well below international levels; on large highway projects, design may cost one percent of the contract price or even less in South Asia, elsewhere design costs 3 – 5 percent. Design may cost less in South Asia, because of low salaries, but complaints about poor quality design are almost universal in the region. Such design results in delays, redesigns and much higher outturn costs³⁶.

84. The delegation of powers to the private sector to manage the network, as in the UK, may also not be effective, given the capacity constraints within the highway engineering profession. The profession faces severe problems in meeting the additional demand for their services; too much work chasing too few well qualified and experienced engineers. The cost of professional services should rise and there should be an influx of professionals from overseas, either foreign nationals or local engineers previously working abroad. This is not happening; prices remain the same and quality declines. The situation is most visible in construction supervision. Good quality construction requires good contractors and good supervision; the quality of supervision becomes critical with indifferent contractors. Good supervision is impossible when the engineers are constantly changing, as is in India. Engineers and other technical staff are constantly being bid away from one project to another.

Overall Constraints

85. Poor transport has the potential to constrain economic growth; perhaps as serious a threat as power shortages. This is appreciated by governments and they have announced expanded highway programs but it is not clear whether they recognize the severity of the constraints to implementation. Addressing the constraints of financing, planning, management and construction of the highway investment programs should have the highest priority. Unless they are addressed, there is the potential for inadequate highway networks, constructed at high cost, which do not meet the demands of the economy or population.

³⁵ The major expansion of the Chinese highway/expressway network also appears to have been implemented without much reference to such systems.

³⁶ Unfortunately, this situation may benefit all parties – contractors, consultants and bureaucrats – providing the opportunity for additional formal and informal payments. Only the taxpayer and the road user suffer.

1.5 The Trucking Industry In South Asia

1.5.1 The Present Structure and Performance of the Trucking Industry

86. There are some differences between the countries but the main features of the industry are very similar throughout the region, so the countries are discussed collectively.

Trucks

87. For long distance road transport, large multi-axle articulated and semi-articulated vehicles are the norm in Europe, America, the Middle East and even Africa. Throughout South Asia, the sector is still dominated by two/three axle rigid trucks, often old with outdated technology (naturally aspirated engines) and underpowered in relation to the gross vehicle weight³⁷. Large multi-axle vehicles are only now slowly growing in numbers³⁸. The tractor units, as in Pakistan, may be modified rigid trucks which raise serious safety concerns.

88. Increasingly, larger vehicles are being used on long distance trucking; three axles are displacing two axle trucks and multi-axle trucks are becoming more common. The proportion of two-axle trucks on the N5, south of Lahore, fell from 84 percent in 1988 to 55 percent in 2001 and is now even lower. A similar situation can be inferred from the distribution of truck permits in India, Table 15.

Table 15: India: Commercial Truck Fleet and Permits
(‘000 vehicles)

	National	Bilateral	Intra-State	Total
Multi-axle	70	20	20	110
Three axle	450	100	80	630
Two axle	600	850	900	2350
<i>Heavy</i>	300	600	600	1500
<i>Medium</i>	200	75	100	375
<i>Light</i>	100	175	200	475
Total Fleet	1120	970	1000	3090

89. Two axle trucks make up over 75 percent of the total fleet, but only 50 percent of the inter-state (National Permit) fleet. Multi-axle semi-trailers comprise about 6 percent of the inter-state fleet; (in Pakistan, the proportion is approaching 20 percent). The structure on long distance haulage, in India, may be 75 percent three axle trucks and roughly equal numbers of two axle and multi-axle vehicles. Tractor units are, however, the fastest growing segment in the fleet, Table 16.

Table 16: India: Sales of Commercial Freight Vehicles

Truck Type	Capacity Tons	Sales		Growth 2005/2006
		2005	2006	
Two axle rigid	8 – 12	30,600	36,100	18%
Two axle rigid	15 – 16	61,100	63,000	3%
Three axle rigid	25 – 26	68,900	111,700	62%
Multi-axle trailer	30 – 49	10,800	22,300	107%

Source: Indian Foundation of Transport and Research Training (IFTRT)

³⁷ Modern technology trucks, to Euro II and III specifications, are manufactured in India and Tata Daewoo opened an assembly plant for such truck tractor units in Karachi, January 2007.

³⁸ One explanation for the limited number of larger trucks is the large cost differential. A three axle truck will cost ≈US\$ 20,000 and a 14 wheel semi-trailer ≈US\$ 84,000

The growth rates for two axle trucks are very low in comparison to the larger trucks; sales of multi-axle tractor units more than doubled. In Bangladesh, the two axle truck still predominates on the relatively short distance trip (220 km) between Dhaka and Chittagong. Out of total fleet of almost 300,000 trucks, there are less than a thousand tractor-trailers capable of hauling 40ft containers.

Ownership

90. The industry is dominated by small operators, owning one or two trucks. This is not unusual; it is the case in most deregulated or unregulated markets³⁹. In many countries, there are large numbers of small owners, a reasonable number of medium-scale operators and a few large firms. In South Asia, there are few even medium sized operators and very few large operators. In India, at least 80 percent of trucking enterprises have only one or two trucks and less than 10 percent of enterprises have more than 15 trucks. Large firms, with more than 100 trucks, are extremely rare but the number is growing.

91. The ownership structure in India may be distorted by the Motor Transport Workers Act which imposes controls on companies with more than 5 trucks. However, a similar industry structure is found in the other countries. Pakistan, for example, has only one very large enterprise, the public sector National Logistics Cell (NLC) with >1,300 trucks. Only licensed operators are allowed to carry bonded cargo and one requirement is a fleet of more than 25 vehicles. More than 30 licenses were issued in 2003, but only about six companies (including NLC) are now active.

92. Along the main trade corridors, the larger companies play a more significant role. Many of the small operators confine their activities to short-hauls, especially agricultural traffic and, when working longer routes, are often sub-contractors to larger companies. The largest fleets in India may have >1000 trucks, but up to 80 percent of the trucks would be hired from owner operators as their costs are lower.

Regulation

93. There is no quantity licensing/regulation and entry and exit is very easy. In terms of industry attributes, there may be regulation on paper, but little or no enforcement. The situation in India illustrates the situation:

- *Quality regulation*: in theory but many loopholes and not enforced
- *Price regulation*: some States have the power but make no attempt to set and enforce rates. Local trucking associations may set rates but they do not stick when market conditions change.
- *Labor regulation*: for larger companies (>5 trucks), drivers are restricted to 8 hours/day but there is neither enforcement nor records. A survey estimated that two-thirds of drivers drove continuously for more than 9 hours, and 20 percent for more than 12 hours. Only 6 percent of drivers had rest periods of >8 hours
- *Safety regulation*: most drivers do not receive proper training; the mandatory period is only two days. Vehicles condition is regulated but not enforced, viz. by the number of trucks without functioning rear lights. Fitness is assessed by visual inspection/judgment; there are many fake certificates and no mechanism to check them.
- *Insurance*: third party vehicle insurance is required but no insurance for cargo. Insurance does not work well in any of the countries. In Pakistan, it is said to be nominal, to meet legal requirements, but insurance companies rarely pay out. In India, third party insurance is provided by public sector companies which make losses on the coverage. There is no feedback between the safety record and the cost of the insurance. Drivers are largely unaccountable and insurance does nothing to improve safety standards.

³⁹ The average employment size of trucking enterprise in the EU is only 3.9 employees and only exceeds 13 employees in three OECD countries.

- *Axle-load and vehicle weight regulation:* legal limits to axle-loads and gross vehicle weights have been established, but with little/no effective enforcement. Some States have, in the past, sold “Golden Passes” which absolved truckers from the legal limits. The impact of the Supreme Court directives on enforcing legal limits is not yet evident.
- *Environmental regulation:* emission standards have been prescribed but not enforced; there is no system for inspection and certification.

The lack of effective regulation is similar in all the countries. Where laws exist, they are not enforced.

Overloading

94. Trucks are modified to carry very heavy loads: the chassis are strengthened, leaf springs are added, and larger tires are used. Overloading is common in most developing countries, but the severity in South Asia has to be among the most serious in the world⁴⁰. The degree of overloading varies with the commodity; aggregates are the greatest problem, followed by bagged cargo. Two axle trucks, designed for 7 tons, carry more than 12 tons; three axle trucks carry up to 30 tons; and three-four axle articulated vehicles carry 50 tons or more instead of 25/30 tons. Containers limit overloading but with the increase in container loading (loads of 16 – 18 tons/TEU are becoming more common) and the limited number of axles on most container trucks, some overloading is still prevalent.

95. Overloading is perhaps highest in Pakistan where the main trade route runs along the Indus valley and trucks do not face major gradients. Trucks are massively overloaded and driven very slowly along the corridor. Highway condition is not the only reason for slow delivery times – limited engine power and massive overloads are, at least, as important. Raising highway standards will have a limited impact on truck operations until overloading is controlled.

Business Models

96. The trucking industry operates through two basic business models – the transport agent/broker and formal contracts between shipper and transporter.

- *The agent/broker:* There is a large informal network of transport agents and brokers who act as intermediaries between shippers, especially SMEs, and transporters. The owners of small transport enterprises may also act as agents/brokers. Brokers/agents are unregulated; they make the arrangements and take normally a fixed fee (in India, Rps 200 – 400/truck). Transporters are often paid 20 – 30 percent in advance, with the rest on delivery. However, there are often payment delays and there are discounters of freight notes (termed Angarias, in India). Agents/brokers normally operate on the spot market but may make longer term arrangements. In Pakistan, large shippers make arrangements with local brokers for two-three months at fixed rates, supplementing with trucks from the spot market, if necessary. Even when transporters operate on formal contracts, they will use brokers for return loads, always on the spot market.
- *Formal contracts:* longer term contracts are becoming more common, especially for large shippers. Contracts may be for as little as 20 trucks/month. This is an important departure from the traditional model. The contracts will generally include clauses which cover the availability of capacity (no. of trucks, size and condition) and service reliability⁴¹. The contracts may guarantee level of traffic and sometimes include a fuel adjustment factor. The larger shippers have stricter performance standards and are leading to truck, driver and service upgrading.

⁴⁰ On a recent field visit in Sindh, Pakistan, two semi-trailers were observed; the first carrying steel bars had two light trucks lashed on top of the steel, and two small cars lashed on top of the light trucks, the second had two cars lashed to the top of a full load of bagged cargo.

⁴¹ Maruti, for example, has a four day delivery schedule for imports from Mumbai to the factory near Delhi. Under the contract with transporters, there is an incentive for early delivery and penalty for late delivery.

While the contract is signed between the shipper and transporter/logistics company, the cargo may not be carried in the transporter's own trucks. Even the very large logistics oriented companies will use small companies to supplement their own fleets.

97. The agent/broker/spot market remains the primary model but the situation is changing as the economies move into higher value products, requiring higher service standards. Just-in-time production requires a very different level of transport services than provided by the traditional South Asian trucking model.

Competition, Freight Rates and Service Standards

98. A highly fragmented industry, little or no regulation, numerous agents/brokers and an active spot market mean that trucking is highly competitive. Low capital costs, relatively low fuel prices, low labor costs and substantial overloading result in very low road freight rates, particularly for bulk and bagged cargo. Despite the very slow speeds, trucks in India and Pakistan have annual utilization rates of 100,000 – 130,000 kms/year. While below the levels in countries with extensive expressway networks, they are very much higher than in many developing countries. They are achieved by extremely long driver working hours and very long hauls. An Indian survey found that about 70 percent of drivers were away from their base for five or more days at a time. Drivers are expected to find return cargo to increase revenue. South Asia has probably the lowest road rates in the world, Table 17.

Table 17: Road Freight Rates: 2002

Country	US¢/tonne-km
Pakistan	1.5 – 2.1
India	1.9 – 2.7
Brazil	2.5 – 4.8
USA	2.5 – 5.0
Central Asian Republics	3.5 – 8.5
Australia	3.6
China	4.0 – 6.0
Bangladesh	5.5

99. Rates in Bangladesh are high because of the short hauls. For very long haul bulk movements, the rates can be even lower. The World Food Programme, in 2003, had contracts from Karachi to Peshawar (1,728 kms) at US\$12 – 15/tonne, or US¢ 0.7 - 0.9/tonne-km. The rates for containers are also low, though the rates depend on haul direction of demand, Table 18.

Table 18: Pakistan: Container Road Freight Rates*
(40 ft container: 20 tonne load:US¢)

Direction	Truck/km	Tonne/km
Karachi →North	32 – 42	1.6 - 2.2
North →Karachi	19 – 23	1.0 - 1.2

* May 2005

The rates for containers under bond are higher, reflecting increased costs and less competition.

100. It is not surprising that profitability is extremely low. On the container rates quoted above, operators are only covering fuel and crew costs on the return trip to Karachi. But, the total economic costs of road freight are much higher than the rates: road damage from the overloading, delays to other vehicles from the slow speeds, and high safety costs (studies in Pakistan suggest trucks are involved in about 25 percent of road accidents and fatalities).

101. Rates are very low but so are service standards. In general, trucking provides to users extremely low cost, low standard services. Cargo is uninsured and trip times are long and variable, depending on road conditions, vehicle condition and the delays at en-route check posts. Most customers are satisfied

with the service, receiving the level of service for which they are prepared to pay. For most users, low cost is more important than service reliability or rapid delivery. In a survey of shippers, in Pakistan, some complained about high rates; these were mainly small shippers, with low negotiating power and exposed to seasonal fluctuations in rates. Large shippers of bulk commodities were very satisfied as they generally make longer-term contracts.

102. The response from export-oriented shippers was qualified. In general, they were satisfied with the rates and, to an extent, the service but complained about the lack of modern equipment to provide rapid transport for high value exports. To overcome the service deficiencies, the private dry ports have developed their own transport systems which include en-route monitoring, using mobile phones. For rapid delivery, premium services are available from the same contracted transporters. The normal terms from the Punjab to the Karachi ports is 48 hours and US\$280/FEU; the premium service offers a delivery time of 28 hours (three drivers, driving continuously) for US\$417/FEU, a 50 percent mark-up. The service is only used for the highest value cargo or when shipping dates may be otherwise missed.

103. The situation is similar in India: generally low cost, low quality trucking but where higher quality trucking is needed, special arrangements provide the services required. These standards are agreed through contract and may involve the shipper helping to developing the trucking service along with the transporters (the case of Toyota).

1.5.2 Modernizing South Asia's Trucking

104. Trucking is a highly competitive service industry and provides the level, type and quality of services that its customers want. The freight is mainly bulk, low value and the retail/distribution sectors are very fragmented and do not require sophisticated trucking and logistics. The present low cost, low quality trucking meets the needs of the shippers. When higher quality freight services are demanded, arrangements are made to provide them. The trucking sectors are appropriate to the present stage of economic development and complexity.

105. As the economies move into higher value products with higher volume/weight ratios, and more complex production and distribution become more common, it may be expected that the trucking sector will respond appropriately. This may include different configurations of truck size, type and body as well as a growth in large firms with economies of scale in complex distribution operations. Under this reasoning, little outside intervention is required to modernize trucking as the industry will take the initiative as/when required by its customers.

106. The endogenous adjustment argument may be substantially correct and major government intervention unlikely to have more success than market forces. However, there are factors which distort and constrain development and there are actions that can/should be taken to (i) improve the efficiency of the present level of services; (ii) reduce the level of external economic costs; and, (iii) remove important barriers to change.

107. ***Control of vehicle overloading:*** The effective enforcement of appropriate axle and vehicle weight regulations would have the most profound impacts. There is little incentive to re-equip with large, multi-axle vehicles, if 30 ton loads are allowed on low cost, three axle trucks which are cheap to run. Lower payloads on existing vehicles would reduce road damage, improve power: weight ratios, increase vehicle speeds, improve braking efficiency and make trucks less unstable. Undoubtedly, rates would rise, in the short-term, as the present subsidy from the road agency is withdrawn. The impact would be progressively reduced with the introduction of larger vehicles and increased utilization. The control of overloading is key to facilitating change and experience elsewhere suggests that the sector

can respond rapidly⁴². Unfortunately, controlling vehicle overloading has proved very hard. India's Supreme Court in January, 2006 ordered the state governments not to allow vehicles to carry excess weight but there is little indication that this had much impact. In October, 2007 the All India Confederation of Goods Vehicles Owners' Association wondered whether the axle-load limits, as prescribed by the Government, have any sanctity⁴³.

108. **Revising vehicle license fees:** Road user charges should reflect, at least, the road damage and other social costs caused. Studies suggest that freight vehicles are undercharged in South Asia. Fuel taxes/levies are the main form of user charging but differentiate imperfectly between trucks and are normally supplemented by annual license fees. These fees should be revised to reflect the differential damage caused by different axle configurations. This would provide incentives to move to trucks with more axles⁴⁴.

109. **Removal of protection from truck manufacturers:** Both India and Pakistan have a very limited number of truck manufacturers; in Pakistan they largely produce old-technology rigid trucks. Until recently, only Volvo produced articulated trucks in India but Leyland, Mann and Tata have now entered the market. Domestic manufacturers are often protected by high tariffs and local content requirements. Opening the market to increased competition would both increase supply and give incentives to domestic manufacturers to upgrade their technology. Modern tractors/semi-trailers are expensive and new trucks may be unaffordable for small truckers. In many countries, the traditional route to such ownership is through secondhand vehicles and worldwide there is a major trade as fleets in developed countries is normally sold after 4/5 years of operation⁴⁵. This route to ownership is not permitted in South Asia as such imports are mainly banned. This should be revisited to provide more opportunities for small operators.

110. **Improved highway infrastructure:** Modern, high capacity trucks have their greatest impact on high speed, high capacity highways, which allow rapid trips and high vehicle utilization. Their potential is significantly diminished if operated on congested roads catering for both motorized and non-motorized transport. Modern trucks, without unnecessary en-route delays, should reduce the Mumbai – Delhi transit time from its 48 – 72 hours to 24 – 36 hours.

111. **Reduction in official check posts:** A reduction in the number of en-route check posts and the simplification of the documentation would both reduce delays and improve trucking reliability. The GOP has announced its intention to reduce the number of such checks and the introduction of VAT in India should offer the potential to reduce the fiscal check posts at State borders. Ideally, there should be multi-agency posts with aligned documentation; vested agency interests make such streamlining perhaps unlikely.

112. **Modern trucking terminals:** Major cities are introducing entry restrictions on heavy freight vehicles. Modern terminals on the major highways outside the urban areas would provide waiting areas for trucks, presently they are just parked along the highways, provide facilities for the agents/brokers, and provide amenities for truck drivers and assistants, including health and education which are crucial in the era of HIV/Aids. Modern highways should be complemented by modern truck terminals.

113. **Carrier registration:** Trucks are licensed and larger trucking enterprises in India have to register under the Motor Transport Workers Act but there is no attempt to ensure that trucking enterprises reach and maintain financial, management and safety competence. Agents/brokers provide some implicit

⁴² In response to road damage from El Nino in the mid-1990s, the Government of Kenya began enforcing its axle-load regulations but also allowed truckers to operate six axle semi-trailers. Within a few months, most six axle semi-trailers had been converted to seven axles (three axle tractor and four axle trailer).

⁴³ The Hindu Business Line, October 8, 2007

⁴⁴ When the UK Government reduced vehicle license fees on six axle semi-trailers below those for five axle vehicles, because of their lower road damage costs, there was a very rapid increase in six axle semi-trailers.

⁴⁵ Larger trucks in the Philippines were, in the 1980s, imported secondhand from Japan.

guarantee to shippers but it is on a very informal basis. A voluntary carrier registration scheme, for carriers meeting specified standards, would not introduce entry barriers but could be the basis for gradually modernizing the sector, especially if accompanied by schemes that extended the provision of cargo insurance and/or the proper insurance of vehicles. The aim would not be compulsory registration but a system under which it was in the financial interest of carriers to meet standards and obtain registration.

1.6 Rail Transport

1.6.1 Railways in South Asia

114. The pre-independence railway system covered the sub-continent and, when broken up, each country inherited a network though some of the natural links were severed. Each country inherited broad and meter gauge lines, as well as a few narrow gauge routes in hill areas. The size of the railway systems in South Asia differ very considerably, Table 19.

Table 19: Railways in South Asia

	Bangladesh	India	Pakistan	
Route-km	2,855	63,122	7,791	Pakistan Railways (PR) is more than double the size of Bangladesh Railways (BR) and both are dwarfed by Indian Railways (IR). In all three countries, the main trade corridors are served by rail. The railways remain government departments, subject to civil service rules and employees are civil servants ⁴⁶ . They have retained the same pricing philosophy with freight subsidizing passengers. The passenger/freight tariff differential, in comparison with other railways is marked, Table 20.
Track-km	4,443	109,227	11,515	

Table 20: Rail Passenger/Freight Tariff Differential

(Revenue passenger-km ÷ Revenue ton-km)

Country	Pass-km/Ton-km	Country	Pass-km/Ton-km
Bangladesh	0.26	Thailand	0.70
India	0.38	China	1.40
Pakistan	0.40	Japan	2.10

115. The other continental South Asian countries do not have rail networks, although Afghanistan and Nepal have short links, across the borders, to railways in neighboring countries: Afghanistan with railways in Turkmenistan and Uzbekistan (links with Iran and PR are mooted) and Nepal with IR.

116. The South Asian railways vary considerably in their freight role as well as their productivity and financial status, each is discussed below. IR is one of the world's largest railways and has relatively high productivity; BR is small and one of the least productivity. IR's productivity is, however, well below that of Chinese Railways and, by some measures, Thai Railways, Table 21.

Table 21: Comparative Railway Productivity

	Unit	Bangladesh	China	India	Pakistan	Thailand
Traffic Units (T.U.)	Billion	4.9	2048	826	25.4	22.1
T.U./route-km	Million	1.9	28.5	12.9	3.3	6.1
T.U./wagon	Million	0.1	3.5	1.5	0.2	0.6
T.U./employee		138	1165	537	310	933

IR is less than half as productive as Chinese Railways, another major railway network, and PR is a third/half as productive as Thai Railways, a railway with comparable traffic.

⁴⁶ A Railway Authority was established in Bangladesh but, in recent years, the Ministry has assumed the Authority's responsibilities and meetings of the Authority have ceased.

Bangladesh

117. Railways in Bangladesh were seriously disrupted at partition: 660 km of broad and 553 km of meter gauge in the west, 1277 km of meter and now 365 km of dual gauge in the east. The main trade corridor, Dhaka – Chittagong, is served by a meter gauge line on a rather indirect route. BR's role in the transport system has declined considerably. Since 1974, its passenger share has fallen from 30 to 13 percent, and its freight share from 28 percent to 7 percent. Table 22.

Table 22: Bangladesh Railways: Traffic 1970 – 2005
(million)

	Passengers	Passenger-km	Tonnes	Tonne-km
1970	72.9	3317	4.9	1265
1981	89.3	5197	3.0	787
1991	48.4	4587	2.5	650
2001	41.2	4209	3.5	907
2005	42.3	4164	3.2	819

118. Freight accounts for 17 percent of traffic units but 34 percent of revenue. Most capacity is allocated to passengers and there is high track utilization on the main links. Capacity is limited by short trains, due to track configuration and loop lengths, and long headways, due to outdated signaling. The single track sections, Dhaka – Chittagong, operate above their rated capacity. A further constraint for freight is the age, type and condition of the wagons. Axle-loads are below those of IR and wagons are generally limited to a maximum speed of 29 kph; the speed of freight trains averages only 11/12 kph. The problems are exacerbated by inadequate funding of maintenance, less than 40 percent of need; e.g., track maintenance requires US\$12.5 million but receives only US\$4.3 million.

119. BR's productivity is very low, and its financial position very poor⁴⁷. Even with a revenue subsidy and welfare subsidy, BR operates at a deficit, before depreciation:

FY2005	Operating revenues, without subsidies:	Tk 4.46 billion	US\$ 64 million
	Operating revenues, with subsidies:	Tk 5.45 billion	US\$ 78 million
	Operating expenditures:	Tk 6.95 billion	US\$ 99 million
	Operating deficit, with subsidies:	Tk 1.50 billion	US\$ 28 million

120. The position would have been worse without the voluntary redundancy in the late 1990s which reduced staff by 20,000 at a cost of US\$64 million, reducing annual staff costs by US\$12 million. Despite BR's small size and poor finances, there is a seven year development plan of US\$ 924.5 million, with ADB agreeing phased funding of US\$430 million and assistance likely from the World Bank and JBIC. The World Bank has provided a reform linked Development Policy Credit of US\$40 million, with a further credit planned for FY09, if the reform agenda remains on track.

121. Within BR's general poor performance, the movement of containers, Chittagong to Dhaka, has been increasing. Containers provide about 22 percent of freight revenue and the traffic could be expanded. BR carries about 10 percent of the container traffic destined for Dhaka (Chittagong handles ≈600,000TEU, 450,000TEU are destined for Dhaka and BR carried 43,000TEU in FY05). BR operates two pairs of container trains daily to/from the Dhaka ICD. The transit time for the ≈300km trip is 8 hours, substantially faster than the usual BR freight train. Demand is well above supply level, there is a 3 – 5 day wait for wagons. This high demand is unusual, it is only 220 km by road, and rail is not normally competitive at such distances. There is no direct cost advantage, both road and rail charge about Tk 7,000/TEU and final delivery raises the rail cost to about Tk 10,000/TEU. Rail has some very important advantages: less damage by keeping cargo in the container; a better customs service at the

⁴⁷ The basic tariffs on BR have not been adjusted since 1992.

ICD; and lower informal charges at the ICD. The advantages of rail route will be reduced once a truck ICD is established in Dhaka and the highway improved, allowing easier operations by semi-trailers.

122. Despite the potential for growth, BR has not increased its container trains. This seems strange but may be explained by:

- Track capacity constraints on sections that serve passengers from the NE
- GOB policy favoring passenger rather than freight services
- Staff want to keep supply restricted, it increases the informal payments for wagon allocation
- The ICD has limited capacity and has difficulty in handling more trains

Three trains may be operated when the delays at the port exceed “acceptable” limits. The additional train paths are provided by canceling passenger trains.

India

123. Like railways elsewhere, IR has lost market share but, unlike most railways, tonnage has continued to increase. With faster economic growth, rail freight has been growing ≈ 10 percent/year. In terms of train-kms, IR is primarily a passenger railway (64 percent of train-km) but freight generates about two-thirds of the revenue. A profitable freight operation, on a limited network of main routes, subsidizes a large and largely unprofitable passenger system⁴⁸. IR inherited both broad and meter gauge networks but the important meter gauge lines have been and are being converted – the Unigauge Project⁴⁹. Joint venture rail partnerships have financed some conversions to improve port connectivity, e.g. the Kutch and Pipavav Railways.

124. IR’s share of the freight market has fallen to about 30 percent. IR has lost traffic to road but IR also decided to leave the general, wagon load market and concentrate on bulk, train load traffic. About 95 percent of IR’s freight traffic can be categorized as low value, bulk traffic, Table 23.

Table 23: Indian Railways: Freight Traffic FY2004

	Tons (million)	Ton-km (billion)	Percent of Traffic		Lead (km)	Revenue US¢/ton-km
			Tons	Ton-km		
Coal	252	157	45.2	41.3	625	1.72
Ores	85	33	15.3	8.7	388	1.70
Cement	49	26	8.8	6.9	534	1.93
Food grains	44	62	8.0	16.2	1397	1.20
POL	31	18	5.6	4.7	569	3.15
Fertilizer	24	20	4.3	5.3	851	1.37
Iron & steel	19	17	3.5	4.6	901	2.35
Limestone	11	6	2.0	1.4	505	1.59
Other bulk	14	13	2.5	3.4	921	1.23
Total bulk	530	352	95.0	92.4	665	1.71
Other goods*	28	29	5.0	7.6	1047	1.23
Total traffic	557	381	100.0	100.0	684	1.67

* Including containers

⁴⁸ Higher premium passengers, on medium/long routes, may be relatively profitable but second class passengers and commuter services are highly unprofitable.

⁴⁹ Since FY90, IR has converted 11,900 km of meter gauge track, an average of 745 km/year. The implementation of the program peaked in the mid-1990s with 1,800 km converted in FY95, falling to 90 kms in FY01. Conversions are now running at an annual rate of 750 – 850 kms.

125. Container traffic has grown rapidly, but is only about 3 percent of freight traffic. The average revenue yield of US¢1.7/ton-km is substantially higher than China Railways (US¢1.0/ton-km) but well below the US (US¢2.6/ton-km). There are complaints, however, regarding rail costs especially from container shippers. In a meeting of shipping sector experts (July, 2006), Mr. S. S. Rangnekar, Director SCI, complained that rail charges were among the highest in the world. He quoted the charges/km: India 7.9¢, France 5.5¢, Japan 3.7¢, China 2.6¢ and only 2 cents in Canada. He stressed the need for faster, low cost hinterland transport⁵⁰.

126. IR track is in reasonably good condition, especially the main routes, but freight train speeds are low, averaging <25 kph, and have not increased for several years. With an average haul of 680 km, the average freight train takes about 30 hours. There are several reasons for the slow speeds:

- A shortage of wagons capable of traveling at the speed of passenger trains, i.e. 75 – 100 kph
- Very high track utilization on major routes, and thus delays en-route and at rail yards
- Priority to passengers and a lack of designated train paths for freight trains

There has been an upward trend in the tonnage on freight trains, now about 1,350 tons. Slow train speeds may not be a problem for most of the cargo (containers would be an exception), but they negatively impact productivity and the utilization of operating assets.

127. IR's finances were very poor in the early 2000s, with nominal operating ratios approaching 100 percent⁵¹. GOI established a Special Safety Fund, basically to fund renewals, and the Dividend payment was deferred. A major report at the time summarized the thinking:

“The business-as-usual low growth will rapidly drive IR to fatal bankruptcy and in 16 years, the Government of India will be saddled with an additional financial liability of over Rs.61,000 crore. On a pure operating level, IR is in a technical debt trap”. Mohan Report

128. The need for major change began to be accepted and a reform agenda was agreed in 2002. This included the rebalancing of freight and passenger tariffs, the gradual reduction in staffing levels to 1.2 million, separation of non-core railway activities, etc. This agenda was the policy base for ADB assistance. The reform agenda was not implemented and a very different approach was adopted, focusing on raising revenue rather than reducing cost. Four factors have helped the turn round:

- The faster economic growth has increased the demand for transport
- The more intensive use of operating assets: higher axle-loads, and thus payloads, on selected routes, reduced wagon turnaround time, etc
- A more commercial approach to freight pricing: use of dynamic (peak and off-peak) pricing, flexibility to attract back-haul traffic, etc
- A reduction in passenger losses: adjusting train length to demand, increasing loadings, increasing the traffic in premium services, etc.

129. The recent results, in terms of both traffic and revenue growth have been impressive, especially with respect to freight traffic, Table 24.

⁵⁰ Quoted Hindu Business July 13, 2006

⁵¹ IR uses a depreciation reserve fund (DRF) and had the practice of allocating funds to the DRF on the basis of what IR could afford while still showing, in the books an operating surplus.

Table 24: Indian Railways: Traffic and Earnings Growth

	FY02	FY03	FY04	FY05	FY06	FY07*
Passengers	5.4%	-2.4%	2.8%	7.1%	7.5%	7.3%
Passenger revenue	6.5%	12.5%	5.6%	6.0%	7.1%	11.9%
Tonnes	4.0%	5.3%	7.3%	8.1%	10.8%	9.7%
Freight revenue	6.6%	6.9%	4.2%	11.6%	17.9%	18.4%
Total earnings	8.5%	8.5%	4.5%	10.4%	15.0%	16.9%
Total working expenses	4.7%	4.8%	3.8%	8.3%	6.6%	n.a.

* April - December

The upward swing in earnings was achieved with lower growth in expenses; consequently, IR's financial position has improved markedly with the operating ratio falling to 84 percent in FY06.

130. Track capacity is becoming a serious concern on the main routes. The track is adequate but the signaling is below international standards. Train capacity, on double tracks, is nominally limited to 50 – 60 pairs of trains/day; the international norm is 100 pairs/day and China and the US achieve 150 pairs/day. Delhi - Mumbai is the primary container corridor; it is double track, with mainly multiple aspect color light signaling, and carries about 75 pairs of trains/day, combining relatively fast passenger trains with freight trains moving at 40 – 50 kph. Since high speed container wagons were introduced, container transit time has halved to 48 hours (the terminal turnaround is 8 hours). The route, according to IR, is operating above its capacity and the situation is forecast to deteriorate, Table 25.

Table 25: Delhi – Mumbai: Track Utilisation

Track Utilization Percent of capacity	% kms of the Route	
	FY04 Actual	FY07Forecast
160.0+	0.5	30.2
150.0 - 159.9	2.2	29.9
140.0 - 149.9	0.3	6.4
130.0 - 139.9	44.7	27.6
120.0 - 129.9	18.8	-
110.0 - 119.9	27.6	0.2
100.0 - 109.9	-	5.8
<100.0	6.0	-

131. In FY04, only six percent of the route was operating at below capacity; in FY07, it is forecast that 60 percent will be operating at 50 percent above capacity. If freight continues to grow at present rates, the route will face severe problems unless additional track capacity is provided.

132. Container trains are hauled by IR but the business is managed by the Container Corporation of India (Concor). Concor is a limited company, majority owned by GOI with a 37 percent non-government shareholding; effectively, it is an IR subsidiary, run with seconded staff. It was established in 1988 to consolidate non-bulk traffic into unit trains but soon concentrated on containers; it began with seven inland container terminals; it now operates 58 terminals:

- o 49 terminals can handle foreign trade containers
- o 9 terminals are exclusively for domestic trade
- o 30 terminals handle both domestic and international containers

It started services for the shipping lines in FY94. Traffic increased substantially when scheduled services, with high speed wagons, were introduced in 1997 (end FY06, Concor had 5,112 high speed flats and a total fleet of 6,469 wagons), Table 26.

Table 26: Concor Rail Container Traffic
(‘000 TEU)

	International	Domestic	Total
FY97	425	279	704
FY99	577	225	802
FY01	756	291	1,047
FY03	1,032	351	1,383
FY05	1,377	351	1,728
FY06	1,557	374	1,931

133. Traffic has increased from 700,000 TEU in FY07 to 1.9 million TEU in FY06. The growth is driven by the external sector; the domestic container business has been relatively stagnant. Concor handles about one-third of the containers handled at Indian Ports. The movement of the international containers is arranged with the shipping lines, leaving little opportunity for freight forwarders. The supply shortage enables Concor to operate 80 – 85 percent loaded. It only moves

full trains, reducing service frequency at smaller centers. It can charge fixed rates with a minimum of bulk discounts, though there may be small reductions during off-peak periods.

134. Concor runs about 13 train pairs/day on the Delhi – Mumbai route but there are continual complaints about the lack of space. Traffic from other ports is much lower and is serviced less frequently. The shipping time from the Far East to Chennai is several days faster than to Nhava Sheva but, because the train service is infrequent, the main importers in the Delhi area either use Nhava Sheva or strip the containers at Chennai and move the cargo by conventional truck.

135. In FY06, Concor made a gross profit of Rs.6.7 billion (after interest and depreciation) on a turnover of Rs.24.3 billion, a margin of 27.5 percent. IR charges Concor a trackage rate, depending upon the direction and whether loaded or empty. 70 percent of Concor expenditure is payment to IR for haulage. Concor is diversifying into trucking, storage and other logistics activities.

136. Concor has had a complete monopoly over the rail movement of containers, and rail has a privileged position with an easier customs regime for moving uncleared containers. Major changes are now expected as Concor’s monopoly has been removed and 13 new operators licensed (see 3.4.2).

Pakistan

137. PR inherited basically a broad gauge network, with a few meter gauge lines in Sindh. The network consists of the north – south route, connecting Karachi to the Punjab and Peshawar, the routes to Quetta and Iran, links to India and a network of branch lines. The north-south line should be a major freight route: it links the ports to the main production/population centers; the hauls are >1,000 kms; and the track allows axle-loads of 23 tonnes and permitted speeds of 100/110 khp. PR is a diesel system, with a short section of electrified track between Lahore and Kharanawal⁵². PR was the major player in the transport market, especially for freight, but its importance has fallen precipitously, Table 27.

Table 27: Pakistan Inland Transport: Market Shares
(% of total traffic)

	Passengers		Freight	
	Rail	Road	Rail	Road
1955 -1960	41	59	73	27
1998 - 2003	9	91	4	96

PR failed to respond adequately to competition from road transport; it did too little to change:

- o It continued to operate the entire network, even though the rationale for, and the traffic on much/most of the branch line network disappeared
- o It continued to cross-subsidize passengers from freight and branch lines from the core network

⁵² PR has a fleet of 536 diesel and 23 electric locos. Operationally and financially, the electrified section should revert to diesel, but it is proposed to rehabilitate and possibly extend the section and purchase new electric locos.

- It continued to offer the traditional pattern of supply-driven services
- It failed to modernize with more efficient wagons
- It failed to streamline operations, downsize staff sufficiently and reduce costs/tariffs

138. PR remains important for long and some medium distance passenger traffic, but it has almost completely lost the private freight market. Most of PR's freight is consigned by the public sector and it has a monopoly on commercial transit cargo to Afghanistan. The most profitable traffic, bulk POL, is increasingly being moved by pipeline. It had a monopoly for bonded containers but this was removed in 1995. There has been a limited revival in freight traffic during the last few years, Table 28.

Table 28: Pakistan Railways: Traffic
(million units)

	Passengers		Freight	
	No.	Pass-kms	Tons	Ton-kms
1980-5	113.5	17,400	11.2	7,380
1985-0	82.3	18,500	11.0	7,940
1990-5	69.1	17,800	7.7	5,890
1995-0	68.0	18,800	5.9	4,370
2000-5	72.8	22,990	6.1	4,740
2004-5	75.7	24,200	6.4	5,010
2005-6	81.4	25,600	6.0	5,910

139. PR is a medium sized passenger railway which carries a little freight. Passengers dominate priorities; freight has attracted little management or political attention. In terms of passenger-kms, PR is carrying record levels. PR's investment priorities, e.g. raising maximum track speeds to 140 kph, are directed toward further improvements in the passenger service.

140. Performance deteriorated to such an extent, during the 1990s, that GOP decided to privatize PR. Preparations were made and initial steps taken to separate the businesses. Then, governments changed and privatization was dropped. There was a management and investment hiatus, for several years, as the private sector was expected to take over. PR is not profitable, unable to service its debts and often unable to fund its operating costs and pension payments. There was an improvement in its results in FY05, with a major increase in sundry (primarily property) income, Table 29.

Table 29: Pakistan Railways: Finances
(Rs. Million)

Revenue	2003-2004	2004-2005	Change
Passenger	7,939	9,002	+13%
Freight	4,343	5,059	+16%
Coaching & Military	1,363	1,419	+4%
Sundry	923	2,790	+202%
Total	14,568	18,270	+25%
Operating Expenditure	16,857	17,991	+7%
Surplus/Deficit	-2,289	279	

141. Depreciation is seriously under-provisioned and PR operates at a significant loss, depending on GOP for debt servicing, asset replacement and new investment.

142. PR has the infrastructure for freight: heavy track; yards at ports; and six ICDs. There is substantial potential demand along the north - south corridor and container traffic has increased rapidly. Between FY01 – FY05, traffic increased 8,000 → 28,000 TEU and PR is still only carrying 5 percent of containers handled at the ports. But there are serious operating constraints:

- *Limited motive power*: the average age of the loco fleet is 21 years, only 25 percent are less than 10 years. Average availability is 67 percent but the most reliable locos are reserved for passengers. Whenever a choice has to be made, passenger trains have the priority
- *Poor rolling stock*: there are very few (140) modern, high speed wagons. The vast majority of wagons are four-wheelers with plain bearing. More than 90 percent of the fleet is 30+ years.
- *Limited track capacity*: the signaling and telecommunication systems, even on the mainline, are antiquated, limiting capacity on the single track sections
- *Lack of train paths*: other than limited container and express freight trains, there are no designated paths for freight trains, they run when they can, without schedules

- *Slow freight train speeds*: even on the mainline, average freight train speed is only 22 kph, mainly because of the wagon stock and the lack of designated train paths
- *Poor wagon utilization*: average wagon utilization is extremely low, 11,000 km/wagon; IR achieves, in comparison, 63,000 km/wagon

When modern assets are available, productivity can be high. The daily unit container trains use new Chinese flats, each carrying three TEU, and transit time, Karachi – Lahore, has dropped from 52 hours to 28 hours. Terminal turnaround is six hours and the round trip takes 3 – 4 days.

143. GOP policy is to make PR a corporation and split off the non-core activities. This should increase managerial autonomy and reduce the constraints imposed by bureaucratic rules and procedures. There is little private sector participation although the Karachi – Lahore express freight service is wholesaled to freight forwarders. GOP recently advertised for expressions of interest to run freight services but then restricted eligibility to local interests. Under NTCIP, rail is expected to have a much more prominent freight role.

1.6.2 Increasing Railways' Role and Competitiveness

144. All the railways in South Asia could improve the quality and competitiveness of the main trade corridors. They already provide container train services on the main corridors but their share of the market is limited and most containers are either moved by road or their contents moved by truck as loose cargo. Container demand for rail transport exceeds supply. The causes for the supply shortfall vary, in detail, but all combine infrastructure deficit, shortages of operating assets and inappropriate management/business models.

145. The potential exists for substantially increased rail freight and major investment is planned. These investments need to be accompanied by changes in the way railways are managed and marketed. At its most basic level, the public sector rail attitude that the customer should be grateful for any service, has to change to providing the type and level of service that the customer wants.

Bangladesh

146. BR is constrained by track capacity and shortages of modern wagons. The ADB program will double track sections, improve signaling, rehabilitate yards, extend loops, and provide additional wagons. The initial loan will include doubling the Tongi – Bhairab Bazar section (64 km). Faster trains (from using modern rolling stock and improved signaling/train control) might provide additional capacity sooner. A new ICD is planned at Tongi, which will have more capacity and be closer to the garment factories. The reduction in the route distance, by constructing the “chord line”, between Laksam and Dhaka, is also included in GOB’s program.

147. A more intractable problem is BR’s management. Various proposals have been made but little has been achieved. The governance framework is often given as a major cause of inefficiency and poor service delivery – civil service rules and procedures, combined with functional departments, overlaid on the regional structure. With promotion by seniority, there is a rapid turnover of senior management and frequent transfers at middle and lower management levels. The present reform program has the objective of turning BR into a market oriented business organization with improved governance, financial management, human resources and operational systems. BR will be retained within the public sector although the role of the private sector may be increased⁵³. The program is supported by the ADB and World Bank. Donor financial support is conditional on reform milestones:

⁵³ The present role of the private sector includes ticket sales/fare collection on some categories of passenger train, provision on on-board services, operation of the fiber optic communications network and contracts for the rehabilitation of coaches and selected sections of track.

- *Within 12 months:* reorganization to a lines of business approach (LOB) completed; five year business plan for each LOB; architecture for new accounting/financial management systems.
- *Within 24 months:* asset register; outsourcing/divestiture plan for non-core activities; financial management accounting statements; internal pricing structure; mechanism for targeted PSO.
- *Within 48 months:* outsourcing/divestiture complete; new tariff structure; legally established as a government owned corporation; safety and technical regulatory body established.

148. The reform program has been carefully designed but its success is not assured, given the resistance to change and the vested interests in the capacity constrained environment. It is may be questioned whether freight will benefit fully from the additional track capacity rather than more passenger trains being run. The program has the objectives of increasing freight traffic by 115% by 2015, and raising the rail share of container traffic to 26 percent.

149. From time to time, it has been suggested that BR should follow IR and create a Concor-type company to manage the container business. There is little doubt that the efficient transport of containers requires commercial management, if not by the private sector, then by an enterprise operating on commercial lines. This might be a logical first step in the commercialization of BR though IR is now moving beyond this monopoly arrangement. Establishing freight as a line of business will move toward this direction but may not give the container business the focus that is needed.

India

150. ***New rail business model:*** IR has retained a substantial role in the freight market. It has recently adopted a new business approach, stressing a participatory role for the private sector to generate both business and investment. PPPs have been suggested in several areas, including:

- Development of logistics centers on surplus railway land
- Joint ventures for the manufacturing of modern locomotives and rolling stock
- Development of hotels on railway land

151. Most important, so far, has been the decision to terminate Concor's effective monopoly and open the container sector to other operators. Following the first round of registration, in 2006, a total of 14 companies, including Concor, were registered for either national or more route specific licenses, and license fees of some Rs5.4 billion paid. A second round of registration for licenses, early 2007, resulted in one additional licence. The licensees include logistics companies, shipping lines, some of the joint venture railways. They are already reported to have placed orders for several thousand container flat wagons⁵⁴.

152. All will operate on the Concor arrangement – they will organize, market and manage the traffic, while IR will haul the trains, “hook and haul” contracts. The companies will provide their own wagons, which they can maintain or have maintained by IR, and must have access to ICD facilities, either their own or through an arrangement with another operator. IR undertakes to provide motive power, within four hours, and wagon maintenance within six hours. These performance guarantees are backed by penalty clauses, though these are rather weak and the penalties limited. Neither capacity nor transit time guarantees are provided by IR. Competition has already generated a response from Concor which, it is reported, is offering guaranteed five day delivery for containers.

153. Opening up the sector is a major breakthrough, far more important than most of the changes contemplated in the 2002 reform agenda. It is a model applicable to other market segments which IR no longer serves, such as general cargo⁵⁵. IR acts as wholesaler of rail freight while the private sector

⁵⁴ Hindu Business Lines reported the first private container train, using its own wagons, November 16, 2006. 90 containers of rice brand from West Bengal to Kakinada Port.

⁵⁵ In June 2007, IR advertised for a PPP to operate premium commuter services in Mumbai

retails the services to the shipper. IR's role would be confined to its basic strengths of managing the tracks and hauling trains. IR is seeking to extend the model to agricultural marketing but more thought is necessary as IR maintains that it can only run fully loaded trains and cannot guarantee transit time.

154. **Dedicated freight corridors:** The new business model could result in a substantial increase in traffic. This will further congest the main lines and, with the anticipated continuation of high economic growth, traffic may become constrained and service standards fall. To provide additional freight capacity, while not reducing passenger services, IR proposes dedicated freight corridors (DFC). These will be new tracks exclusively for freight trains. Initially, they were proposed for Delhi - Mumbai and Delhi - Kolkata, but the proposals have broadened to include the Golden Quadrilateral, a north - south link and several mineral lines. Their economic/financial feasibility has yet to be demonstrated.

155. The concept is very attractive. The DFC will add a very substantial addition to capacity and allow a new standard of service with scheduled train paths, faster services, and guaranteed transit time⁵⁶. Their design can be tailored to the traffic; on the Delhi - Mumbai DFC the emphasis would be the speed but, elsewhere, it might be much heavier axle-loads for bulk cargo. The cost of the DFC is high, US\$ 22 billion for 11,500 kms (US\$28 billion including the feeder routes) and, as with all large construction projects, there is always the risk of time and cost overruns. Unless the DFC can generate new rail traffic or can be phased (targeting first the most congested sections), the financing costs may imperil IR's overall finances.

156. **Overall investment plan:** In a recent presentation⁵⁷, IR stated that its funding needs for 2007 - 2012 would be Rs. 3,500 billion, approximately US\$78 billion, Table 30.

Table 30: Indian Railways: "Target 2012"
(US\$ billion)

Allocation of Funds	2007-12	Sources of Funds	2007-12	2001-06
DFC and feeder routes	27.8	IR internal funds	22.2	6.3
Double track and port connectivity	5.6	Borrowing	11.1	3.9
Gauge conversion (12000km)	4.4	PPPs	33.3	0.1
Signaling and telecoms	3.3	GOI	11.1	8.3
Passenger and freight terminals	5.6	Total	77.8	18.6
Asset renewals	17.8			
Other	13.3			
Total	77.8			

157. This is a fourfold increase in funding, compared with the previous five years, and a major shift from borrowing and GOI funding to retained earnings and public private partnership funding. The large level of PPP funding is rather unlikely as is the total level of funding proposed⁵⁸. The program is about 50 percent higher than the National Highway Development Programme. However, substantially increased funding can be expected, given the improvement in IR's finances. IR needs to undertake careful and systematic prioritization of the program and a very high priority may be the Delhi - Mumbai DFC.

158. The immediate need is short-term additional capacity while the DFC is constructed. It is unlikely that the DFC could be constructed within five years and experience suggests that it could take much longer. IR is talking about using additional, rather less direct routing and upgrading the signaling

⁵⁶ Improvements to existing tracks, especially improved signaling, could also add substantial capacity but would be unlikely to provide the opportunity for the major improvement in service quality.

⁵⁷ Indian Railways: On the Fast Track

⁵⁸ During the decade, 1992 - 2002, IR's annual investments averaged US\$1.73 billion. Even Chinese Railways only invested an annual average of US\$8.5 million, just about half the levels now proposed by IR.

systems (automatic block signaling, for example). There is also talk of double stack (and even treble stack) container trains and some have run on routes from the Gujarat ports.

159. **Restructuring IR:** When the DFCs were first discussed, some wanted to use them as the opportunity for a major restructuring of the Indian rail sector. It was proposed that the private sector should take the lead in an SPV to finance, build and operate the DFC. Separation of infrastructure and operations was also proposed, with the private sector operating trains on the DFC. IR and the Ministry of Railways persuaded GOI to maintain essentially the status quo, with IR taking the lead on the construction and management of the SPV as well as continuing its primacy over operations.

160. However, the DFC may still lead to change within IR. Their development is likely to result in a small network of densely trafficked, very profitable freight routes and a much larger network of very largely passenger routes. Some form of LOB management may be the logical outcome with the freight network accounted separately but managed outside the present zonal railways. Such changes may allow a fundamental review of how IR is managed with separate businesses being created, and possibly more targeted subsidies for loss-making lines and services than the present very broad cross-subsidization.

Pakistan

161. The Prime Minister has made it plain that he thinks that an efficient, volume rail freight business is central to the National Trade Corridor and the future of PR. It is not quite so clear whether the Ministry of Railways and PR's senior management accord freight the same high priority. Rather, they often give the impression that passenger services still dominate thinking. There remains much emphasis on raising the quality/speed of passenger services, rather than raising the supply and service standards for freight.

162. There is the potential to increase rail's share of the long distance freight market, especially container traffic, but major changes in railway management are needed as well as investment in infrastructure and operating assets. Central is managerial and commercial autonomy, in general, and for the freight business, in particular. Autonomy for the freight sector was supposedly provided in 2000 but it was never reality and freight remains the residual after the needs of the passenger service are met. Freight autonomy has to include the effective dedication of locomotives to freight traffic.

163. A recent report⁵⁹ set out an agenda for revitalizing the commercial role of PR. The agenda consists of a set of inter-related actions:

- *Creation of a focused railway enterprise:* operational assets transferred to a Pakistan Railways Corporation (PRC) and non-core assets (factories, schools, hospitals, etc) to a separate holding company. Only operational land transferred to PRC.
- *Financial restructuring:* separation of the accounts for core and non-core activities; LOB accounting; explicit subsidies for non-commercial lines, services and/or fare levels; restructuring of debts and pension liabilities in order not to burden the future by the past.
- *Institutional reorganization:* separation of the freight and passenger businesses, possibly through subsidiaries; infrastructure and motive power could also be established as businesses; alternatively locos could be transferred to the freight and passenger businesses.
- *Rail cost reduction program:* closure of non-commercial lines/services; reduced cost on lightly used lines by modifying operations; streamlining staff; and outsourcing more activities.
- *Re-establishment of freight credibility:* PRC to concentrate on its core strengths, wholesaling freight services to the private sector to manage.

⁵⁹ Transport Competitiveness in Pakistan, World Bank, Report No. 36523-PK, July, 2006

- *Opening access to the private sector*: the railway sector needs major investment in motive power and wagons. Opening access could attract capital as well as management and marketing expertise. The container terminal operators are interested in running services to the Punjab.

164. The agenda is broadly incorporated into NTCIP and work has already been undertaken on corporatization and commercial cost accounting. The creation of freight and passenger business units provides the framework for autonomy, but it will only be achieved if there is top-level commitment.

165. Restructuring is necessary but not sufficient for more rail freight on the National Trade Corridor. The renewal of the wagon fleet with modern bogie wagons, and additional locos are also essential. Additional train capacity on the remaining single track sections of the NTC is needed to allow more scheduled train paths for freight trains. The most immediate need is modern signaling, communications and train control. PR is already inviting expressions of interest for a turnkey project to provide modern systems on a 293 km section.

166. PR's draft business plan foresees an investment requirement of Rs.100 billion (US\$1.7 billion) for the period to FY2011⁶⁰. The plan proposes a broad approach with major investment in all key areas of railway operations and assets: 25 percent for track investment, 21 percent for rehabilitation and modernization, 22 percent for locomotives, and 23 percent for rolling stock. The plan appears well directed to economic priorities, it is to be hoped that the railways are not sidetracked into other initiatives, such as really high speed passenger services.

1.7 Air Transport

167. Air freight carries 1.2 million tonnes of continental South Asian trade. India accounts for 60 percent, Pakistan rather more than 20 percent, and Bangladesh rather more than 10 percent. Nepal's air freight is much lower, about 12,000 tonnes. Air cargo is a very small proportion of total trade tonnage, 0.5 – 1.5 percent, depending on the country, but a higher percentage of value, given the trade in precious stones and jewelry. Almost throughout South Asia, air carries significantly more exports than imports. Most capacity is provided by scheduled freighter services or in the holds of passenger services but charters is used in peak periods. Both India and Pakistan have substantial domestic air cargo, reflecting the size of the countries and the inadequacies of land transport for really rapid delivery. India, in particular, has a developed express delivery sector, including the large international operators.

168. Air transport is much more costly than sea transport, though transit times are much shorter; door-to-door costs are 5 - 10 times higher. The impact on delivered costs is substantial, Table 31.

Table 31: Logistics Costs: Fruit and Vegetables
(Indian Rs/kg)

Commodity: Destination: Transport:	Vegetables	Vegetables	Grapes
	Dubai	Europe	Europe
	Air	Air	Sea
Farm gate Price/kg	25.0	30.0	24.0
Inland transport	*	18.0	1.6
Packaging and testing	2.1	12.6	12.6
Port clearance	7.9	9.0	1.8
International transport	32.0	80.0	9.5
Delivered cost/kg	67.0	149.6	49.5
Logistics/CIF price	48%	72%	26%

* Negligible, production very close to airport

The container shipment of grapes gives a delivered cost about double the farm gate price. When air transport is used, the delivered cost can be 250 – 450 percent higher than the farm gate price. Given its costs, air transport is used when sea transport is not a viable alternative. This is usually when sea transport takes too long, as with many fresh vegetables (onions and potatoes have long shelf lives and can be shipped by sea) or when there have been delays and rapid shipment is

⁶⁰ Excluding major new developments, such as the proposed link between Gwadar and Central Asia

required to meet delivery dates, as with garments. Most textiles/garments are shipped by sea but air export is significant and growing, but air transport is rarely at the request of the buyer.

1.7.1 Bangladesh

169. International air freight is about 110,000 tonnes, 65 – 70 percent exports. It grew rapidly in the 1990s but has shown little growth since. Domestic airfreight is low but has grown rapidly in recent years, Table 32; express operators, like Fedex and DHL have entered the market and some domestic carriers are moving perishables such as fruit and vegetables, possibly for transshipment at Dhaka International Airport for export.

Table 32: Bangladesh: Air Cargo
(‘000 tonnes)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Growth
Domestic	1	1	1	1	1	1	1	3	9	10	22.4%
International	75	80	82	85	111	112	101	110	111	113	5.2%
Total	76	81	83	86	112	113	102	113	120	123	5.8%

170. The market is quite competitive with several airlines offering services; cargo is transshipped at hubs in the Gulf/Middle East. Delivery via these hubs is generally 2 – 4 days to Europe, and 4 – 6 days to the USA. Most freight is carried as belly cargo in passenger planes, but the space is limited. Demand comes mainly from Dhaka. Cargo is booked through the many air cargo agents.

171. Biman, the state-owned carrier, has an exclusive franchise for cargo handling at Zia International Airport (Dhaka). It offers the lowest rates to the Middle East, the destination for most of the fresh fruit/vegetable exports but carries only the marginal traffic; most exporters are willing to pay a premium for the larger carriers. Rates are not much higher than in neighboring countries.

172. The Bangladesh garment industry is at the low price end of the sector and air shipments are not justified by the garment value. Air transport is used only to meet delivery schedules, when production has been delayed, and the impact on profitability is considerable, given the low margins.

1.7.2 India

173. Air freight, international and domestic, totals almost 1.2 million tonnes; about 80 percent international and 20 percent domestic, Table 33.

Table 33: India: Air Cargo
(‘000 tonnes)

	1996	1998	Financial Year				2006	Annual Growth
			2000	2002	2004	2005		
International	453	488	532	561	693	823	920	7.0%
Exports	293	327	347	364	432	497	n.a.	5.5%
Imports	160	161	185	197	261	326	n.a.	7.3%
Domestic	99	109	133	147	188	229	242	9.8%
Total	552	597	665	708	881	1052	1162	

The faster growing segment is domestic traffic, almost 10 percent/year, though from a small base. This may reflect the rapid growth in the economy and the need for the express

services which cannot be met by road transport. Import cargo is growing rather faster than export traffic.

174. The largest air cargo market remains Europe but traffic with South-East Asia is growing at twice the average, and traffic has risen to 22 percent of the total, Table 34.

Table 34: India: International Air Cargo
(‘000 tonnes)

International Sector	Financial Year						Annual Growth
	1999	2000	2001	2002	2003	2004	
Europe	146	156	200	182	200	206	7.0%
Gulf/Middle East	113	130	128	138	157	154	6.4%
South-East Asia	63	77	84	89	101	134	14.2%
Far East	21	22	23	21	22	27	3.4%
USA	11	6	6	6	9	11	3.5%
SAARC	16	17	16	17	21	16	2.0%
Other	43	47	51	44	47	69	6.5%

Other markets, other than the Gulf/Middle East, are small and growing slowly. Regional traffic is low with little consistent growth; about 50 percent of this traffic is with Sri Lanka.

175. Air freight, especially international cargo, is concentrated at a few airports. Mumbai, Delhi and Chennai handle almost 80 percent of international and 60 percent of domestic air cargo, Table 35.

Table 35: India Air Cargo: Airport Market Shares

Airport	-----Air Freight Handled-----		
	International	Domestic	Total
Mumbai	31.4%	29.4%	30.7%
Delhi	29.7%	22.8%	27.3%
Chennai	18.3%	7.9%	14.7%
Bangalore	8.9%	11.8%	9.9%
Kolkata	3.5%	8.7%	5.3%
Trivandrum	2.5%	0.2%	1.7%
Hyderabad	1.8%	4.1%	2.6%
Other	3.9%	15.1%	7.8%
Total	100.0%	100.0%	100.0%

Both Bangalore and Chennai have doubled their international traffic over the last five years, while traffic at Kolkata has been static. All the largest airports have seen significant growth in domestic air cargo; traffic has increased by 80 percent, at Delhi, in the last five years. Freight traffic growth has placed considerable strains on some airports. A report in November, 2006, reported acute congestion at Chennai resulting in substantial delays to clearance, four or more days rather than one – two days.

The use of CFS stations has been suggested to ease congestion at the air cargo complex⁶¹.

176. The principal export cargoes, by air, are garments, leather, home furnishings and handicrafts. Perishables account for about 10% of the tonnage. The main destination for vegetables and fish is the Gulf. Imports, shipped by air, include telecommunications, machinery and parts and some automobiles. Higher value garments are shipped from Delhi, more basic lines from Bangalore and Chennai; the latter are limited to end-of-season rush shipments. Meat and vegetables for the Middle East are shipped primarily from Delhi.

177. Liberalization of the market proceeded slowly. Air India’s monopoly was removed in the mid 1980’s and an open skies policy established. Rates were still regulated until 1991. Capacity remained a problem because of the export imbalance and the seasonal peaking of garment deliveries. With economic liberalization, imports increased and the export ratio fell from 4:1 to 2:1 by 2000. Export growth also declined as fewer shipments missed sailing date, the export ratio is now 3:2.

178. A substantial proportion of the air cargo continues to be shipped on passenger aircraft. India’s passenger services are still governed by bilateral agreements but the number of flights permitted to the carriers of other nations has been increasing as demand has expanded. GOI is now moving towards an open skies policy, except with SE Asian countries (fear of intense competition). In addition, more

⁶¹ Hindu Business, November 14, 2005

airports are receiving international flights, most notably Chennai, Bangalore and Hyderabad. The share of airfreight carried in all-cargo aircraft has increased gradually over the last decade but it is still not much greater than 50 percent.

179. Federal Express now operates 16 flights per week out of India using MD-11's (about 40 ton capacity). It has 250 retail outlets with connections to over 4,000 cities across India. DHL has 20 service centers and operates a fleet of 250 vehicles. It has 43 carrier routes. Lufthansa operates 14 air-freighter movements per week with cargo shipped through Frankfurt, Munich or Koln. This is in addition to the 14 passenger aircraft movements on which cargo is also carried (8-13 tons on 747s). All the major carriers are increasing their flights and thus their air freight capacity. The market is now served by many airlines and the situation is very competitive, Table 36.

180. The cargo carried by Indian carriers has remained relatively stable over the last 15 years; about 50 percent of the cargo is domestic traffic. Their share of the international market has fallen to about 14 percent. The growth in private Indian airlines, such as Jet, and their move into international operations may begin to reverse this decline.

181. The increasing number of operators serving India, and increased freight capacity, has resulted in competition. In 2004/5, rates of US\$2.5/kg were being quoted for European destinations. In early 2006, it was reported that cargo capacity had increased by about 25 percent and new carriers were quoting freight rates 10 – 15 percent below established

operators. Rates to Europe had fallen to Rs75/kg – Rs.95/kg. The rates are most competitive on the routes with the greatest additional capacity, i.e. London and the Far East. Rates fluctuate quickly with market demand: in May, 2006, a sudden drop in cargo led to rates on Chennai – New York falling Rs.140/kg → Rs.100/kg (min. 500 kg), and Gulf carriers were offering rates as low as Rs.60/kg to any point in Europe.

182. The Airports Authority of India (AAI) operates the cargo terminals. This was originally because of the relatively small volume of cargo and the need to consolidate the activity. This is no longer the case and there are delays due to peak demand and congested storage in some of the airports. While there has been some outsourcing of handling activity, and some handling by the airlines, the responsibility remains with the AAI. The situation is changing. The privatization of Indian airports began with the amendment to the AAI bill in 2003 which allowed for the transfer of operations and management to private parties through a long term lease. The bill also excluded private airports from AAI oversight other than for security and air traffic control. Both Delhi and Mumbai have now been concessioned to private consortia. The private sector is beginning to invest in other airports and GOI considers that this should be the model for the future.

183. At the four major airports, there is web based EDI with its trade partners including airlines, customs house agents, banks, and IATA agents. This provides track and trace facilities. Most cargo is booked through agents rather than direct with the airlines because the latter do not have the authority to clear the cargo. The airports, so far, lack bonded warehouses and do not allow cargo agents to establish warehouses on the airport. However, there is relatively little consolidation of shipments; when required it is undertaken by nominated forwarders. Some larger agents will also provide consolidation and trucking, but, in general, their role is limited to cargo booking. About 60% of the agents use ICEGATE,

Table 36: India Air Cargo: Airlines

	Delhi	Mumbai	Total
Air India	7.0%	17.2%	12.3%
Singapore	8.3%	8.3%	8.3%
Lufthansa	11.2%	5.1%	8.1%
Emirates	4.6%	7.1%	5.9%
British	5.7%	4.4%	5.0%
Korean Airlines	5.1%	4.0%	4.5%
Air France	5.6%	2.7%	4.1%
Eva Airways	3.1%	4.5%	3.8%
Cathay Pacific	3.6%	3.7%	3.6%
Etihad	2.6%	3.3%	3.0%
Federal Express	1.7%	3.3%	2.5%
China Airlines	4.8%	0.0%	2.3%
Thai	2.1%	2.5%	2.3%
Other	34.7%	33.9%	34.3%

the computerized customs clearance system. The airlines were slow to link into the system, which would electronically issue the carting order, because it used a different format to the industry standard, SITA.

184. All export cargo is scanned, so there is no 24-hour cooling period. The scanner is provided by the AAI (at a cost of Rs.750/ton) but the operation is supervised by the airlines. The larger exporters can use the green channel. The risk assessment is based on destination rather than cargo. Even for the normal clearance, only 1-2 hours are required for exports, but cargoes typically remain in the warehouse 24-48 hours because of the lack of capacity. Imports require longer, typically 2-3 days, but with pre-clearance this can be reduced to one day.⁶² They are first checked against the airline's IGM and then transferred to the warehouse for clearance. The shipper or his agent must do the clearance. The agents generally have a relationship with a customs house agent (CHA).

1.7.3 Nepal

185. Unlike elsewhere in South Asia, international air freight has fallen in recent years, declining from 17,000 tons in 2000 to about 11,000 tons in 2005, Table 37.

Table 37: Tribhuvan International Airport: Air Freight
(tons)

		1991	1998	2000	2002	2004	2005
International:	Import	n.a.	n.a.	10,500	8,000	7,100	6,300
	Export	n.a.	n.a.	6,500	4,700	5,700	4,800
	Total	14,300	13,900	17,000	12,700	12,800	11,100
Domestic:	Loaded	n.a.	n.a.	2,300	2,600	1,800	2,400
	Unloaded	n.a.	n.a.	200	200	500	300
	Total	300	1,000	2,500	2,700	2,300	2,700

Both imports and exports have declined. Domestic airfreight has remained relatively stable. Despite the low tonnage, one study reported that air accounts for about a third of Nepal's export value.

186. Nepal is served by a limited number of passenger services. With the exception of a weekly flight to Europe, the links are regional; daily flights to India and Bangkok and less frequent services to the Gulf, China, Malaysia/Singapore, etc. Air cargo to/from Europe, the main market, has to be routed through a hub airport, increasing the cost and lengthening the transit time. Freight rates to Europe are substantially higher than from Mumbai or Delhi, rates of around US\$3.50/kg are quoted for European destinations and US\$5.50/kg for New York. Transit times vary in the range of 3 – 5 days.

1.7.4 Pakistan

187. Pakistan's air freight sector is approaching 300,000 tonnes with international shipments accounting for about 80 percent of the traffic⁶³. Air exports, over the past ten years, have been growing consistently at just under 7 percent a year, twice the rate of imports. The domestic air transport market has been growing at just under 4 percent, slightly faster than the rate for imports, Table 38.

⁶² A report of MOCA in 2006 indicated that only 19% of import cargo had a dwell time of 2 days or less for 19%, and 43% of cargo had a dwell time of > 5 days.

⁶³ The domestic flow is 50 percent of the domestic cargo recorded as handled at the airports – the same cargo is recorded twice, when loaded and then again when unloaded.

Table 38: Pakistan: Air Cargo
(‘000 tonnes)

	Financial Year						Annual Growth
	1996	1998	2000	2002	2004	2005	
Total traffic	171	181	186	197	249	273	
Domestic	40	40	38	41	49	56	3.8%
International	131	141	148	156	200	217	5.7%
<i>Export</i>	80	93	101	108	145	147	6.8%
<i>Import</i>	51	48	47	48	55	70	3.4%

188. Karachi is Pakistan’s main airport but significant levels of both domestic and international cargo are handled at Islamabad and Lahore, Table 39.

Table 39: Pakistan Air Cargo: Airport Shares

Airport	-----Air Freight Handled-----		
	Domestic	International	Total
Karachi	47%	58%	54%
Lahore	29%	24%	26%
Islamabad	17%	13%	14%
Peshawar	2%	4%	4%
Other	4%	0%	2%
Total	100%	100%	100%

Karachi handles almost 60 percent of international freight and 50 percent of domestic freight. Lahore handles a quarter of the freight and Islamabad 15 percent. Private investors have recently constructed a new international airport at Sialkot to improve air freight connections to this important manufacturing area but the results have yet to be reflected in the air freight statistics.

189. Pakistan International Airlines (PIA), the state-owned airline, carries about half the total air freight, all domestic traffic and just over a third of international traffic, Table 40.

Airlines from the Gulf and the Middle East, primarily Emirates and Saudi Airlines have the second

Table 40: Pakistan: International Air Freight

Airline	‘000 tons	Market Share
PIA	81	37.3%
Gulf/Middle East	69	31.8%
Europe	23	10.6%
SE Asia	18	8.3%
Freighter	12	5.5%
Other	14	6.5%
Total	217	100.0%

largest share of the market. Most of PIA’s traffic is carried as belly cargo on scheduled flights but it also charters three Airbus freighters (40 ton capacity) to provide additional capacity⁶⁴. They run a scheduled service, two under a load sharing agreement with Lufthansa. Additional freighters may be leased during the peak season to carry fruit to the UK.

190. The main air imports are project cargo, equipment, and consumer goods shipped from the UK, Europe and increasingly China. Shipments of IT and telecommunications equipment from Europe have been significant in recent years. The main export commodities are fruit, textiles and garments, and surgical instruments (about 60 percent of export cargo is mangoes shipped to Europe). Karachi handles most of the fruit exports while a large proportion of the garments, leather and surgical equipment is shipped from Lahore. There are relatively few shipments for/from the Gulf because of the frequent service and short transit times of feeder ships.

191. Freight rates to Europe and the US are about US\$1250/ton and US\$2000/ton. Rates are about 15 – 30 percent higher than from Mumbai, depending on the type of cargo and volume, but well below the rates quoted from Bangkok or Shanghai. Cargo capacity from Pakistan is substantially lower than from

⁶⁴ PIA’s belly cargo capacity has been reduced by the EU’s decision to prohibit the use of PIA’s older planes, the 747s, on routes to Europe.

India; Mumbai, for example has 300 percent more capacity on the route to Frankfurt than Karachi. Encouraging more international passenger operators to serve Pakistan would also assist in providing additional freight sector capacity.

192. Airport operations are reasonably efficient although import clearance times are slow. Outbound cargo generally requires a 24 hour cooling period but the time for perishables and cargo from known shippers can be reduced to 12 hours with scanning. Karachi has recently acquired two new scanners which provide higher resolution. The new computerized customs clearance system has yet to be modified and applied to air cargo despite the fact that the electronic cargo documentation from airlines is normally much superior to ocean freight.

ANNEX 2. INTER-REGIONAL TRADE: THE CUSTOMS SECTOR

2.1 The Macroeconomic Context

193. Customs, in any country, undertake a number of functions and roles. There is the revenue function, collecting duties and other trade-linked taxes; Customs has to ensure that goods are classified appropriately, valuations are accurate and the correct levels of taxation are collected. Customs are expected to protect countries from prohibited or restricted goods, generally those with morality or security implications. In some countries, Customs implement trade restrictions to protect domestic industries/production from foreign competition. Lastly, Customs has a trade facilitation role, ensuring that foreign trade is accomplished efficiently and cost-effectively. The relative importance of these roles varies from country to country, and over time, depending upon the relative importance of customs revenue, openness to trade, etc.

194. Until the 1990s, the Customs' regimes in South Asia were focused on the revenue collection and trade protection functions. These roles accorded with the economic priorities: Customs' revenue was a crucial part of government finances and economic policies were directed toward the protection of domestic industries. Trade promotion, through streamlined procedures, played little role. In such a context, complex, cumbersome and costly customs and trade procedures could be sanctioned as long as they achieved the revenue and protective objectives.

195. Macroeconomic policies have changed and the economies have become much more open, tariffs been lowered, and the relative importance of Customs revenue has declined, Table 41.

Table 41: South Asia: Trade Tariffs and Revenues

	Bangladesh	Bhutan	India	Pakistan	Nepal
	Average Applied Tariff Rates (%)				
1990	94.0	n.a.	81.8	64.8	n.a.
1995	26.0	21.0	41.0	50.1	11.0
2000	21.2	15.4	32.7	23.6	14.2
2005	16.8	22.2	16.0	14.3	14.7
	Taxes on International Trade as % of Government Revenues				
1995	n.a.	n.a.	24	24	26
2003	25	n.a.	15	9	23

The reductions in average tariffs levels, since 1990, have been very striking in the larger economies and there has been increasing acceptance of foreign competition in many, though not all, sectors. Customs revenue remains important to public finances, but has declined in relation to other sources – the revenue from the sales of goods remains vital but the taxes are raised on both domestic and imported items (excise, general sales taxes, etc).

196. The promotion of foreign trade and its facilitation, as a means to increase economic growth, have assumed greater importance. However, the complex and cumbersome manual systems, with numerous steps and signature clearances have provided an ideal environment for rent-seeking and there may be strong vested interests to maintain them. There may be tension between the public interest to simplify, streamline and reduce clearance times/costs and the private interests to maintain complexity.

2.2 Customs Reform In South Asia

197. The spread of computers and information technology has provided the tools to streamline customs procedures and facilitate the customs process. Customs computerization has been proceeding, in some countries, since the late 1980s, but the impacts have only become evident in the last few years. All the countries have introduced computer-based customs systems. Afghanistan⁶⁵, Bangladesh and Nepal have adopted UNCTAD's ASYCUDA; Bhutan, India and Pakistan have developed domestic systems. These different approaches may complicate cross-border, computer-linked cooperation.

198. There are two broad approaches to customs computerization: (a) re-engineer the processes and procedures at the same time as computerization; or, (b) computerize the existing systems. The adoption of ASYCUDA necessarily requires some re-engineering, including documentation based on the UN's Key Layout. Computerizing an existing system may convert a sub-optimal and cumbersome manual system to a sub-optimal and cumbersome computerized system. The Indian system does not have a Single Administrative Document but separate forms for imports and exports, with different formats depending upon different free trade agreements and different tax exemption and rebate schemes for exports. But, the computerized manual system can still provide the basis for very substantial improvements in clearance times/costs as well as reducing the personal interaction between traders or their agents and individual customs' officers, the nexus for informal payments.

199. The proliferation of free trade and other preferential trading agreements together with frequent tariff exemptions for particular commodities complicates the customs function and the customs systems, irrespective of whether computerized or manual. Different duty rates, different rules of origin and rates of domestic value-added, negative lists, etc. add complexity. Frequent changes have to be made to accommodate the evolving trade relations within the region.

200. In general, South Asia is still perceived as performing relatively poorly. The situation is improving, however, and South Asia seems to be catching up, in some areas, and even sometimes moving ahead of East Asia, Table 42.

Table 42: Logistics Provider Reports on Customs
(% of respondents)

	EAP	SAR	OECD
Imports cleared and delivered as scheduled	40	32	88
Exports cleared and delivered as scheduled	83	62	95
Customs clearance is a transparent process	21	33	79
Electronic submission of Customs declarations	33	50	77
Expedited clearance for highly compliant traders	41	57	58
Positive change during the last three years in:			
Customs clearance	40	60	68
Other border procedures	30	30	44
Regulatory regime	25	28	37
Governance/corruption	26	18	37
Overall business environment	44	64	53

Source: Logistics Perceptions Survey

⁶⁵ Afghanistan has had largely to reconstruct its customs administration, after the years of civil war/strife, and is presently in the process of providing the physical and communications infrastructure necessary, together with the introduction of ASYCUDA.

In almost every dimension, the OECD countries score much higher than either East or South Asia; the relatively low scores on dimensions like improving governance or corruption, may simply reflect little room for major improvement. East Asia is perceived as having more reliable clearance, but South Asia is seen as ahead in the use of IT and green channels. South Asia is also seen as having moved forward in both customs clearance and the overall business environment, but had less positive change than East Asia with respect to governance and corruption. Rather more logistics providers (though still a minority) thought that South Asia's customs clearance procedures were transparent.

201. The perceptions of the clearance process within South Asia show marked differences between some of the countries, Table 43.

Table 43: South Asia: Customs Clearance

	Customs Clearance	Cargo Inspection	No. of Agencies	
			Import	Export
India	2.4 days	25%	2.4	2.9
Pakistan	2.4 days	10%	2.9	3.2
Bangladesh	4.1 days	31%	2.3	2.0
Nepal	1.4 days	12%	4.3	5.3
Afghanistan	3.8 days	100%	3.3	2.3

Afghanistan performs poorly but this is hardly surprising, given the circumstances. Nepal is seen as having relatively fast clearance and low rates of inspection in spite of having the highest number of border agencies involved in the trade process. India and Pakistan show rather similar scores, except for inspection rates. Both countries are seen

as providing a better service than Bangladesh.

202. All countries are moving in the direction of customs reform but the reforms reflect economic priorities. Streamlining the procedures at the main trade gateways is the primary focus. This has important implications for intra-regional trade. Higher priority may be given to export procedures and those for temporary imports for export-oriented sectors. The streamlining of trade procedures may proceed faster than those for the rebate of duties and taxes.

203. It is important that the impacts of reform are monitored to ensure that the expected results materialize. In view of the vested interests, there is always a danger that the streamlining of some procedures may be accompanied by the introduction of others. One powerful feature of computer based systems is their ability to monitor performance. Customs should be able to produce regular monthly reports on average clearance times. The systems should capture the time from lodging the declaration to the release of the cargo; this information can be combined with other data on dwell times to ensure that the time required for customs activity is not increasing.

204. Customs managements need to establish performance targets, reflecting what is achievable through on-going reforms and these should be periodically updated as further reform takes place. Typical targets might include:

- 90% of the cargo documents processed electronically
- The green channel used by a majority of the cargo
- 5% sampling rate for the Green Channel
- 90% of shipments complete customs clearance in less than
 - four hours for green channel
 - 48/12 hours for ocean borne imports/exports
 - 6/4 hours for airborne imports/exports
- Imports requiring testing to be released under bond and tests completed in 72 hours

The systems can support efforts to professionalize Customs as they can provide information on the performance of individual inspectors in terms of their activity and the anomalies they identify.

2.3 Bangladesh

2.3.1 Reforms Achieved

205. Customs reform in Bangladesh has been proceeding since the late 1990s and important advances have been made:

- Simplified Administrative Document, using the UN Key Layout
- Simplified tariff based on the Harmonized Code (8 digits)
- Adoption of ASYCUDA++ as the basis for the customs process
- Red and yellow channels introduced at Chittagong, the Dhaka ICD and Benapole (though it is not clear whether this is effective)
- Pre-shipment inspection for commercial (non-government) imports

206. Reforms were directed, during 1999- 2000, to streamlining procedures for exports and the temporary import of fiber and fabrics for the garment sector. The results have been impressive:

- Temporary imports: clearance steps were reduced by about two-thirds, signatures reduced to eight, and the clearance time cut from more than a week to between one and two days
- Exports: clearance steps were reduced by 75 percent and clearance time reduced to one day.

Direct Trader Input has also helped simplify the process for exports and temporary imports. The computer system facilitates valuation and identifies the cargo for inspection, while limiting contact with customs officials. The fewer processing steps and reduced personal interface has reduced the level of informal payments. It was reported in 2004 that payments for exports had fallen from TK5000 per shipment to TK1200 – 1500, lower than the speed money paid to the dockworkers.

207. There have been some improvements in import procedures. Pre-Shipment Inspection (PSI) for non-governmental imports has helped reverse a substantial increase in informal payments. It simplified inspection procedures and reduced the average clearance time from ten to five days; the percentage of import consignments requiring more than a week for clearance has fallen to <20 percent. Despite the PSI and the accuracy of the Clean Report of Findings, Customs continues to inspect a significant sample of shipments and up to 100 percent of the packages. Formerly, there was 100 percent inspection of shipments, but only 10 percent of the packages. The threat of inspection is enough to maintain informal payments. These are much higher for imports than exports and tend to be related to the value of the cargo. However, they are not as costly as the procedures that they avoid.

208. Despite the improvements, Customs still requires excessive documentation, especially for imports, and the supporting documents must be submitted in paper form. Most of the documents are standard for international trade but there are additional local requirements. The reforms have been more successful at the Dhaka ICD than at Chittagong; clearance is faster and informal payments lower, and many importers are willing to accept the delays and costs associated with transporting their containers by train to the ICD. Customs clearance at the land border stations seems largely unaffected by the reforms and remains a major obstacle to intra-regional trade (See Section 6.2).

2.3.2 Further Reform Required

209. The computerization process is being extended to cover the processing of the shipping manifest and normal imports, as well as to the port of Mongla. The process needs to be completed and further simplification of documentation introduced⁶⁶. Computerization needs, for example, to be extended fully to the land border customs stations together with effective communication between these stations and

⁶⁶ The recent reduction in the time and documentation required for imports indicates that important changes have now been implemented.

the center. Risk management and effective green channels need to be introduced to allow faster clearance for approved traders, together with ex-post audit and validation procedures, especially as commercial imports are already subject to PSI.

210. Further reforms are needed to decongest Chittagong, moving clearance away from the port, and reducing the stripping of containers within the port. Off-dock container yards are restricted to export containers; procedures are needed for moving import containers to these yards. Similarly, truck-based ICDs need to be established together with simplified procedures to move uncleared containers to them. The objective should be to move clearance away from the congested ports and border crossings to either ICDs or the premises of the major importers/shippers.

211. Bangladesh’s garment exports are restricted, in unit value, by the long order cycles. These could be significantly reduced if the inputs were locally available, thus eliminating input shipments for each production order. Individual manufacturers are unlikely to finance large inventories of inputs but there may be entrepreneurs willing to import in bulk and sell ex-store, if allowed to pay duties when the inputs are taken out of store rather than at the time of import.

212. Reform of the customs service, as well as the customs procedures, may well be necessary, to ensure continuity, the right size of staff and improved incentives to replace the informal payments which hopefully will diminish as the systems are streamlined and contact with traders reduced.

2.4 India

2.4.1 Reforms Achieved

213. Very significant reforms have been made during the last decade. Computerization was introduced into customs in 1987 and EDI in 1995. The major change has been the introduction of ICEGATE for the electronic filing of customs declarations, in 2002. During the same period, the need for import/export licenses has been greatly reduced though they are still required for items on a negative list and for exports subject to quota restrictions. Importers/exporters have to have a registration number from the Director-General of Foreign Trade and have to be registered with the Income Tax and Sales Tax Departments. ICEGATE has reduced substantially the number of steps in clearance:

- o Imports, the steps have been reduced from 18 → 6
- o Exports, the steps have been reduced from 15 → 5

While the steps have been reduced and the process simplified, extensive documentation is still required. ICEGATE has eliminated multiple copies of the customs declaration but multiple copies are still required for the supporting documentation, Table 44.

214. The documentation varies with the modality under which the goods are exported; each requiring a slightly different documentation. There are six primary export modalities: Under Bond, Duty Entitlement Pass Book (DEPB), Duty Drawback (DRB), Duty Free Replenishment Certificate (DFRC), Duty Exemption Scheme (DES), and Duty Rebate Procedure (DRP).

Table 44: India Export Documentation

Export Mode	Documents	Copies	Signatures
Land	17	67	330
Sea	14	74	296
Air	7	42	168

215. There are also “general trading” arrangements for cross-border trade with Nepal, with the required documentation varying according to whether amounts are greater or less than Rs.25,000. This is not a simple trade regime. In addition, there are the different Free Trade Agreements and various arrangements for tax exemptions. It is not surprising, therefore, that the format of the customs

declaration is cumbersome, running to several pages. It is also necessary to update constantly the system to include the large number of duty exemptions granted by GOI.

216. ICEGATE is now operating at 33 major gateways, including all the major air and sea ports as well as the two most important land customs stations, Petrapole (border with Bangladesh) and Raxaul (border with Nepal). Declarations can either be submitted via the internet or at service centers attached to the customs offices. About 1/3 of declarations are submitted via the internet but they account for the vast majority of trade. Customs agents have been reluctant to use the internet because of earlier problems in amending declarations, in the event of errors. Different versions of ICEGATE operate at the sea and airports, and electronic filing is much higher at the airports, about 70 percent of shipments. The report of the Inter-Ministerial Group on Customs Procedures, reported that some 250,000 importers/exporters were using the system with 4.5 million declarations processed annually.

217. ICEGATE is used for the electronic submission of the shipping General Manifest and by the airlines for the submission of airway bills. It supports messaging with the shipper and the Customs House Agent (CHA) for cargo declarations, with shipping lines and ships agents for the submission of the General Manifest, and with the ports and terminal operators to monitor container movements. Despite these capabilities, it is exclusively a system to support customs' activities and not a port/trade community system as in Singapore or Mauritius.

218. ICEGATE is not yet a paperless declaration system. A hardcopy of the declaration is still required when the cargo is released by customs. The customs inspector and trader/representative must still sign the declaration. The supporting documentation must also be provided at this time unless it had been requested earlier. The system has, however, led to considerable benefit and cargo clearance times have dropped significantly. Customs procedures are no longer the main cause of delay, Table 45.

Table 45: India: Container Dwell Time June 2005
(Days)

	-----Sea Ports -----			Airport
	Mumbai	Nhava Sheva	Chennai	Delhi
Entry to submission of Bill of Entry	7.8	8.2	6.1	3.2
<i>Submission to duty assessment</i>	1.6	1.6	2.6	0.9
Assessment to payment of duty	3.5	3.3	{ 2.5	{ 1.7
Payment to goods' registration	2.8	2.2		
<i>Registration to "out of charge"</i>	0.2	0.1	0.9	0.3
Total	15.9	15.4	12.1	6.1
<i>Customs' days</i>	1.8	1.7	3.5	1.2
<i>Customs' responsibility (%)</i>	11.3	11.0	28.9	19.2

219. Dwell times remain very long, even at Delhi International Airport, but the time required by Customs has been reduced. At Mumbai and Nhava Sheva (handling 60 percent of India's container traffic), Customs now take less than 2 days, only 11 percent of the total dwell time. Substantial reductions in dwell time are necessary, and customs clearance times could still be reduced further.

2.4.2 Further Reform Required

220. ICEGATE has been developed to provide a fully integrated computerized customs system; it is still being implemented in terms of both its functionality and coverage of customs' stations. The main areas where the rollout has still to be completed include.

221. **Risk Management System (RMS)**: the system has been designed but has yet to be rolled out fully. The introduction of RMS was one of the key recommendations of the Inter-Ministerial Group. Limited green channel facilities for accredited traders have existed but there is still a document review

and random inspection at the discretion of the inspector. When RMS is fully operational, it is anticipated that 60 – 70 percent of shipments will be cleared through the green channel. The RMS should also reduce the burden/time of declaration queries. Six to seven percent of declarations are queried but only 10 percent of these queries actually reveal problems. RMS will determine whether the queries require a response and this should reduce clearance times significantly. Green channels can reduce clearance time but customs is often not the only inspection required. At Mumbai airport, about 30 percent of the shipments move via the green channel, but security requires that the markings on all packages are checked and this takes as long as the normal customs inspection.

222. RMS was introduced at the Mumbai air cargo complex in late December, 2005 and progressively rolled out to the major sea ports during 2006. It was reported that RMS would start at Nhava Sheva on February 24, 2006; in September, the Commissioner of Customs, Kochi, reported that they would shortly introduce RMS and, in November, the Chief Commissioner, Chennai zone, reported that RMS had been introduced at Chennai. The initial reaction of operators at the air cargo complex was muted; one CHA reported that the impact was minimal as other facilities, like the green channel, were already available which had improved document processing. However, one senior customs appraising officer remarked.

“There is nothing here to manage our risk. We are all supposed to risk manage as per what the computer says”⁶⁷

This, presumably, was one of the main objectives of the RMS.

223. **Completion of conversion to electronic filing:** a hard copy of the customs declaration is still necessary as it has to be signed by both customs and the trader. The acceptance and roll out of electronic signatures will remove this need and further reduce the personal interface between customs and traders. Customs have been authorized to issue electronic signatures and implementation is expected shortly. The payment of customs duties has been partially expedited under the system, but payments are confined to a single bank. There is the need to expand the provision for electronic banking to cover the working hours of customs and increase the number of banks. The Chief Commissioner, Chennai, reported in November, 2006, that they had plans to introduce electronic payment of customs duty and had the facilities to transact 99.5 percent of documents electronically.

224. **Completion of ICEGATE roll-out coverage:** the system has still to be rolled out to the less important stations, and provisions made for reliable power and communications. The capability of ICEGATE at the land border stations appears patchy. At Raxaul, the system only covers India’s exports to Nepal, and, at Benapole, frequent power outages mean that the manual systems are often used. The most serious concern of many, as expressed by importers at the Mumbai air cargo complex, is that neither the trade nor the customs staff are equipped nor trained to handle computers.

225. With RMS and complete conversion to electronic filing, India will have made the transition to a modern customs regime, compliant with the principles of the Kyoto Convention. Once ICEGATE is fully operational, greater use may be made of the procedures for the pre-clearance and pre-payment of customs duties, which are available but still not widely used.

226. **Green channel direct delivery:** the RMS will facilitate the green channel facility; it should be accompanied by provisions to allow the direct delivery of containers from the quayside. Presently, all containers are moved to off-dock container yards for clearance, irrespective of whether they will be cleared through the green channel. Direct delivery would reduce dwell time, by as much as two days, and free space in the stacking areas. The ports would need to improve their landside access.

⁶⁷ Economic Times, February 20, 2006

227. **Recommendations of the Inter-Ministerial Group:** the extensions of the reforms, detailed above, were recommended by the Inter-Ministerial Group. In addition, the Group made specific suggestions to improve performance at the major gateways:

- Simplified procedures for the transshipment/movement of containers between the Gateway port and the container freight station (CFS) or ICD
- The waiver of bank guarantees for the inland movement of containers, under through bills of lading, for shipping lines moving >1,000 TEU/year (reduced from 5,000 TEU/year).
- Bonds/guarantees on the container boxes should no longer be required
- LCL containers should be allowed to move between CFS for stuffing
- Simplified EDI based bonding system to cover storage and transshipment to ICDs
- Customs staffing for 24/7 operations at 13 ports as well as for other official agencies involved in the clearance of foreign trade, e.g. health, safety, environmental and phytosanitary.
- Simplified procedures for the expeditious sale of uncleared cargo, by e-auction.

The Group saw the need to make the other relevant official systems compatible with the Customs EDI: e.g., the licenses issued by DGFT, under various export schemes, should be in a format compatible to ICEGATE. More generally, the Group recommended the development of the present systems, which are entirely customs focused, to a full port community system. DGFT is moving to electronic processing: after October 1, 2005, data relating to shipping bills (for Duty entitlement Passbook scheme) from the 23 EDI ports should be exchanged between Customs and DGFT on a digital platform. DEPB applications would only be accepted via the DGFT website with a digital signature and license fees should be submitted through the Electronic Funds Transfer mode.

2.5 PAKISTAN

2.5.1 Reforms Achieved

228. **PRAL:** The efforts to improve customs performance have accelerated over the last 10 years. Pakistan Customs, through a contract with Pakistan Revenue Automation Ltd (PRAL), began to computerize in 1995. It is a rather cumbersome system with the customs agent preparing the documentation using the PRAL software, submitting both an electronic copy and a hard copy together with supporting documents. These are checked by computer and reviewed by PRAL personnel prior to Customs submission to Customs; this duplicates the role of customs who then review the documents.

229. The major reform has been the introduction of the Goods Document (GD), a Single Administrative Document, based on the UN Key Layout for imports, exports and transshipment cargo. The GD replaced about 10 different forms. Supporting documentation is still required, Table 46.

Table 46: Pakistan Customs Clearance: Supporting Documentation

Imports	Temporary Admission	Duty Drawback
Bill of lading	Bill of lading	Bill of lading
Delivery order	Packing list	Packing list
Packing list	Invoice	Application form
Invoice		F3 and Annex A
Copy of sales tax return		Rebate payment order
		Bank credit advice
		Customs certified advice
		Calculation sheet

The PRAL system was expanded, following a review of procedures in 2000, to include:

- Assignment of inspection officers
- Selection of specific packages to be examined
- Requests for duty drawback, calculation of duty drawback and rebate payments.

A green channel was established for accredited traders, based on their company profiles. These companies are subjected to random inspection with sampling rates of approximately 10 percent, with the other 90 percent of shipments passing without inspection.

230. A survey of cargo clearance times was undertaken in June 2005, covering 18,774 Bills of Entry worth Rs. 45 billion (US\$750 million), Table 47.

Table 47: Pakistan: Customs Clearance June 2005

Cargo Cleared	Days Required for Clearance	
	Shipments	Value of Cargo
20%	1	1
50%	2½	3
75%	5	8
90%	19	19

The faster clearances were accomplished by well organized companies with accurate information on their shipments and unlikely to misrepresent the cargo details or valuation. The median time for clearance is about 3 days, but there is a considerable tail in the distribution. Less than 10 percent of

shipments are pre-cleared, reflecting perhaps the generous free-time allowed.

231. Many declarations are unreliable. There is still a culture, especially among the smaller importers of consumer goods, of under-declaring cargo value, often by 50 percent. The traders do not dispute subsequent revaluation by customs and will then pay the assessed duty without protest. There is little penalty for such activity; importers are very rarely taken to court for such mis-declaration. The incentives are all for misrepresentation: significant benefits if it succeeds, little/no penalty if it fails.

232. A green channel exists but processes only about 20 percent of imports. The number of accredited users is limited – 50 traders in Lahore, for example. Customs still rely largely on 100 percent physical examination. Such high rates of examination reflect the unreliability of declarations, the belief that examination helps to detect under-valuation and the absence of an effective mechanism for catching fraud and incorrect declarations after cargo release.

233. **PaCCS:** The PRAL system has limitations which restrict its potential to become a fully integrated customs clearance system:

- The programs are written in computer languages which are no longer commonly used and thus restrict its integration with other systems
- The system still requires hard copies of the declaration, it is not a paperless system
- The declarations are still manually checked and exceptions reviewed by committee
- Inspectors still decide on which shipments to inspect

234. Pakistan Customs, under its program for Customs Administrative Reform (CARE), has introduced a new computer based system to extend the automation of declaration processing as well as providing coordination between the Customs, the shipper/consignee and the banks. The system is a comprehensive approach to the declaration process. The Pakistan Customs Computerized System (PaCCS) was initially piloted at the Karachi International Container Terminal (KICT). The system is based on Microsoft which should facilitate linkage with the systems of other trade process participants.

235. Procedures have been altered to make them consistent with the Revised Kyoto Convention, promoting sampling and risk management though not yet the full post-audit approach. The strategy promotes universal self-assessment with payment at the time of filing, subject to ex-post audit, but the transition from the current system is expected to be gradual. A recent analysis of customs transactions has estimated that the reforms will reduce customs-related steps for exports from 53 → 5 and the

number of parties involved from 19 → 3. The reductions for imports will be less impressive as previous reforms had already achieved substantial reductions.

236. The PaCCS pilot at KICT was successful:

- The electronic advance lodging of the manifest has almost eliminated pre-customs delays
- A paperless environment is gradually being introduced
- The personal interface between Customs and importers has been significantly reduced
- The feasibility of Direct Trader Input was demonstrated, reducing the need for customs agents

The system was extended to the other container terminals (PICT and QICT) and was being introduced at the Lahore Dry Port in early 2007.

237. PaCCS has shown itself a suitable environment for integration between different port operators' systems and thus has been an efficient test-bed for an integrated Port Community Network. The impact at KICT was impressive: dwell times fell from 7.7 days in 2004 to 4 days, and customs processes fell from 4.1 days to less than 5 hours. Staffs often try to clear cargo the day that the declarations are lodged. It takes rather longer at Lahore Dry Port, where there is 7 days of free time before demurrage starts. PaCCS also includes risk management and the rate of examination has fallen to as little as 4 percent, with a claimed detection rate of 25 percent from examinations.

2.5.2 Further Reform Required

238. While the PaCCS has been successful, it is only a pilot. It is very successful for the clearance of containers through the major ports but these are a small fraction of all shipments entering/exiting Pakistan. It shows what can be achieved by an integrated customs clearance system but, to replace fully existing processes and procedures, the system has to be extended both geographically and functionally.

239. **National coverage:** Reports suggest that the PaCCS faced overloading when handling the declarations at the container terminals. To handle the complete customs function, the system must process 5 – 6,000 declarations/day rather than the 600 declarations at the container terminals. The scalability of the system has to be demonstrated and an alternative sought if PaCCS cannot cope with expected volume of customs' transactions.

240. **Enhanced functionality:** The present system has only limited functionality. It only covers full containers (FCL) and cannot handle containers with consolidated cargo (LCL) beyond initial reporting, or some commodities like liquids and scrap. It is designed for port clearance and would need to be modified for air-freight. It also does not encompass some major areas of customs activity:

- Customs functions: such as exemptions, licensing, partial clearance;
- Trade facilitation functions: such as periodic declarations, deferment of duty, transit guarantees, ATA carnet, electronic payments and payment management systems, consolidated declarations or payments;
- Enhanced customs controls: such as post release checks and management of quotas.

All would need to be added, if the system is to provide a complete integrated system. These additional functionalities would significantly increase the workload on the system. The CARE team identified 35 modules that would have to be introduced to satisfy the requirements of a comprehensive system.

241. **Risk Management Systems:** Customs has introduced RMS with the PaCCS, but the profiles are based on insight and/or external information. More formal and systematic processes are needed to collect data and develop risk profiles on the basis of the shipper, consignee, type of cargo, country of origin, declared values, etc. To develop and maintain the RMS, a separate risk management unit may be desirable. The effectiveness of the new systems relative to the previous 100 percent examination needs to be monitored.

242. **Post-clearance procedures:** Customs is working on developing post-clearance audits, essential for streamlined clearance, and is drafting relevant legislation, by-laws and guidelines. It is presently estimated that about one percent of importers will be audited annually. Post-clearance procedures should also include ex-post valuation reviews and documentation reviews.

243. **Procedures/penalties for misrepresentation:** While streamlined procedures are very desirable, the control and revenue functions cannot be ignored. Streamlining procedures can only proceed so far, if traders habitually misrepresent information. Presently, there is little sanction on such practices; the formal legal system is too slow, unwieldy and costly. In other countries, simplified administrative processes address such issues as repeated under-valuation, submission of improper documentation, etc. Imposing penalties on the clearing agent as well as the importer would encourage agents to insist that their clients provide accurate information. Some deterrence is needed to change the balance between the rewards and penalties for misrepresentation.

244. Overall, PaCCS has demonstrated the efficacy of an integrated computerized customs clearance system. Pakistan now needs to move forward with either this, or similar system, to include the full range of customs activities and complete coverage of the country. Perhaps it is an indication of the success of the system, in reducing the personal interface between traders and customs officials, that customs staffs often prefer to be stationed at offices still using the traditional approach rather than at the Karachi Collectorate despite its higher salaries.

245. As part of the NITCP, Pakistan has recently advertised⁶⁸ for expressions of interest to develop and operate, through a Public Private Partnership, a fully automated, nationwide, commercial community single window system. The system should encompass all stakeholders involved in international trade including importers/exporters, regulatory authorities, duty/tax collection authorities; logistics service providers, air/sea/land transporters, terminal operators and banks/financial institutions. The system will be financed through a charge on transactions. The successful implementation of such a system would be a truly major advance for trade facilitation in the South Asia region.

2.6 Afghanistan, Bhutan and Nepal

246. Afghanistan, Bhutan and Nepal are all landlocked countries whose main trade is with neighboring countries. They faced the problems of intra-regional trade or transit as well as domestic clearance. These issues are considered in other annexes. Landlocked countries usually have only land borders (some have lake or river). Coastal countries can decide to operate their port and customs systems 24 hour/7 day week to reduce delays. At land borders, operating hours are the lowest common denominator of two customs administrations. They are almost always closed at night and working hours to clear cargo are reduced to 9 hours, or less, and sometimes for fewer than 7 days a week.

2.6.1 Afghanistan

247. The country has had to recreate a customs policy, administration and infrastructure. It is being supported by several donors including the USAID, the EU and the World Bank. The work has been on-going since 2003 and promising results have already been achieved.

- A number (56) of the customs stations have been improved or rehabilitated
- Communications systems between the main border crossings and Kabul have been established
- Customs revenues have increased substantially, from US\$50/60 million in 2003 to US\$230 million in 2006, and revenues are now being transferred to Kabul.

⁶⁸ The Economist, February 24, 2007

- ASYCUDA is being installed, with assistance from UNCTAD and customs officials from Iran:
 - The transit module is operating on the main routes with Pakistan (Torkham-Kabul) and Iran (Islam Qala-Herat-Kabul) and is ready to be rolled out to the other collectorates.
 - In the seven months, May – December, 2006, 100,000 transit documents were issued and the recovery on commercial vehicles approached 100 percent
 - A Single Administrative Document has been prepared and is ready to issue
 - The pilot of full declaration processing was scheduled to begin in the Kabul Customs House in January, 2007, to be closely followed by Jalalabad and Herat
 - 90 licensed brokers and 135 traders have been trained on the Transit Module
 - A selectivity module is being developed for risk management but there is, as yet, no risk management unit to prepare the necessary risk profiles
- A modern Customs Law has been drafted and enacted, and subsidiary legislation and procedures are being drafted. 30 out of 42 procedures have been submitted for approval
- A customs training institute has been established

248. Truck release time at the Kabul ICD has been reduced from 18 hours (2003) to less than 8 hours (2006), and customs time reduced from 7 hours to 4½ hours. Customs time, for commercial trucks, at the border stations of Torkham and Hairatan now averages less than 40 minutes.

249. Despite these positive developments, there is still a long way to go and some key basic issues have still to be resolved. There has, for example, been little progress in clarifying the roles and responsibilities of the various government agencies at the borders and agreement between them (Customs, Commerce, Transport, and Interior) on the management of customs and transit facilities. There has been slow progress on the issue of enforcement.

2.6.2 Bhutan

250. A very high proportion of Bhutan's foreign trade is with India: 97 percent of exports and about 90 percent of imports. Bhutan and India are at opposite ends of the spectrum with respect to the importance of intra-regional trade. Bhutan Customs maintains a branch office at Kolkata which acts as a Liaison and Transit office for the limited volume third country trade which is routed through the port.

251. The Government of Bhutan has been undertaking a program to modernize and streamline its overall administration, including the extensive introduction of IT systems. This program has included customs reform and Bhutan is actively considering accession to the Revised Kyoto Convention and is introducing its basic requirements. Following two years of development and another two years to streamline the system, the Bhutan Automated Customs System (BACS) was taken over by the Customs Department in November 2004. BACS is now fully functional at 25 customs stations and is also used by the Department of Trade to issue import/export licenses. BACS consists of nine modules which for all customs administrative procedures. In January, 2005, a workshop was held for the clearing and forwarding agents of Bhutan (there are only 21 licensed C/F agents) to explain the system, install BACS on their computers, and train their staff in the use of the system. There does not seem to be the facility for direct trader input, and customs declarations which still have to be produced in hard copy for clearance.

2.6.3 Nepal

252. The Department of Customs operates 29 main customs offices and another 143 sub-customs office. Though the border with India is essentially open⁶⁹, the Trade Treaty designates 22 customs crossing points for bilateral trade and 15 crossings for third country traffic. Goods which are not prohibited and carry no custom duty can be traded anywhere along the 1754 km border. Informal trade may be at least a third of formal trade. There are six customs controlled crossing points into Tibet. About half of Nepal's trade (and 70 percent of its third country trade) is routed through Birgunj and almost 90 percent of formal trade is handled by just four customs stations. Most customs posts do not collect sufficient revenue to cover their staff costs. The smaller stations are restricted as to the size of the customs transaction and larger shipments have to use the larger customs posts.

253. Nepal is a member of the WTO and, over the last few years, has begun to streamline trade and customs processes. Quantitative restrictions have been abolished, import/export licensing eliminated and bonded warehouses and duty drawback schemes established⁷⁰. Nepal has adopted "Transaction Value" for customs valuation, even though it is not yet defined in the Customs law. Traders have the opportunity to appeal valuations to the Director-General of Customs. A Single Administrative Document, based on the UN Layout, has been introduced, a cumbersome foreign exchange control document eliminated, CIF/C&F terms deregulated and traders allowed to import on FOB terms.

254. ASYCUDA was introduced as part of a project to establish ICDs at Birgunj, Biratnagar and Bharairahawa. It was also introduced at Kathmandu international airport and has been extended to Mechi, Krsihnanagar, Tatopani (Tibet border) and Gaur offices, and soon to Sirsiya and Nepalgunj. While many smaller customs offices will not use ASYCUDA, almost 100 percent of formal trade will be processed through the system. It has improved revenue control and customs/foreign trade statistics but its impact on trade facilitation has been limited as several key modules have not yet been introduced.

255. Only the basic accounting modules were introduced. The selectivity (risk management), brokers and direct traders input modules were left to a later phase. Under a three year Customs Reform and Modernization Action Plan (2003 - 2006), the selectivity and risk management modules were to be introduced, together with time-bound clearance, simplification of procedures, SAD through electronic media, etc. However, the "near future" remains in the near future. The system still remains very document intensive with 15 documents for imports and 11 documents for exports. There are still three separate forms for Business Tax, Income Tax and VAT registration for both import and export.

256. It is reported that a risk management framework is in place, but not operating. 100 percent physical inspection is still the norm though sample checking is said to be increasing. The legal provisions and practices of post clearance audits are at the very initial phase. It is still mandatory to file the hard copies along with computer entry for customs clearance. The ASYCUDA entry is presently being compiled by the customs officials. An ADB assisted program to extend the scope of ASYCUDA is just starting. The broker module will be implemented by placing terminals in the brokers' office space inside the customs stations. There is no immediate plan to introduce Direct Traders Input.

257. One of the basic problems is the lack of a dedicated communication infrastructure. The border stations are not connected with the head office so the valuation database cannot be disseminated. The ADB project is expected to install a WAN system connecting the 10 main border posts with the head office in Kathmandu. Hopefully, when this is in place, the full benefits of a computerized customs clearance system will begin to materialize.

⁶⁹ Security concerns are beginning to impose formalities. On some routes, "Identity Cards" and "registration" systems have recently been introduced

⁷⁰ Recovering duty drawback rebates is said to be highly cumbersome with long delays reported (one estimate of 1 – 2 years, and another of 2 – 5 years) rather than the 60 days stipulated. It has also been reported that some have been given Five Year Government Bonds rather than cash refunds.

2.7 Customs Facilitators

2.7.1 Role of the Sector

258. Customs clearance agents, customs brokers, Customs House Agents (CHA) are the traditional intermediary between the trader and the customs authority. The industry has normally consisted of very large numbers of individual enterprises and small companies which contracted out for such services as warehousing and transport. In addition to their knowledge of customs forms and procedures, the basic attribute of the customs agent was to understand “the system” when, who and how much to pay. This could be complex: a Transparency International Diagnostic Study of Chittagong Port reported, in 2004, that bribes/tips had to pay at 37 different points in the process to achieve the clearance of import cargo. With computerized clearance and Direct Trader Input, this may be changing.

2.7.2 Size and Structure

259. It is difficult to estimate precisely the size of the sector, as it overlaps with freight forwarding. A report in 2003⁷¹, suggested that there were some 4,500 licensed customs agents in Bangladesh, handling 4 – 5 million transactions/year (about 1,000 transactions/agent), and 5 – 600 agents in Nepal, handling about 200,000 clearances/year (about 350 clearance/agent). A report on Bangladesh freight forwarding (South Asian Logistics, August 2006) suggests only 650 freight forwarders, and the Trade Promotion Center in Kathmandu lists only 49 forwarding and clearing agents. These sources may, however, only indicate the more formal sector, and not the licensed individuals sometimes, pejoratively, termed briefcase brokers. In Pakistan, there are some 450 forwarding and clearing agent companies registered in the association, but 275 approved customs brokers work at the Islamabad ICD and 670 at the Lahore ICD.

260. The size of the sector is related to the work available. Bhutan has only 21 licensed C&F agents, while there are over 200 members of the Calcutta Customs House Agents Association, 550 licensed agents in Chennai, and the Mumbai Customs House Agents Association has over a thousand members. Customs clearance is an industry with few barriers to entry and there is a large small business sector as well as some medium and larger firms which undertake customs clearance as part of a wider range of activities⁷². The structure mirrors the trading community: a large number of small traders, fewer medium enterprises and a comparatively small number of very large importers. The small clearing agents serve mainly the small trader sector.

2.7.3 Performance

261. Competition is high and margins have fallen and in some cases, as in Pakistan, shifted from a value to a transaction or a volume/value basis with a declining fee structure. The fees in India were fixed previously by GOI Customs; The Chennai Customs webpage shows a complete fee structure including Rs.50 for the first page of a Bill of Entry and then Rs.40 for subsequent pages. Fees are now market driven⁷³. Customs agents are moving into other links of the logistics chain and larger companies are now obtaining clearance licenses to be able to offer complete integrated services to clients. The agents have to become more technical with access to, and knowledge of the new computer systems. At the same time, DTI reduces the need for customs agents. There is some suggestion that there may be too many customs agents in some locations. It is reported that there are 275 approved customs brokers at

⁷¹ Customs Administration: Impediments to Trade and Investment, R. Filmer, FIAS

⁷² H. Jamnadas and Co., Mumbai, advertises a clearing department with 60 professional and experienced staff.

⁷³ The Chennai Customs website has not been updated for sometime, thus it does not include the 2004 revisions to the Customs House Agent legislation.

the Islamabad ICD, but only, on average, 20 declarations/day, and the 670 agents at Lahore have a market of only 400 declarations/day. A common worry, especially among the smaller enterprises is the impact of the new computer clearance systems. When ICEGATE was introduced in India one CHA Association noted that *“The jobs of CHAs and Customs clearing clerks are at stake”*.

262. Customs agents have to be licensed and generally have to pass an examination. In India, the requirements for licensing have been progressively raised: a minimum educational qualification was introduced in 1997 and this was raised in 2004⁷⁴. The qualifications for CHA now include:

- Educational qualification
 - CA, MBA or LLB, or
 - Graduate with diploma in customs clearance from a recognized institute, or
 - Graduate with at least three years experience in CHA work, or
 - Retired Group A officer in Customs service with a minimum of 10 years experience at Group A level
- Assets of not less than Rs.200,000
- Working knowledge of computers and computer systems
- Indian citizenship⁷⁵

Moreover, much of the actual work is assigned to assistants who may have permits but have not been certified.

263. The problem is not the initial qualification but the lack of future testing to ensure that agents have maintained their professional knowledge in a time of rapidly changing Customs legislation, processes and procedures. There are few sanctions for poor performance. In Pakistan, the legislation provides for the removal of the clearing license for unsatisfactory behavior but it is little enforced despite the commonplace misrepresentation by smaller importers and their clearing agents.

264. Ensuring the maintenance of professional standards is difficult, especially when there are large numbers of customs agents. In Bhutan, the Customs Department can issue an official circular requiring that all clearing agents send two staff to attend a training workshop on the new customs procedures/computer systems (January 2005). This is much more difficult when there are several thousand customs agents. The Pakistan Freight Forwarding Association organizes courses to raise professional standards but they are limited and not all customs agents are members of the Association.

265. The market may remedy the issue of poor performance especially if combined with more rigorous enforcement of sanctions on non-professional behavior. The complete roll-out of the new computerized clearance systems, to cover all trade and customs stations, will necessarily require customs agents to become computer literate, especially if the older manual procedures are phased out. It may also be desirable to raise progressively the entrance standards, as in India – there will, of course, be resistance to such change.

⁷⁴ Clearing House Agents who already had licenses were “grandfathered” under the new regulations.

⁷⁵ The citizenship requirement appears to be common throughout the region, e.g. only Bhutanese citizens can be licensed as a clearing agent in Bhutan

ANNEX 3. INTER-REGIONAL TRADE: SUPPLY CHAINS AND LOGISTICS

3.1 SUPPLY CHAINS IN SOUTH ASIA

266. As production processes become more fragmented, more components and inputs are outsourced, and increasing numbers of countries/companies compete, efficient, fast and low cost supply chains and high quality logistics are becoming ever more important in determining competitiveness. While cost remains a key factor, speed and reliability of supply are increasingly important in most industries and vital for products with limited shelf-lives because they are perishable or dependent on fashion. Slow and unreliable supply chains can exclude countries from the markets or confine them to low value segments.

267. The supply chains for many of South Asia's major exports are relatively simple but, even so, the logistics of importing inputs and exporting finished products can limit opportunities. Air freight means that, for long distance delivery, there is relatively little difference between countries and it is the quality of internal logistics and quality control that determines whether countries can compete in the high value segments of the global market. It is not the level/cost of air transport that allows Kenya but not India to supply supermarkets in Europe with flowers and green beans; rather, it is the organization of internal supply, collection, packaging and quality control.

268. This section summarizes the main characteristics of some selected supply chains in South Asia:

- **Garments/textiles:** the sector has major export importance for all South Asian countries and the quality of transport/logistics plays a crucial role in determining their roles in the world market.
- **Perishable commodities:** South Asian countries produce vast quantities of fruit and vegetables but, with a few exceptions, the region has yet to make any impact in the global market.
- **Automobiles:** the automotive sector is growing rapidly in India, primarily for the domestic market but increasingly with an export focus. The sector is at the forefront of logistics, requiring large numbers of domestic and foreign component suppliers to meet just-in-time (JIT) production, and the efficient distribution of finished vehicles and spare parts.

The supply chains range from simple to complex and illustrate both the present standards and the potential with higher levels of logistics.

3.2 Garments and Textiles

269. Garments and textiles have great significance for all South Asian countries, other than Afghanistan and Bhutan. The sector is vital to the exports of Bangladesh (85 percent) and Pakistan (\approx 70 percent), very important for Nepal (50 percent), and highly significant for India (>20 percent). Their roles in the global market depend not only upon the levels of production cost but also the speed and dependability of delivery. Low cost producers with poor logistics have a market role but are restricted to the low value segment of the market; higher cost producers with the ability to respond quickly and flexibly to changing demand can supply the higher value fashion end of the market.

270. The ability to respond quickly and flexibly is partly a function of the transport and logistics system and partly the local availability of inputs; an industry which has to import inputs is normally at a

significant disadvantage to one that can source locally. Bangladesh has to import all the inputs for the garment industry and is at a significant disadvantage to India, whose manufacturers can source locally all their inputs (imported inputs are available at wholesalers). Local availability can reduce order cycles by two – three weeks, which is significant in this competitive industry. This does not diminish the importance of logistics in determining competitive position. Air transport can always be used to overcome late deliveries but at a very high cost compared with sea freight.

271. There is competition between the South Asian countries but their industries tend to supply rather different market segments and greater competition is with other producers, particularly China.

3.2.1 Bangladesh

272. All inputs are imported: cotton is imported for the spinning mills but their production is only sufficient for three-quarters of knitwear production and a sixth of woven garments; yarn is imported to supplement local production; fabric is imported; and trim and accessories are imported. The fabric and accessories are imported on a CIF basis with a transit time of 18 – 25 days from East Asia. Local mills supply the yarn in about 15 days for new orders and slightly less for repeat orders⁷⁶. All inputs are assembled before the start of production and, if delivery is uncertain, a safety margin has to be built into production which lengthens the export delivery time.

273. No Bangladesh manufacturer can compete for high value fashion which is characterized by small orders and frequent deliveries. They are confined to the low value end of the market – t-shirts, polo shirts, sweaters, trousers, etc; products which have a shelf life of more than a year. The designs are dictated by the buyer but the manufacturer may decide the fabric, subject to the buyer's specification and approval. Most manufacturers produce two collections a year though some may produce as many as four collections. Depending on the order size, production may take from two weeks to two months but, for a typical order of around 50,000 pieces, production would take about a month.

274. Woven goods are sold mainly to the US where retailers have longer planning horizons and fewer annual collections. Knitwear products go mostly to the EU. Bangladesh manufacturers are largely dependent on the local representatives of the buyers for marketing and selling. All exports are shipped FOB basis, and are thus delivered to the buyer's nominated freight forwarder.

Order cycle time:

275. The overall time to complete an order depends on (a) the time required to finalize designs, which can take from a few weeks to several months; (b) the type of textile, knitwear is significantly faster than woven goods as yarn is locally available; and (c) the size of order. For woven fabric products, the typical order cycle would be 3.5 – 4.5 months:

1.5 – 2.0 months: design finalization and supply of inputs

1.0 month: production

1.0 – 1.5 weeks: factory → Chittagong → hub port

3.0 – 4.5 weeks: arrival hub port → final destination⁷⁷

For knitwear, the typical order cycle would be about two weeks to a month less, 3.0 – 4.0 months. For repeat orders, with no design changes and using locally available inputs, the order cycle would be reduced by a further two – three weeks.

⁷⁶ Imported yarn has a supply time of one –two months; the delivery time for Indian yarn would be substantially reduced if it could be imported by road but this was banned in 2002. The direct shipping service between India and Bangladesh will have reduced delivery times as previously containers were routed via Singapore.

⁷⁷ Because feeder services from Chittagong do not run a scheduled service, slack time has to be introduced to ensure meeting mainline shipping service from the hub port

276. Order cycle times are longer than those of the main competitors but improved logistics and trade facilitation, especially clearance of inputs, has reduced the order time by two – four weeks.

3.2.2 India

277. Until the mid 1980s, the textile and garment industry was highly regulated: regulations covered scale, location, scope and product. Exports were primarily fibers⁷⁸; textiles and garments were produced mainly for the local market. The garment sector was characterized by small scale, decentralized production with considerable sub-contracting. Garment exports were confined to niche markets with frequently changing orders, medium level fashion, especially ladies apparel. Textiles and garments are still produced mainly for the domestic market but exports have grown rapidly since the deregulation of the sector and the liberalization of trade. The value of garment exports increased from US\$900 million in 1985 to US\$6.6 billion in 2004. There has also been a shift from natural fibers to synthetic and blends and imported fabrics have increased from US\$135 million in 1991 to US\$1.4 billion in 2004.

278. There have also been significant developments in the marketing channels for garments:

- Until the late 1990s: small volume, direct exports from medium sized producers to retailers, wholesalers and medium sized buyers
- Late 1990s and early 2000s: named brands like GAP, Banana Republic and Tommy Hilfiger started sourcing, through their local offices or independent buying houses
- Since 2004: the big discount chains, like Target and Wal-Mart, have started sourcing.

The garment industry has been developing along two different fronts:

The small/medium sized producer: the traditional sector, based on natural fibers, centered in northern India, around Delhi, producing for the mid-fashion market, small batch production directly for export.

The large producer: large volume production, typically using synthetic fiber, centered in southern India (notably around Tirupur), using IT product process control and electronic production tracking systems. Many of producers are CMT with the buyers arranging for most of the inputs but this is less common for knitwear. Decreasing order times have led to more integrated production for synthetic fibers.

279. Imported inputs are delivered CIF, garments are exported primarily FOB, delivered to either the CFS/ICD (the exporter arranges customs clearance) or the buyer's nominated freight forwarder (the buyer arranges customs clearance). The smaller producers transport the garments loose to the freight forwarder for consolidation, while the larger factories load direct into containers. The garments are shipped in flat packs or on hangars in 20ft and 40ft containers. The forwarders nominated by buyers are almost always large foreign logistics companies like APL or Maersk Logistics. There is little reason to change delivery terms as the input suppliers and garment buyers are in a better position to obtain discounts for ocean transport.

Order cycle time:

280. *Small/medium sized exporter:* typical order of 5,000 pieces, using locally sourced inputs (imported fabric/trim from wholesalers), order cycle from order confirmation to FOB delivery would be 2 – 3 months, to final destination 3 – 4 months, Chart 1⁷⁹:

25 – 40 days: design finalization and procurement of inputs

30 – 45 days: production

5 – 8 days: factory to ship

21 – 35 days: shipping → final destination

⁷⁸ India still has a 13 percent share of the world market in textile fibers

⁷⁹ Charts are located at the end of the chapter.

Because of tight delivery schedules, production delays often require airfreight, perhaps 20 percent of shipments. Air freight is also used by some firms to compete in the rapid replenishment market⁸⁰. The unit values of US\$4 - 6/piece can support higher logistics costs but airfreight significantly reduces margins.

281. *Large exporter*: typical order anywhere between 10,000 to a million pieces, increasingly using imported fabric and trim, both in and outbound logistics are important for the time of the order cycle. Order cycle ranges from 3 – 5.5 months, depending on the order size, Chart 2:

- 15 – 30 days: design and order
- 15 – 30 days: procurement of inputs
- 30 – 60 days: production
- 5 – 10 days: pack, stuff and deliver to port
- 3 – 5 days: clear and ship
- 21 – 30 days: shipping → final destination

There is competitive pressure to reduce order times and supply re-orders with shorter lead times. Airfreight is little used because of the low unit values, US\$1.5 – 3.0 per piece. Manufacturers in southern India face the problem that shipment generally requires transshipment at a hub port.

3.2.3 *Pakistan*

282. Pakistan is the world's fourth largest cotton producer but, because of the growth in textile production, it has also become the world's largest cotton importer. Yarn, textiles and garments are all produced and exported but to rather different markets and under different terms.

- Yarn: exported to Hong Kong and other Asian countries, generally sold C&F
- Cotton fabric: exported to Asia and Europe, mainly shipped C&F
- Home furnishings: exported to Europe and the US, often shipped C&F
- Garments: exported to Europe and the US, sold FOB, buyer's warehouse Karachi

Exports to Asian and new customers are sold through Letter of Credit, while sales to regular customers in Europe and the US through CAD. Garment production is concentrated around Karachi and Lahore. Manufacturers around Faisalabad concentrate mainly on the home furnishing sector, i.e. bed linen, towels and other textile made-ups. Pakistan is a relatively high cost producer, in comparison with Bangladesh and China, and relies on quality. There is some consolidation in the industry as producers try to achieve the economies of scale necessary to maintain competitiveness.

Order cycle time:

283. *Fabrics and home furnishings*: produced by integrated mills (spinning, weaving and dyeing), using both local and imported cotton, orders are large, hundreds of thousands of items, but require little prior preparation. The time from the order to ship loading is normally around 40 – 50 days:

- 10 – 20 days: exchange of samples and contract negotiation
- 7 – 14 days: procurement of inputs
- 10 – 15 days: production
- 5 days: delivery to Karachi
- 2 – 5 days: Karachi, prior to loading
- 21 – 30 days: shipping → final destination

The total order cycle is normally 2 – 3 months. The product is mostly exported in 40 ft containers which are loaded and sealed at the factories. The large manufacturers have their own shipping departments.

⁸⁰ Retailers of fashion sensitive apparel often balance savings in unit costs against rather uncertain demand by splitting orders between base-load orders and rapid replenishment.

The largest manufacturers, like Nishat Textiles, ship sufficient quantities to have volume contracts with shipping lines. Late deliveries are not a major issue and no use is made of air freight.

284. *Garments*: although Pakistan has the advantage of locally produced fabric, the sector has grown more slowly than others; most growth has come from vertically integrated factories. These offer efficiency for volume production but less flexibility for supplying niche markets. Products are limited and concentrated on items with less frequent fashion changes, e.g. men's clothing. Exporters still rely on local buying houses to manage overseas shipments and marketing, even for branded products. Typical order sizes are in the tens of thousands. For knitwear, the lead time from the placing of the order to delivery at the buyer's warehouse is normally 45 – 65 days:

- 15 – 25 days: designs and contract negotiation
- 10 – 15 days: procurement of inputs (20 – 30 days, if trim from Europe)
- 14 – 21 days: production
 - 3 days: delivery to buyer's warehouse
 - 2 – 5 days: Karachi, prior to loading
- 20 – 25 days: shipping → final destination

The total order cycle would be 2.5 – 3.5 months. Garments are mostly exported in 20ft and 40 ft containers. Missed sea shipments generally involve a week's delay, and most buyers appear prepared to accept the delay. There is, however, some air freighting to reduce order times; this reduces the total order cycle to 2.0 – 2.5 months.

285. For woven garments, the lead time to the buyer's warehouse, is longer, 60 – 90 days, as fabrics have a 20 – 25 day delivery. The order cycle is thus 3 – 4 months by sea and 2.5 – 3 months by air.

3.2.4 Increasing South Asia's Competitiveness

286. The Multilateral Fiber Agreement (MFA) has opened the global market and increased competition. Exports from Bangladesh, India and Pakistan have increased significantly since the ending of the MFA but Nepal's exports have fallen. Nepal has, by far, the weakest competitive position in South Asia; on imported inputs, longest logistics chains (in time, if not distance), dependent on feeder shipping services, additional transit documentation, and the least control over reliability of delivery.

287. The greatest threat to South Asian textile and garment exports is China which has an extremely strong competitive position due to:

- Low labor costs
- Local yarn, fabric and other inputs
- Integrated garment production which allows for shorter lead times and lower input costs
- High quality internal transport links
- Frequent container services to all destinations

China has the advantages of both low cost production and short order cycles. With local materials, the order cycles for both woven and knitwear garments are in the range of 2.0 – 2.5 months, significantly faster than South Asia, especially for the woven goods. With imported fabrics, the order cycle increases to 3.0 – 3.5 months.

288. The main improvements to Bangladesh's order cycle time have to come from reduced time through Chittagong port and an increase in locally available inputs. Improved port performance will reduce the inbound time for inputs but the major improvement will be on outbound logistics, allowing scheduled feeder services and timetabled connections at the hub ports. Allowing bonded warehouses to stock trim and accessories duty free would also significantly reduce the order cycle.

289. India benefits from producing most inputs domestically. The lower value garment producers must continue to reduce both delivery time and cost. The trend to integrated production facilities can be expected to continue and may be complemented by the clustering of producers of yarn, textiles and garments which will simplify and expedite logistics. Increased computerization and more capital intensive production will allow better control over production and reduce the frequency of missed shipment dates. The quality of international logistics will need to continue improving: further simplification of export documentation, faster customs clearance and improved transport infrastructure and transport services. Direct container services from Chennai will assist manufacturers in southern India. While high value garments will continue to allow more expensive logistics, India's competitive position in the small order, medium fashion segment of the market would be enhanced by improved international logistics services, especially road transport for faster, more reliable movements, and freight forwarding for more efficient consolidation services and for door-to-door movement under single bills of lading. Both would help to reduce the frequency of airfreight deliveries.

290. For Pakistan, the implementation of the National Trade Corridor Improvement Program will help to improve significantly the logistics chain, reducing both time and cost. Providing deeper drafts at the Karachi ports may increase the frequency of direct container services and reduce the freight rates. As with Bangladesh, a significant reduction in order cycle times would be achieved if more inputs were locally available and thus the regulations on bonded warehouses should be reviewed. Maintaining the present momentum of customs reform is essential to simplify international logistics.

3.3 Fruit and Vegetables

3.3.1 Introduction

291. World exports of fresh fruits and vegetables come from relatively few countries. Exports require not just efficient production but also very efficient delivery. Efficient supply chains, combined with proximity to major markets, has allowed Mexico, Chile, Costa Rica and Ecuador to supply about 43 percent of developing country fresh fruit exports, and Mexico, China, Argentina and Syria, to supply two thirds of the fresh vegetables. However, participation is not confined to middle income countries; supermarket shelves in the UK are stocked with French beans and other vegetables from Kenya, for example. South Asia exports very little of its fruits and vegetables.

India: the country produces about 11 percent of the world's vegetables and 15 percent of its fruits but its share of global exports is about 1 percent. India exports less than 2 percent of its horticultural production.

Pakistan: fruit and vegetable exports have increased significantly, in recent years, to \approx 350,000 tons of fruit and \approx 160,000 tons of vegetables. Exports constitute only about 7 percent of fruit production, and vegetable exports are even less.

Bangladesh: BRAC (Bangladesh Rural Advancement Committee) is responsible for most fresh vegetable exports. The volumes are very small; the total shipped in 2003 was less than 2,000 tons.

292. Limited exports may reflect perhaps the size of the domestic markets, low farm productivity and a rapidly expanding urban population. The industry is hampered by:

- limited/poor quality post-harvest processing: over 30% of Pakistan's production is lost due to poor handling and inadequate processing, and the situation is similar in the other countries
- poor transport: long transport times, rough roads and the lack of reefer trucks
- inadequate storage infrastructure: lack of cold storage facilities in the logistics chain

Fruit and vegetables exports offer potential income for the agricultural areas and an opportunity to diversify away from water intensive crops.

3.3.2 Logistics

293. The shelf life of the fruit/vegetable is critical to where and how the goods can be shipped. Fresh tomatoes, peas and most green vegetables have very short shelf lives and must be shipped by air for immediate sale. Mangoes have a longer shelf life and can be shipped to the Middle East and Southeast Asia by sea but the shipping time to Europe is too long even for the less sweet mangoes. Efforts to export mangoes to Europe by sea have all produced poor results and air transport is required for markets in Europe and North America. Grapes, kinnows and lychees have much longer shelf lives and can be sea freighted to all markets and still allow reasonable time for processing.

294. While fruit and vegetables are relatively high value, the logistics cost is a very large, often the largest component of the delivered (CIF) price, even when shipped by sea, Table 48.

Table 48: Logistics Costs: Fruit and Vegetables

Commodity: Destination: Transport:	(Indian Rs/kg)		
	Vegetables	Vegetables	Grapes
	Dubai	Europe	Europe
	Air	Air	Sea
Farmgate price/kg	25.0	30.0	24.0
Inland transport	*	18.0	1.6
Packaging and testing	2.1	12.6	12.6
Port clearance	7.9	9.0	1.8
International transport	32.0	80.0	9.5
Delivered cost/kg	67.0	149.6	49.5
Logistics cost/CIF price	48%	72%	26%

* Negligible, production very close to airport

The ability to use sea transport provides a major reduction in cost. With the increased frequency of container services, most fresh vegetable exports from Pakistan to the Gulf are now shipped by sea. Much of this regional trade has lower standards and prices, so the reduction in logistics cost, as a proportion of CIF value, is often not substantial. Exporters determine the export markets which provide the best returns, given the prices offered and the supply chain cost from field to market.

295. The quality of the supply chains from the agricultural production areas may not only determine the fruit/vegetable exported but also the form of the product. Because of India's poor supply chains, onions account for more than half of India's exports of fresh vegetables and India exports more processed products; the quantity of dried and processed vegetables exported exceeds fresh vegetable exports by 3:2. Similarly for fruits, grapes, with a relatively long shelf life, are one of the major exports, and India exports three times more mango pulp than fresh mangoes. BRAC is now considering the potential for increasing production by exporting frozen vegetables. This would allow the use of refrigerated containers with lower transport costs and overcome the shortage of airfreight capacity.

296. The quality of the logistics supply chain has also a major influence on the quality, which influences the type of market within which the fruit/vegetable can be sold as well as the price.

3.3.3 Horticultural markets

297. For many horticultural products, South Asia exports to the Middle East, and India also exports to South Asian countries (mainly Bangladesh and Sri Lanka, but also recently to Pakistan). Some 35 percent of Indian exports of horticultural exports remain in South Asia while a further 30 percent go to the Middle East. This is only partly attributable to the ability to ship by sea.

298. The product standards regime is also critical, in particular, the SPS requirements in Europe and North America. Competition, among supplying nations, has allowed these markets to increase their standards with regard to agricultural practices (GAP), contaminants (HAACP), and pesticide residues (MRLs). This has led to the requirement for product traceability back to the farm, covering all the processing steps, from growing to final delivery. Many of the issues are primarily agricultural but they are increasingly also problems of logistics. The location of storage and treatment facilities, the sorting

and packaging of products, the maintenance of cold chains, the segregation of products by source are issues of supply chain management. Unless South Asian countries raise their supply chains to meet these standards, exporters will face problems and may have to concentrate on other markets. Pakistan traders are thus considering markets in Eastern Europe and Russia but the logistic chain is difficult, especially for sea transport (infrequent services).

299. The market for fresh fruits and vegetables is differentiated between countries and within countries. In the UK, for example, there are three sub-markets:

- *Supermarket chains*: they require high volumes, consistent quality, and reliable door-to-door deliveries. They have control over the supply chain and are the most demanding.
- *Fruiters*: they buy from domestic wholesalers/markets. They accept more variability in quality and ripeness and often sell for lower prices.
- *Small grocery stores*: they require lower volumes and accept greater variability in quality and ripeness. Those catering to ethnic groups buy from foreign and domestic wholesalers.

300. The price structure varies by market segment with the hypermarkets paying the highest and controlling the retail price by tight supply chain management. South Asian exporters have not been able to break into this sector; their supply chains and management have not the required quality and control.

301. Much of the vegetable exports, in particular, go to South Asian communities living abroad (Gulf, Middle East and the UK). Possibly, sixty to seventy percent of India's fresh vegetable exports are for overseas Indian communities with shipments contracted between Indian traders at both ends of the chain. However, there may now be a trend to larger markets with a wider clientele.

3.3.4 South Asian Horticultural Supply Chains

302. *Small Indian Exporter (Vegetables)*: merchants buy fresh vegetables at the state run mandi markets. The vegetables are sorted, graded and packed manually and then sent to the airport, mainly Delhi and Mumbai. The entire movement is without cool chain facilities until the vegetables reach the perishable cargo center at the airport. Since 2005, some exporters around Mumbai have been buying direct from farmers and the vegetables are sorted and packed on the farm. Time from the farm/mandi to the importer is round two days. Inland transport costs are low as the vegetables are normally sourced close to the airports (within a 30 – 40 km radius) and are moved in general cargo trucks.

303. *Medium Indian Exporter (Vegetables)*: some exporters ship higher value vegetables (French beans, snow peas, etc.) by air to European markets. To meet the SPS standards, the vegetables are produced under "controlled farming"⁸¹; the exporter provides the inputs and technical knowledge and buys at pre-determined prices. The exporters have pack houses near the farms and transport from farm to pack house and then to the airport using small reefer trucks. The transport costs are high; the trucks are small and only partially loaded as shipment size is normally only one or two LD3 air containers (1.3 – 3.4 tons). The time from farm to importer is about five days. The high cost of inland logistics is due to low volumes. This is being addressed either by using larger farms or consolidating the output of small farms through NGOs.

304. *Pakistan Export of Kinnows*: these are mainly grown in Multan and Mirpurkhas, about 300 km from the processing plants in Lahore. Kinnows have a long shelf life, 90 – 120 days. The supply chain is well integrated but, over the last five years, there has been some consolidation with exporters operating production units. The processing of the fruit is undertaken at 64 production units around Lahore which have associated cold storage. The time from farm to processing plant is usually less than eight hours but there is still a 5 percent loss due to bruising and heat. Pakistan has a seasonal advantage with the harvest later than in Morocco and Spain. The fruit is mostly shipped in 40ft containers, about

⁸¹ A rather more informal arrangement of the contract farming variety

600 TEU annually to Rotterdam. To maintain/expand exports to Europe, farming and processing will have to be raised to meet SPS standards and provide the traceability and documentation demanded.

305. *Indian Export of Grapes*: the export of Indian grapes has been increasing. They are grown mainly in Maharashtra (Nasik district has 75 percent of the area registered for exports) on farms which are larger than average, allowing larger scale production. Grapes are exported by sea with >75 percent going to Europe or the US. Unlike fresh vegetables, grapes are destined for non-Indian consumers. The shelf life depends on pre and post harvest. The grapes are packed in corrugated boxes, holding 5kg, and are pre-cooled in rooms with large refrigeration capacity, high air circulation and high relative humidity. Pre-cooling takes place within 15 minutes to two hours after harvesting, the grapes are then placed in cold storage with the temperature (0-1°C) and humidity (95%) controlled, where they can be kept for up to four days. The exporters control the cold storage chain from pre-cooling at the farms, reefer trucks for transport, cold storage in collection areas, and reefer containers for transport to final market. Grapes are exported by large processors and some cooperatives; the large processors have been successful in the European markets, for which they can provide 100 percent box traceability⁸². The exporter undertakes all processing and arranges for quality inspection. The freight forwarder delivers the empty reefer container, loads and moves the container to the port and arranges the customs declaration, inspection and clearance. The supply chain of a large exporter is shown in Chart 3. Exporters are now trying to find additional uses for the pack houses/cold storage which are only used by grapes for two/three months of the year.

3.3.5 *Raising Supply Chain Standards*

306. Most of the value added on fresh produce comes in the movement from farm to retail outlet. This is especially true for exports. Perishability limits shelf life and the time to market; it also links value and ripeness, and the time period for the highest returns is often less than a week. Most attempts to improve horticultural production have focused on individual components of the supply chain, e.g. the provision of storage, improvements to farm techniques, etc., but the improvement and integration of the complete farm-to-retail supply chain is needed. This requires a cold chain between the farm and retail outlet, distributed processing of the product along the chain, and the timing of the movement backwards from the retail shelf to the farm.⁸³ Backwards integration has become increasingly important as retailing has become more sophisticated, consumer standards have risen, and global competition has increased. The success of India's grape exports is consistent with earlier experience in Chile. The challenge is to extend this success to crops that have more processing requirements, have shorter shelf lives and are harvested farther from the seaports.

307. Exports require a fundamental shift from cost to value. The distance to market has always been an important determinant of competitive advantage but is being overshadowed by the demands for quality in the major markets. Already there is significant differentiation between the European market with its Eurogap standards, the Central Asian and Middle East markets with lower phytosanitary standards but requirements for freshness, and the nearby South Asian markets. This mirrors the differentiation in exports by processing and shelf life. Potatoes and onions require relatively little processing, and can be shipped by sea to distant markets but they receive the lowest unit prices. Grapes and citrus fruit can be shipped by sea to medium-distance markets but require more processing and earn more per unit. Mangoes can only be shipped by sea to regional markets and have to be air-freighted to more distant

⁸² Some cooperatives have been successful in exporting to Europe but processing and meeting Euro gap requirements are major challenges. The shelf life is lower because collection from small growers results in delays in pre-cooling and too long in cold storage waiting for shipment consolidation.

⁸³ In the case of Costa Rican bananas, the picking of the fruit is timed so that the bananas will arrive in the US retail stores on Monday with the ripeness timed so that the fruit will be attractive to consumers throughout the week. The backward logistics extends back to the picking of the fruit

markets. They require still more processing and have higher unit prices. This continues along the spectrum of perishability to tomatoes, snow peas and finally flowers which require very sophisticated packaging, very tight scheduling, and travel only by air.

308. The backward integration from foreign market to domestic producer has been accomplished by contract farming which directly links the requirements of the consumer (and their regulators) with the agricultural practices of the farmer. It reduces the number of middlemen and transactions. It allows processing to take place where it will provide the best combination of cost and value added. Such integration meets a number of objectives:

- increases the yield, reduces the wastage and improves the quality
- reduces the cost and increases the effectiveness of post harvest processing
- extends the shelf life and thus the range of markets
- improves accountability and traceability in the supply chain.

The final factor represents the most recent and important challenge for supply chain management. Increasingly, effective supply-chain management is not only a means to increase the value of exports but also a necessary condition for competing in export markets.

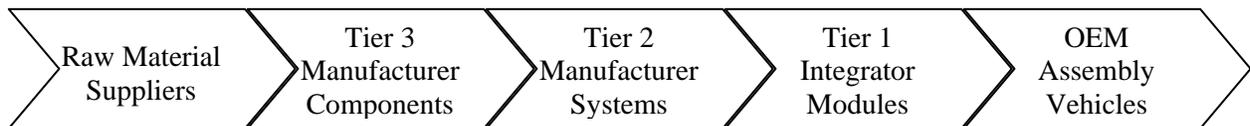
3.4 The Automotive Sector

3.4.1 World Trends

309. The global automotive industry has evolved rapidly over the last decade. Stagnant demand in the major traditional markets has coincided with greater emphasis on product differentiation. This has led to more models and fewer sales per model. To retain economies of scale, the auto manufacturers (OEMs) use common platforms and components. Initially, the OEMs outsourced individual components but this has gradually extended to sub-assemblies. Supply chain management is used to increase efficiency and compete globally. There has been a total reorganization in the industry with a blurring of the distinction between domestic and foreign manufacturers.

310. The industry has reconfigured itself to a hierarchy of manufacturers and assemblers, Figure 1. The third tier manufacturers produce individual components, e.g. dashboard gauges, starter motor, steering wheels, etc. They are mostly small and medium-scale enterprises contracted by second tier integrators who provide them with designs and sometimes manufacturing equipment. The second tier includes systems integrators, who design and assemble systems such as instrument panels, starter units, fuelling systems, cable protection systems, mechanical-electronic systems, etc. It includes specialists, who manufacture specific systems to global standards, e.g. ABS braking systems and air bags.

Figure 1 Tiered Manufacturing



Tier one integrators assemble these systems into larger modules, e.g. engines, dashboards door panels. The tier one integrators coordinate the design of these modules with the OEMs.

311. The OEMs are responsible for brand management, general platform design and after-sales service. Originally they also provided all the technology but, over time, the Tier One and Tier Two suppliers have developed proprietary technology to achieve competitive advantage and supply parts or assemblies to multiple automotive companies. This has led to consolidation in the auto supply industry and the

large OEMs have formed partnerships with key global suppliers. The number of suppliers is shrinking dramatically and, over the current decade, the suppliers in the major markets may shrink by 90 percent⁸⁴.

3.4.2 *The Indian Automotive Industry*

312. While a relatively small producer, with about half China's output, the Indian automotive industry is experiencing rapid growth; production has increased from 0.4 million to >1.2 million units (2005) in fifteen years. The growth is underpinned by the increasing middle class and liberalization of what had been a highly protected market. There are now 24 OEMs (possibly too many), the market share of the original OEM has fallen (Maruti 76 percent → 56 percent), and new entrants have taken significant market shares (e.g. Hyundai has 14 percent and Daewoo 9.5 percent).

313. Domestic car sales are growing at about 20 percent annually and exports at about double that rate, albeit from a low base. Maruti remains the largest producer, around half a million units/year, but exports relatively little. Hyundai produces close to 250,000 automobiles and exports ≈45 percent. Tata produces about 190,000 automobiles, with about 10 percent are exported⁸⁵ The other manufacturers have lower production, e.g. Ford produces about 30,000 units, GM about 20,000 units and Skoda about 10,000. Car sales are growing rapidly but not as fast as motorcycles.

314. The automobile OEMs have centered their operations in different locations (Figure 2). Maruti has centered its operations in Gurgaon, with easy access to the major markets in northern India. Tata is centered in Pune, close to the Mumbai market, with other plants in Lucknow, for northern India, and Jamshedpur for West Bengal. Hyundai, Ford and Toyota have chosen locations near Chennai, giving access to suppliers and markets in East Asia. Chennai is expected to grow rapidly because of its proximity to the East Asia trade route.

315. The growth has led to expansion in the parts industry, 17 percent in FY06 to about \$10 billion, with export growth of 30 percent to \$1.8 billion.⁸⁶ 70 percent of the exports are for OEM and only 30 percent for after-market sales. Several multinational companies have established production facilities including Corus, Cummings, Delphi, Visteon, Bosch, Borg-Warner, Lucas, Krupp, Siemens, TRW, and Wabco (joint venture with Sunaram-Clayton). OEMs such as Ford, General Motors, Fiat and Daimler Chrysler are increasing imports from India. The traditional center of parts production was around Chennai but Maruti and Tata have created manufacturing clusters around their main plants near Delhi and Mumbai. It is expected that more suppliers will establish production units near to the OEM plants.

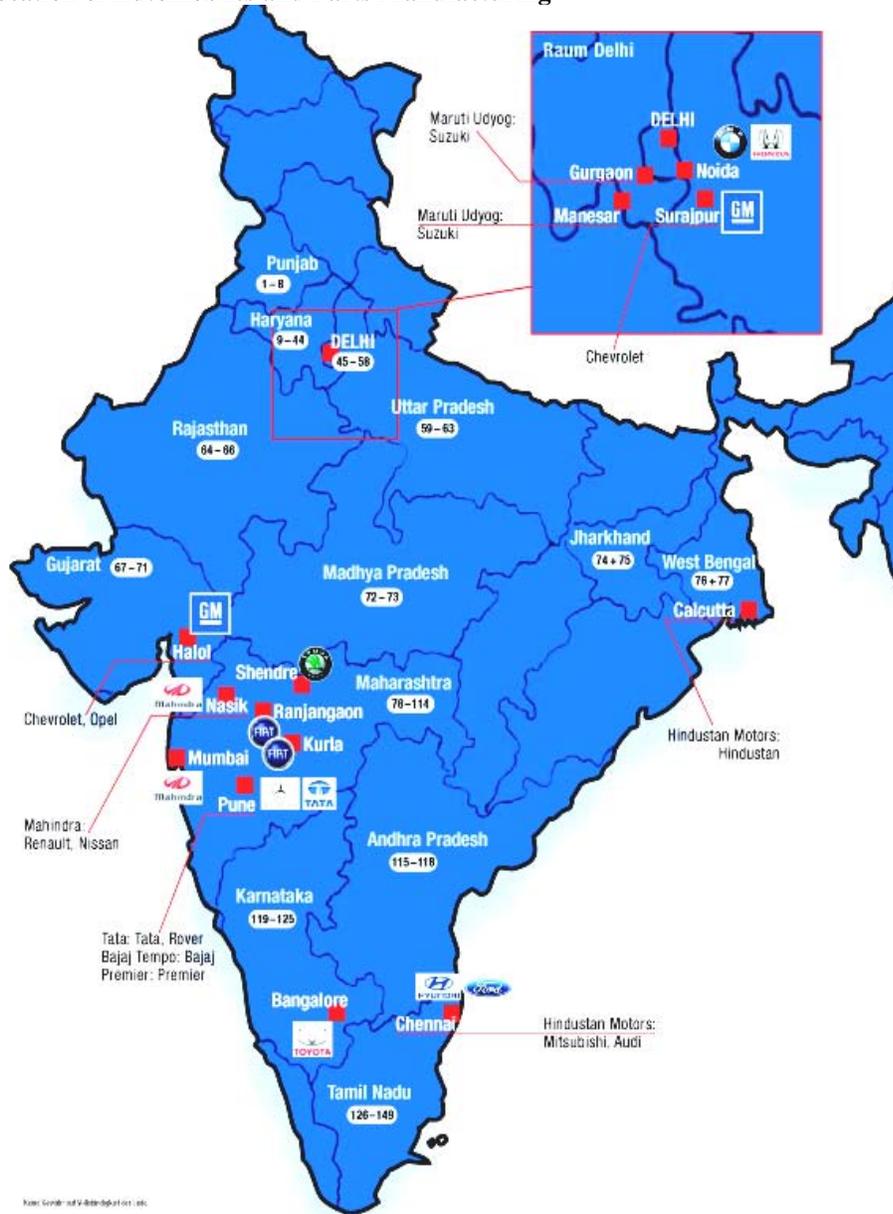
316. The parts industry is highly fragmented with the eight largest producers accounting for only 10 percent of production. Most producers are family-owned SMEs; initial poor quality and high rejection rates have been addressed by establishing joint ventures and technical cooperation agreements. The largest sub-sector is engine parts which are relatively simple to manufacture and production is widely dispersed. The second largest sub-sector is transmission and steering parts which are more complex and produced by larger firms; ten companies account for about three quarters of production. Electrical parts are the fastest growing sub-sector, while the production of electronic equipment is hampered by limited technology. India's imports relatively few parts, only high technology and items with limited demand, e.g. air bags.

⁸⁴ GM spun off Delphi (1999) and Ford launched Visteon (2000) to allow them to reduce costs by supplying other OEMs while also reducing their overheads.

⁸⁵ Tata is still mainly a truck manufacturer; cars account for only about 40% of output.

⁸⁶ According to estimates by the Automotive Component Manufacturers Association (ACMA)

Figure 2 Location of Automobiles and Parts Manufacturing



Source: www.automobilcluster.at

317. Many of India's major parts producers export significant volumes, Table 49.

Table 49: Leading Indian Auto Part Suppliers

(Rs. Billion)			
Company	Turnover	Exports	Export
Motors Industries Co	17.85	2.55	14%
Bharat Forge	6.81	2.71	40%
Visteon Automotive Systems	5.78	2.22	38%
Brakes India	5.69	1.02	18%
Sunaram Fasteners	5.00	1.00	20%
Motherson Sumi Systems	3.34	0.67	20%
Phoenix Lamps India	1.47	0.70	48%
Guara Gears	1.32	0.45	34%
Sundaram Brake Linings	1.02	0.54	53%
Sigma Corporation	0.56	0.56	100%

Source: Auto Components Survey: Exports; New Players, New Learnings, Business World, February 2004

The exporters are primarily tier three suppliers but are increasingly involved in tier two productions. India's tier two suppliers such as TVS (in joint venture with Lucas among others), Rane (in joint venture with TRW), and Bharat Forge (the second-largest forging company for auto parts after Thyssen Krupp) have begun providing tier one services for a limited product range. Other tier two firms include Avtech engines and Hindustan Motors engines, (Navistar and Cummins). Exports are limited to relatively simple components and assemblies because of the need to meet short order times. The exporters

must pre-position inventory near the foreign OEM plants and deliver just-in-time (JIT) and increasingly just-in-sequence (JIS). Indian parts suppliers typically carry 30 days inventory in order to satisfy the daily orders of the OEMs. Efforts to reduce inventories, through better supply chain management, have had limited success.

318. The Indian car producers have been slow to adopt the tiered approach: limited production; a tax system which discouraged interstate trade; and inadequate logistics. The initial producers were vertically integrated, with outsourcing limited to joint ventures, e.g. Tata Yazaki, Tata Toyo, Tata Yutaka, TC Springs. With market growth, the OEMs are adjusting their production and outsourcing the component systems and simple subassemblies. Tata, for example, has begun to develop tiers. The foreign companies use the three tier system with a mix of imported modules and domestic components. Initially, local suppliers were joint ventures but are now increasingly 100% foreign owned.

3.4.3 Automotive Logistics

319. Globally, the car industry has been a pioneer in supply-chain management. It was essential for the introduction of JIT and will be increasingly important as the trend to personalized vehicles requires flexible, JIS assembly. Competition in the car industry may become more between supply chains than between suppliers. Deficiencies in the Indian transport system encouraged the clustering of automobile manufacturers and their suppliers. However, as the industry has developed, it has become more important to locate production to achieve economies of scale and supply multiple domestic and foreign OEMs efficiently. Producers have become increasingly dependent on local courier services to deliver to the domestic assembly points, and international 3PLs, such as DHL and TNT, to deliver to foreign assembly facilities. As production increases, new supply chains will be required, providing the same speed and reliability of the courier services but for larger shipments at lower costs. This will require closer coordination with 3PL service providers. The multinational 3PLs already provide this service for foreign-owned OEMs. TVS Logistics has been performing a similar function, initially as a service provider to other TVS companies. Most of the Indian parts manufacturers have been reluctant to outsource their supply chain management.

320. So far, none of the Indian producers have employed supply chain optimization to reduce inventory in transit. Maruti has decreased order time for parts from 15 days to 1 day but primarily through consolidation and tightening of control over physical movements. In contrast, the international OEMs are partnering with the larger 4PL's, e.g. Ford collaborating with UPS to reduce the lead times.

Internationally, OEMs are increasing their use of B2B systems to reduce costs and improve coordination with their suppliers. The same is happening in India where Hindustan motors, Maruti Udyog, Baja Auto, Ashok Leyland, Hero group, Mahendra and Mahendra, Tata Engineering and TVS Suzuki have developed a common e-commerce port. This is part of a continuing collaborative effort by the Indian IT and automotive sectors.

3.4.4 Indian Car Maker Supply Chains

Maruti Udyog Ltd (MUL)

321. MUL started by assembling CKDs and SKDs but gradually established a large supplier base, including a number of joint ventures. MUL encouraged the suppliers to locate around its plant near Delhi. To streamline production, MUL has reorganized its supply chain, reducing domestic suppliers from 400 → 220 through consolidation into Tier 2 and 3 producers. About 70 percent are located close to the assembly plant, while the rest are mostly based in southern India. MUL imports about 20 percent of its components, through a network of 62 vendors, and 50 percent of its steel. Advanced IT systems exchange information through the entire value chain, from the component vendors to the dealers. MUL has retained the management of its logistics, both inbound (local and foreign suppliers) and outbound.

322. *Import Supply Chain:* Containers are shipped each week from Japan to JNPT via Singapore and then transported by dedicated trailers to MUL's ICD at Garhi Harsaru where they are cleared (MUL staffs have CHA licenses). The road transporters are contracted by MUL on a performance contract which rewards delivery before 4 days and penalizes delivery after 4 days. The complete transit time is 32 days. Steel shipments are off-loaded at Kandla and transported by road to Gahi Harsaru. The detailed supply chains are shown in Charts 4 -6.

323. *Domestic Inputs Supply Chain:* Based on production plans, a firm order is given to suppliers for one month and tentative orders for the following two months. The current month is divided into two fortnight periods. A daily production plan is confirmed on the basis of the previous day's consumption and the next day's requirements. The plant maintains an opening inventory of 0.9 days, down from 12 days in 2001. A supplier is penalized for any unfilled order. Each supplier is required to make at least one delivery/day and some supply up to 8 times/day. All outstation suppliers maintain stocks in warehouses near the assembly plant. The responsibility for input delivery rests with the suppliers who contract with small transporters.

324. *Domestic Outbound Supply Chain:* The vehicles are taken to the storage yard at the plant where they are certified for quality. They are then loaded onto trailers for dispatch to the >300 dealers.

325. *Export Supply Chain:* Vehicles are first stored at the plant and then transported to Mumbai – mainly by road trailers, rail is only used when there is a trucking problem. The cars are delivered to MUL's Pre-Delivery Inspection Centre at JNPT, where they are washed, repaired, inspected and stored until shipment. JNPT is discouraging non-containerized cargo and cars are being shipped through Mumbai, transported by road between the ports. MUL has some storage space allocated at Mumbai port, where the cars are parked before loading. A CHA looks after customs formalities, which generally take 1 – 2 days, and a multinational freight forwarder arranges shipping, Chart 7.

Tata Motors

326. Tata entered car production when there was already a well developed parts/components industry. Suppliers are spread widely: about 50 percent are located in Maharashtra but the rest are around Delhi, Chennai, Bangalore, Gujarat and Kolkata. Tata is reorganizing its supply chain and has consolidated the domestic component suppliers into 255 Tier 1 vendors. Since November, 2004, Tata has employed a 3PL (TVS Logistics) for its inbound logistics. Currently, components from 114 vendors (about 40

percent) are sourced through the 3PL and Tata plans to increase this to 100 percent. Around 3 – 4 percent of components are imported as well as steel from Korea and Russia.

327. *Import Supply Chain:* Imports for all Tata vehicles are undertaken as a centralized operation. An inventory of 15 – 20 day is maintained, Chart 8. Containers are shipped, mainly from China and Europe, to Mumbai or JNPT on through bills of lading to Mulund (transported from the port by rail), where they are cleared. From Mulund, the containers are transported by road trailer to Pune; about 12 hours for the 400 kms, including 3 – 4 hours at the Octroi clearance post, Chart 9.

328. Steel is imported in large consignments (typically $\approx 10,000$ tons) through Mumbai. Korean imports are hassle-free but Russian consignments can take 2 - 2½ months because of the low vessel frequency, Chart 10. Freight rates from Russia are high, but the steel is cheap. Tata maintains a steel inventory of about 2.5 months.

329. *Domestic Inputs Supply Chain:* Component vendors are given firm daily orders for the current month and tentative orders for the next two months. Since Tata is moving to the use of 3PLs, the supply chain is somewhat complex.

- Sixty percent supply directly; they deliver JIT according to the production schedules. Outstation suppliers maintain local warehouses and hold stocks for 5 – 15 days. The suppliers contract their own transport for delivery.
- Supplies from the remaining forty percent of domestic vendors are organized by the 3PL. Two basic logistics models are used:
 - The milk run: used for collection and delivery from local suppliers, the entire inventory is on wheels.
 - The line haul: the 3PL collects from outstation suppliers and maintains warehouse hubs, and delivers to the factory from these. A 10 day inventory is maintained at the hubs.

330. The 3PL initiative was motivated by a lack of storage space at the factory. The main functions of the 3PL are collection, storage and delivery but, in addition, the 3PL unloads the deliveries, manages and returns empty containers and organizes the return of reject components to the suppliers. The 3PL is paid a % of the supply value delivered.

331. *Outbound Supply Chain:* For exports, the 3PL arranges for the inspection of the vehicles, they are then moved to the plant storage area, loaded onto trailers and transported to Mumbai port, where they are parked until loading, Chart 11.

3.4.5 Upgrading the Auto Supply Chains

332. The industry is in a state of transition and its success will depend partly on improving logistics. The domestic market will continue to expand, but exports will depend on products of sufficient quality delivered in a timely manner. Within the domestic market, the distinction between domestic and foreign manufacturers will disappear. Quality will improve through global sourcing of components, either imported or produced domestically by global suppliers. The challenges will be to achieve economies of scale in production and efficiency in supply-chain management.

333. The major constraints are in vehicle exports. These require ports with storage for parked cars, berths for large car carriers and direct access to minimize damage when shifting vehicles. These are land-intensive and not well-suited to the major container ports such as Chennai, Mumbai and Nhava Sheva. They require safe handling (less than 1-2 blemishes per thousand units) and are not suited to traditional stevedoring. Both MUL and Tata use Mumbai but there are deficiencies:

- Congestion at the port gate and long delays before entering

- Limited storage space, which is used for both car imports and exports, increasing unloading time because of the need to search for parking spaces
- Car carriers have to berth at the passenger terminal which gives preference to passenger vessels, and the berth is also used, two days a week, by large cargo vessels. The window of opportunity for car carriers may be restricted to one or two days a week
- The parking area is some two kilometers from the berth, far longer than the ideal distance

If exports increase, a dedicated car loading berth with associated car parking areas will be needed.

334. There are supply chain problems for containerized shipments of components and modules, both for import and export. These are used in just-in-time and, in case of exports, just-in-sequence production, and tight supply-chain management is critical. At present, Indian exporters are limited to supplying basic components to tier two integrators or simple assemblies to tier one integrator and must maintain large inventories to meet short order times. If they are to move into tier two supplies of systems and subassemblies, the importance of inventory management of a wide range of components will increase. Faster, more reliable shipment of containers, combined with selective airfreight will be needed to be competitive. The time from factory to vessel loading will have to be drastically reduced.

335. For component suppliers to the domestic market, competition from global producers will increase as will the demand for better quality and technology at lower prices. To meet this demand, suppliers will likely concentrate their production activities, to achieve economies of scale, and supply assembly plants from warehouses rather than production units. As the OEMs move toward more flexible production and greater product variety, the order times for parts will decrease further. Suppliers will have to improve their supply chains with greater use of rapid deliveries to restock the warehouses. This is now accomplished through domestic courier services. The suppliers will have to partner with these courier services and other 3PLs to manage their supply chains so as to provide reliable deliveries with minimum inventory in the distribution system. They have to rely on road transport using the national highways network to connect warehouses with the OEMs plants.

3.5 The Structure of the Logistics Provider Sector

336. Logistics and the structure of logistics providers were very simple, reflecting the straightforward foreign trade arrangements (C&F for imports and FOB for exports), the preponderance of primary goods in exports, and the fragmented nature of the domestic distribution sector. With the opening of the economies, the expansion in export oriented manufacturing and the increasing complexity of the domestic economies, the logistics needs are beginning to change, and the logistics providers are changing to meet these needs.

337. There are still very large numbers of small companies offering single services, like the customs clearing agents, transport agents and warehouse providers, but also there are increasing numbers of larger companies who integrate these services into more comprehensive packages (the 3PL operators) as well as a few large companies who are beginning to offer much wider ranges of logistics support for complete supply chains (the 4PL operators). All the smaller and most medium sized companies are domestic enterprises; some large international logistics companies are operating in the region and more are entering, attracted by the opportunities offered by the economic growth and diversification.

338. The size and structure of the freight forwarding sector varies but follows the same general pattern, which can be illustrated by the industry in Pakistan⁸⁷, Table 50.

⁸⁷ Pakistan's International Freight Forwarding Sector, International Asset Management Company Ltd., January 2005.

Table 50: Pakistan: Freight Forwarding Sector

Classification	Function	No.	Market Share		Working Capital	Level of Competition	Barriers to entry
			TEU	Revenue			
Primary service	Brokers	253	18%	7%	US\$ 8,000	high	none
Middle order	3PL	153	36%	32%	US\$ 50,000	high	moderate
Total solution	4PL	50	47%	61%	US\$350,000	moderate	high

339. *Primary service providers*: call themselves freight forwarders but are effectively brokers. They offer competitive tariffs to SME for LCL cargo, negotiate maximum margins from consolidators searching to complete container loads and arrange customs clearance, documentation and payment of duties. They may also arrange transport to/from ports and both compete and collaborate with transport agents/brokers. Many/most were formerly customs brokers.

340. *Middle order firms (3PL)*: provide the same core services as the primary providers but also act as nominated agents for overseas buyers. Many have expanded their range of services to include provision of transport and, in some cases, storage for imports and exports.

341. *Total solutions providers (4PL)*: offer a full range of logistics services with access to global shipping and freight forwarding networks. Many are the local offices or local subsidiaries or representatives of the international freight forwarders such as Li Fung (Hong Kong), Exel (UK), DHL/Danzas (Germany), Bax Global (USA) and PWC logistics (Kuwait). Others are joint ventures or have established links with forwarders in other countries to offer an international service.

342. A similar industry structure is found in Bangladesh. South Asian Logistics (August, 2006) reported that there were 650 freight forwarding enterprises, of which 20 were joint ventures with foreign companies, and 12 were wholly owned subsidiaries of international companies⁸⁸.

343. There are a very large number of freight forwarders in India; most are individually owned firms serving only a few clients. Their primary function is arranging ocean shipment for smaller export shipments, competing with the shipping agents and NVOCCs. Most of the forwarders were formerly CHAs. Under revised regulations, a freight forwarder must be a registered company and have staff with permits to enter customs areas. In the past, the larger domestic and international freight forwarders were reluctant to be involved in customs brokerage but they and the larger transport companies are now entering the sector. This, together with customs reform, has helped to bring some order to the market.

344. The Indian economy is very much larger than those of its neighbors, and a wider range of industries requiring more complex logistics is developing, e.g. cars, pharmaceuticals, etc. The size, growth and increasing complexity has become a magnet for foreign logistics operators. The trade press has frequent reports of logistics companies entering the market, buying up or into local companies, or arranging other forms of association. In 2005/6 the following reports, Hindi Business Lines reported:

DHL, one of the main global players, acquires a majority holding in Blue Dart; ECU Line (a Belgian company) signed an MOU to establish two ICDs in Madya Pradesh; the Hong Kong based Collyer Logistics opens offices in Delhi, Mumbai, Chennai and Kolkata; UPS franchises Jet as its main Indian franchisee in India; the Broekman Group (Netherlands) acquires the Mumbai based company Courcan Cargo with offices in 11 cities; TNT announces plans to invest €100 million in expanding its distribution network to 144 centers by the end of 2006; Fedex declares that India will be the next major market; Seaways Shipping establishes 50:50 joint venture with Rhenus (Germany)

⁸⁸ The article was reporting the Bangladesh Shipping and Logistics Services Providers Forum representations to the government to remove new regulations which they considered discriminatory to foreign companies.

and the JV then announces strategic tie-up with Azkar Logistics (Spain); Freight Links International (Sri Lanka) launches 100% subsidiary in India, Cargoplan International⁸⁹.

345. There also large domestic logistics companies. Concor, primarily a container train operator with a network of ICDs, is entering into other areas of the transport/logistics chain, e.g. the third container terminal at JNP with Maersk, and some participation in trucking and air cargo. A number of domestic companies offer express delivery on a national basis, e.g.

- DTDC Ltd: largest express courier service in India, 10 million deliveries/month, a franchised operation with 3700 business partners, strategic alliance with TNT for international deliveries
- Gati Ltd: connects 594 of the 602 districts in India, 10 express distribution centers, 200 storage locations and 2000 trucks
- Safexpress: serves 522 destinations through a hub and spoke operation from 37 super-hubs, >3000 trucks, has strategic alliances with Panalpina and Miebach Consulting

Domestic companies are providing national coverage for contract logistics, e.g.:

- AFL: 45 warehouses in 29 states with plans to increase storage to 2 million ft² by the end of 2007 to provide contract logistics throughout India, has alliance with DHL.
- Jeena and Company: 15 warehouses and warehousing/quality control inspection centres in Delhi, Chennai, Mumbai and Tiripur
- Transport Corporation of India: national transport coverage, almost 3000 trucks daily, 3 million ft² of storage, XPS an express delivery subsidiary, and a joint venture (Transystem) with Mitsui.

346. Consolidation is taking place, through acquisition and joint venture, to widen supply chain management solutions. Indian companies are beginning to move overseas. Gati, for example, opened an international operational base in Singapore in 2003 and has added offices in China, Hong Kong, Mauritius, Sri Lanka and Thailand. Indian companies are also beginning to buy into companies overseas, All Cargo Movers acquired 34 percent of Antwerp based ECU Hold NV to have greater access to its international distribution network.

347. TVS Logistics, with 24 locations in India, has developed from organizing logistics for the TVS group to become a specialist logistics company for the Indian automotive sector, with clients such as Ashok Leyland, Ford, Telco, and Mahindra and Mahindra. It has expanded abroad with joint ventures in Thailand, Spain and the UK, and also partnered with the Wincanton⁹⁰ to provide “*a seamless supply chain from India right through to the production sites of the large automotive manufacturers and OEM suppliers*”. They not only handle the containers from the port of entry but also strip the containers, repack into reusable boxes, label, batch tracking, manage the empty boxes and transport the goods to the production lines.

348. At present, the size of the large 3PL and 4PL sector is small, reflecting the demand for sophisticated integrated logistics solutions. But, the size of the industrial sectors requiring such solutions is growing rapidly and so are the 3PL and 4PL firms. Relatively few companies use outside logistics providers in comparison with developed countries and there is thus the potential for considerable expansion in both scope and coverage.

⁸⁹ All reported in Hindu Business Lines during 2005 – 6. Other large international logistics companies like Bax Global and NYK Logistics are also active.

⁹⁰ Centered in Germany with 50 operational facilities in Europe, 27,000 employees and an annual turnover of €2.5 billion.

3.6 The role of the Logistics Providers

349. The logistics industry in South Asia is developing quickly as the economies change. Most supply chains are still relatively simple point-to point movements:

- Factory to wholesaler's warehouse, trader's go down, or nominated forwarder's storage
- Port of entry to manufacturer's storage, trader's go down or wholesaler's warehouse
- Domestic supplier to factory go down
- Wholesaler's warehouse to distributor warehouse and then through to the retail outlets

350. Such movements do not require complex logistics. Even in the retail sector, where highly sophisticated supply chains are often found, simple logistics still predominate. Outside the major cities, retail outlets are small and widely dispersed and are served by chains of distributors and wholesalers. Most of the goods are low value and the emphasis is on simple logistics to minimize delivered cost. There are limited opportunities for processing en-route through the supply chain. Inventories may be kept at low levels but, because of the lack of real time sales information, just-in-time delivery is not possible and there may be empty spaces on the retailers' shelves. Third party logistics providers are unable to offer either the economies of scope or scale and have had little incentive to expand their role or integrate the services that they provide.

351. However, there is some demand for more complex and more integrated supply solutions and thus opportunities for 3PLs. These opportunities are correlated with the size and range of economic activities. They may not exist in Bhutan, be virtually nil in a small economy like Nepal, and be very limited for the medium sized economies of Bangladesh and Pakistan. In absolute numbers, the most frequent opportunities will be found in India but they would still be a very small proportion of the total activities of the logistics sector. However, the opportunities will increase.

352. *In Pakistan and Bangladesh*, the forwarding industry continues to handle the domestic logistics for imports but much of the growth has come from providing services to exporters, especially the garment and textile industry. The role is almost always confined to providing domestic supply chain services:

- *Exports*: They are nominated by either the exporter or the foreign buyer's agent to arrange delivery of the FOB shipments. They assume a larger role when chosen to arrange C&F shipments; but the larger textile companies usually have their own shipping departments.
- *Imports*: local forwarders may occasionally arrange FOB shipment from foreign ports but, in most cases, they are nominated to arrange the inland movement of C&F shipments.

353. In Pakistan, almost all LCL shipments are handled by freight forwarders as well as about 20 percent of the FCL shipments. The services are simple as the supply chains are straightforward with a direct movement between the factory and port or through an ICD. The consolidation business has been slow to evolve because forwarders are not allowed to move containers from the port except to nearby container freight stations or the inland dry ports and only with the permission of Customs.

354. The provision of more extensive supply chain activities is rare and generally confined to the international companies; Exel Logistics handles the parts exchange for Dell Computer and Universal Freight provides some consolidation for foreign buyers. Other services such as quality assurance, inventory management and "pick and pack" remain very limited. The recent Logistics Study of Pakistan found significant improvements in the cost/quality of external logistics, since the previous survey in 1996, and identified in-firm logistics as the area where the greatest improvements and cost saving/quality enhancement could now be made.

355. *In India*, freight forwarders are not allowed to assume the role of the cargo owner when clearing imports; this would require an import license and be listed on the shipping documents. The forwarder can act as the customs agent but the consignee/shipper must participate in the clearance of the goods. The forwarder cannot, therefore, arrange door-to-door shipments of LCL, and FCL only when the cargo is cleared at the consignee's premises. International door-to-door shipments are also limited by the requirement that forwarders be licensed as Multimodal Transport Operators⁹¹ (MTO) in order to issue house bills-of-lading covering multimodal movement. To qualify for a license the freight forwarder must have a CFS, CHA license, and warehouse and ship agency. Given these requirements, most MTOs are also NVOCCs (Non-vessel operating common carriers).

356. Some freight forwarders provide consolidation services. This tends to take place at CFSs located near the major ports. However, the amount of LCL shipment is small and declining: in FY04, LCL was only 1.5 percent of FCL imports and 0.6 percent of export containers. Most activity at the CFSs involves the stuffing/stripping of FCL containers. There has been a proliferation of Off-Dock Container Yards with attached CFSs. Initially, these were operated by the Central Warehousing Corporation (CWC), Concor, and stevedoring companies but increasingly the shipping lines, such as APM, and the terminal operators have become involved.

357. There are also a large number of standalone operations. Of the ≈200 ICDs/CFSs, about 60 percent are relatively small private road-based facilities. Many are located near the gateway ports, especially around Mumbai and Chennai. The majority are bonded at which cargo is cleared by customs. The facilities are mainly simple sheds with or without loading docks. Equipment is usually limited to forklifts and reaches stackers. The services are limited to receipt and dispatch, storage and consolidation.

358. For internal cargo, most warehousing is provided by individually operated go downs; usually smaller than those for international traffic and provide little more than covered storage for rent. They are often a property investment with the owner contracting out the operations. The operator rents space to producers, wholesalers and distributors to store goods prior to sale and to transport companies for the transfer of goods between line-haul and local collection/distribution. The restrictions on truck movements in the major cities are leading to the development of truck terminals on their periphery.

359. Warehousing and storage, for both international and domestic cargo, have four main deficiencies:

- There are few national or even regional networks
- There are few distribution centers
- There are few cross-docking operations
- There is little modern inventory management or other value added services

The public sector manages two national storage networks, but they are relatively simple operations:

- Concor provides a national network of ICDs but these are primarily staging points for containers moving to/from the ports.
- CWC operates 31 CFS/ICD, among a total of over 500 warehousing facilities around India. Leases space but does not appear to offer integrated services.

360. A few, privately operated national networks are beginning to develop, covering the range from pure warehousing to retail distribution. Excel leases approximately 50 facilities around the country and provides them as part of their forwarding and consolidation services. Hindustan Levers uses a network of warehouses, mostly operated by its distributors. The express package/delivery services have national networks but these are used for transit rather than storage.

361. Many of the limitations may be attributed to the tax system. To avoid the general sales tax and delay state taxes, it has been necessary to have warehouses in each state and move goods as internal transfers, without expectation of immediate sale. This has led to large numbers of small, third party

⁹¹ A license issued by the Department of Shipping

warehouses and excess inventories. Cross docking is not possible as it would imply that a sale had already been arranged. The introduction of VAT may allow rationalization and consolidated networks with modern inventory management. The leaders will be the large producers of household and food products (e.g., P&G, Hindustan Lever) and 3PLs with significant domestic operations, such as Exel⁹².

362. The multinational freight forwarding/logistics companies have adopted different approaches in the sector. For some, the core business is as the nominated forwarder for foreign buyers and suppliers. Others have become more involved in domestic logistics. Schenkers, for example, provides outbound logistics for European buyers but is not involved in domestic freight forwarding and subcontracts for local transport and customs agent services. Bax Global, on the other hand, has expanded to provide forwarding and NVOCC services to serve medium sized exporters. It operates distribution centers for pharmaceuticals, agriculture and automotive products. Warehousing and trucking are subcontracted but it acts as a CHA. NYK Logistics, part of the NYK Line, operates like Bax Global.

363. Most international 3PLs compete for the international components of the supply chain but, within India, limit their activities to providing forwarding and warehousing services for foreign clients. They are allowed to have 100 percent ownership of local subsidiaries but few have invested in domestic logistics companies⁹³. Few have established extensive domestic warehousing networks or provide substantive value-added services to customers. Exel (now part of DHL) is an exception; it has become involved in the complete inbound supply chain from container yard to factory floor. It operates ≈170,000 m² of warehousing, most of which is racked storage. For domestic companies, it provides factory warehousing for inputs and products as well as distribution warehousing for stocking products throughout India. It operates supplier warehousing for foreign companies that have multiple suppliers and assemble products for regional distribution.

364. Some of the large domestic groups, such as Reliance and Tata, have established their own 3PLs to provide services within the group. TVS Logistics started this way but has expanded outside the group. Domestic 3PLs are increasing their range of activities. The Transport Corporation of India is now in joint venture with Mitsui to handle all of Toyota's domestic logistics.

"Responsibility starts once imported parts come to the domestic port. And from there we bring them to the plant. All the OEM parts from 70 odd suppliers from across the country. We transport the cars and the spare parts to the dealers" Interview Mr. V. Agarwal, 18 April, 2005

Toyota established the criteria of service provision (delivery times, reliability, closed trucks, etc) and then brought together foreign and domestic logistics providers to develop and deliver the service required. The domestic provider has additional business and acquires knowledge which can be applied to its other business.

"Toyota teaches us. We have used that opportunity to send people outside the country and we have been able to get the benefits of that expertise. Then we start using some of the best practices with other companies as well" ibid

365. Similar spin-offs might be hypothesized from the growth of modern retailing and the partial opening up of the sector to foreign companies. Several domestic companies have announced plans for major investment in modern supermarkets and one, at least (Bharti), has announced a tie-up with a foreign company (Wal-Mart) to provide the wholesale and supply functions. Introducing the logistics requirements for supermarket chains and the logistics expertise of companies like Wal-Mart may have major implications for other sectors, such as horticulture. However, though logistics is developing, the simple supply chain and basic logistics sector is likely to remain for some time.

⁹² Hindustan Lever is planning to reduce its warehousing from 44 facilities to 28 and then to 15.

⁹³ There are exceptions, Snowman was established by Japanese investors and runs a fleet of 90 reefer trucks from 16 cold stores, covering procurement →storage→retail distribution. In 2006, the domestic logistics company, Gateway, acquired a 50.1 percent stake in the company.

Chart 1 Small/Medium Garment Exporter (Exports by Sea)

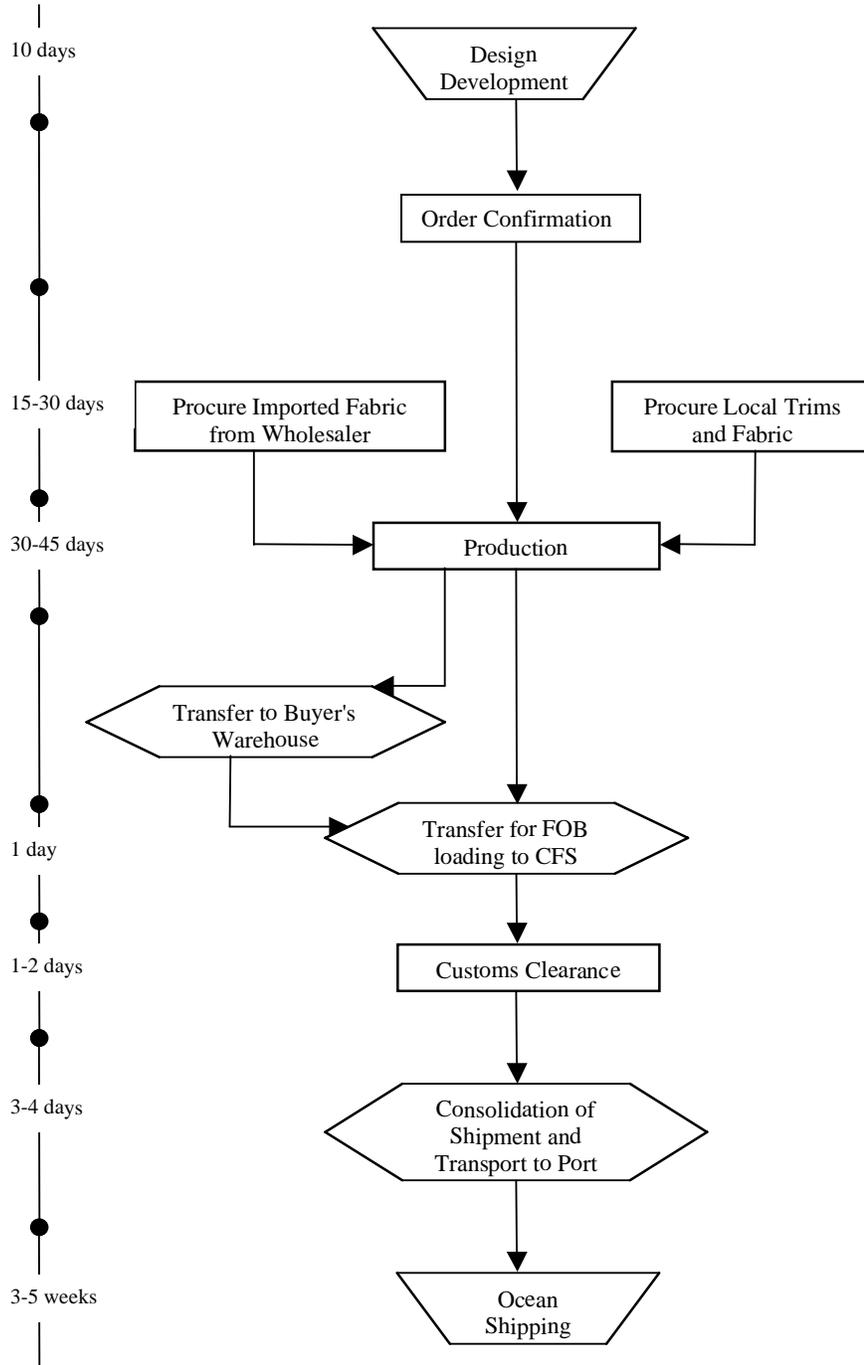
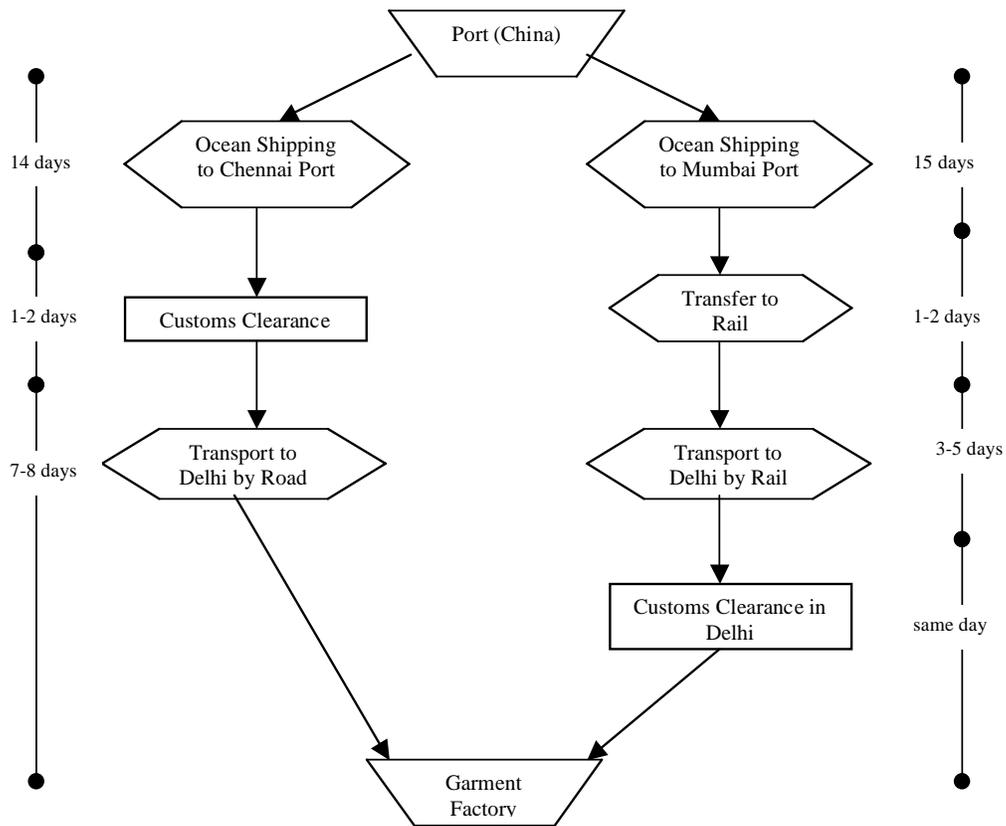


Chart 2 Inbound Logistics for Fabric Imports



EXAMPLES OF SUPPLY CHAINS

Chart 3 Export of Grapes

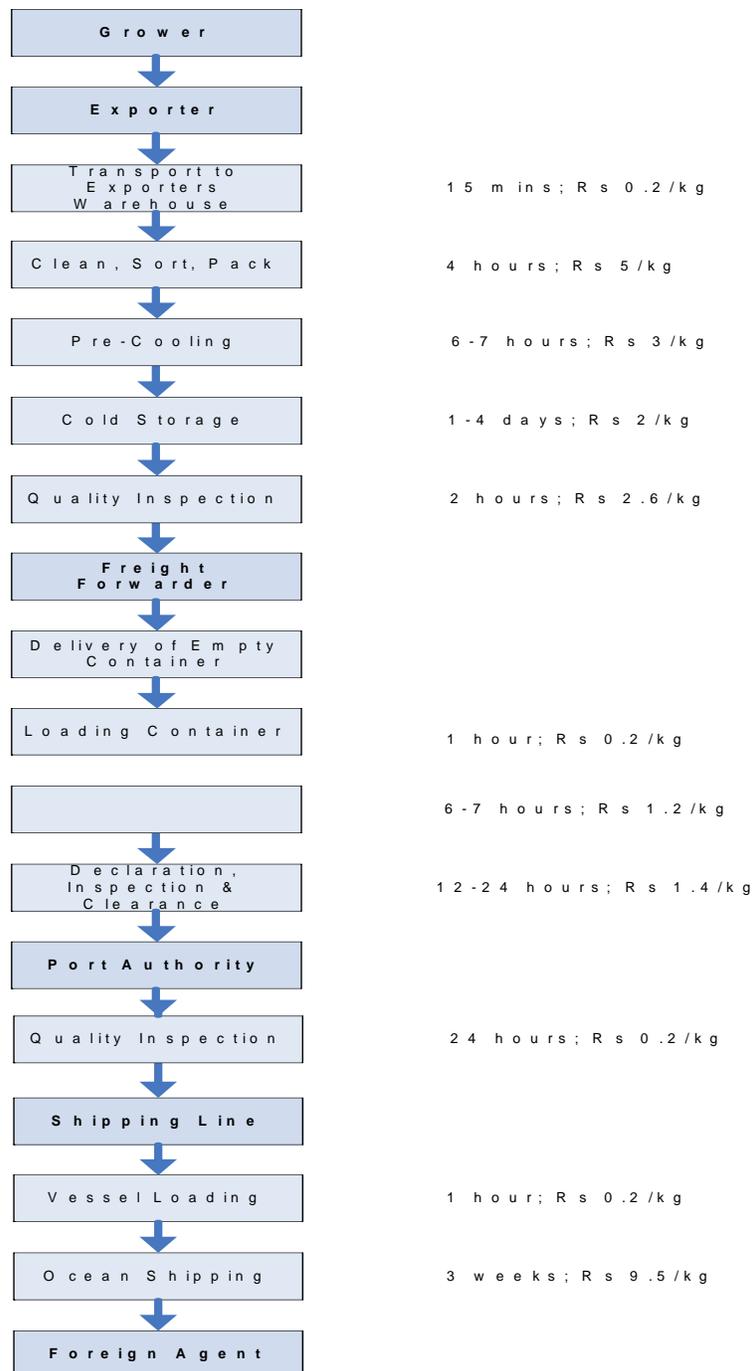


Chart 4 Maruti Passenger Cars

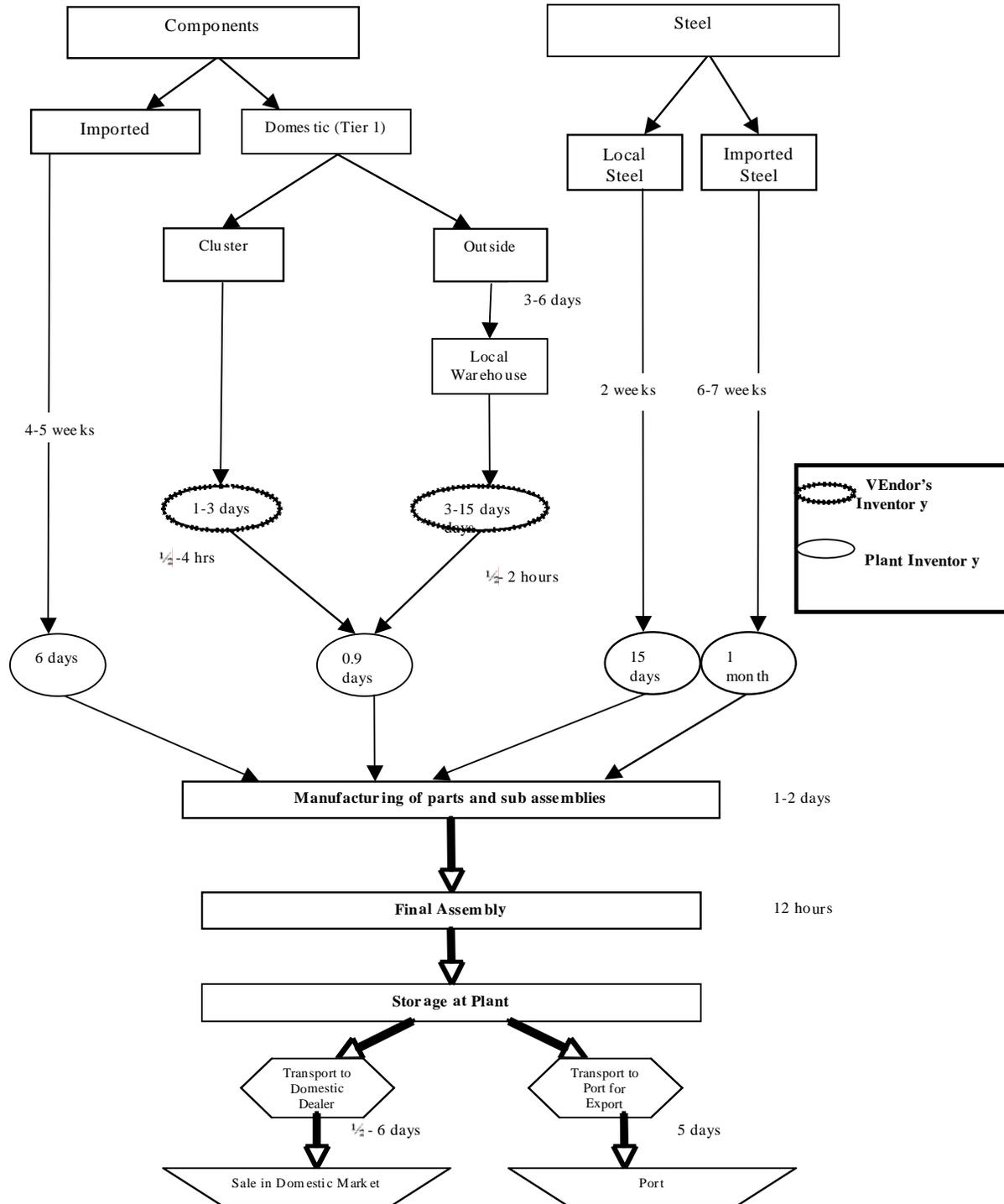


Chart 5 Maruti: Imported Components from Japan

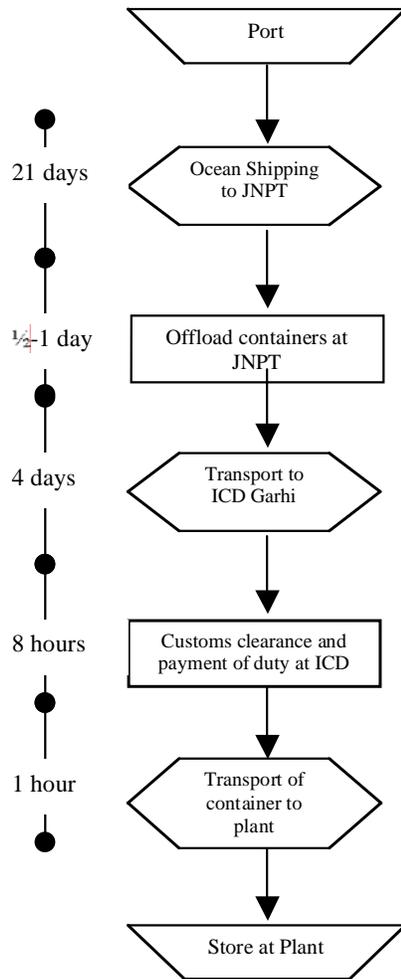


Chart 6 Maruti: Supply Chain for Steel Import from Korea and Japan

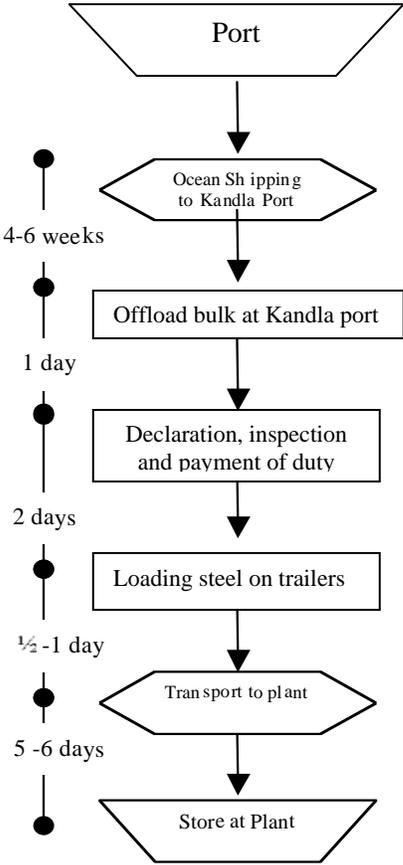


Chart 7 Maruti: Car Exports to Europe

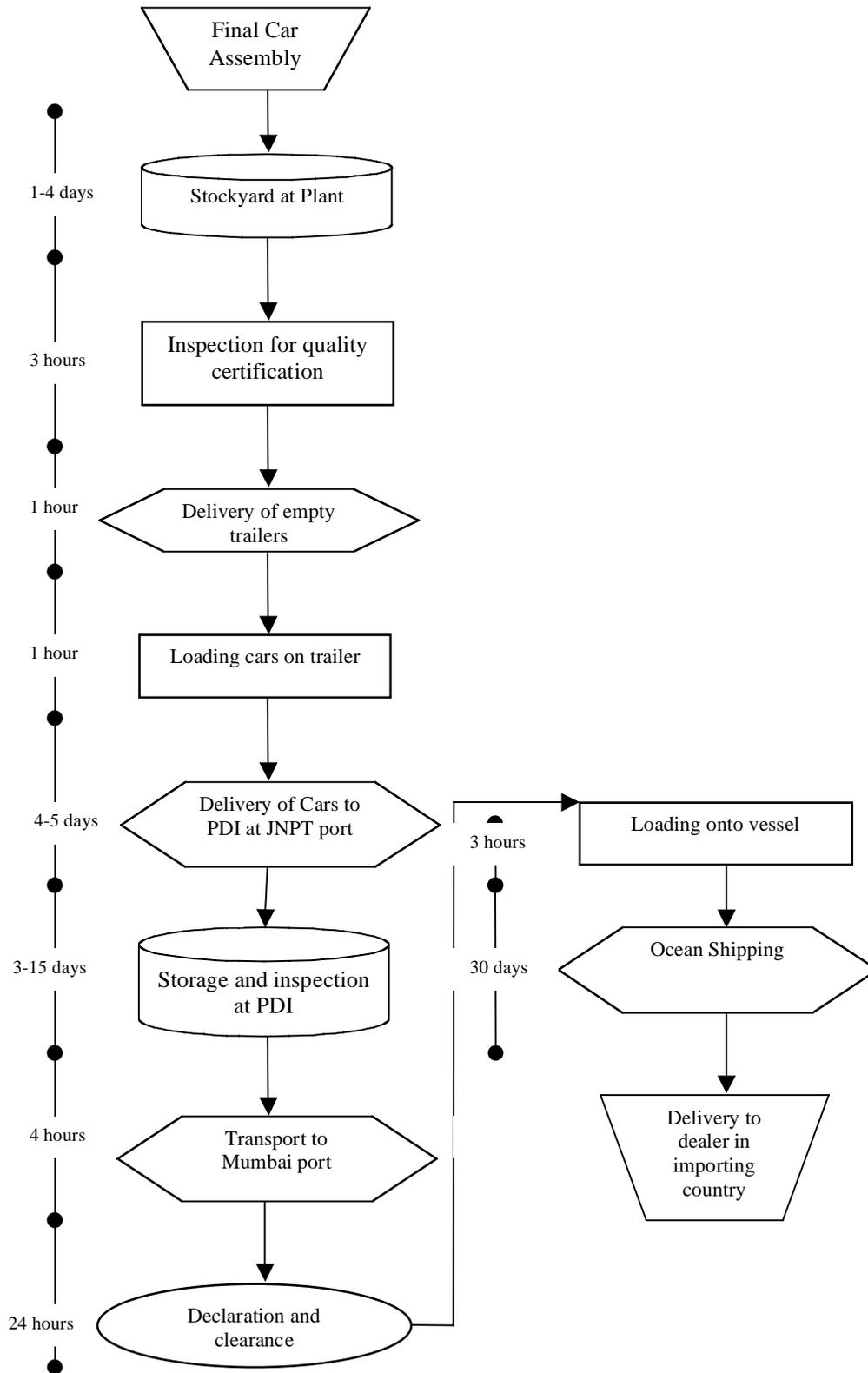


Chart 8 TATA Cars: Inbound and Outbound Supply Chains

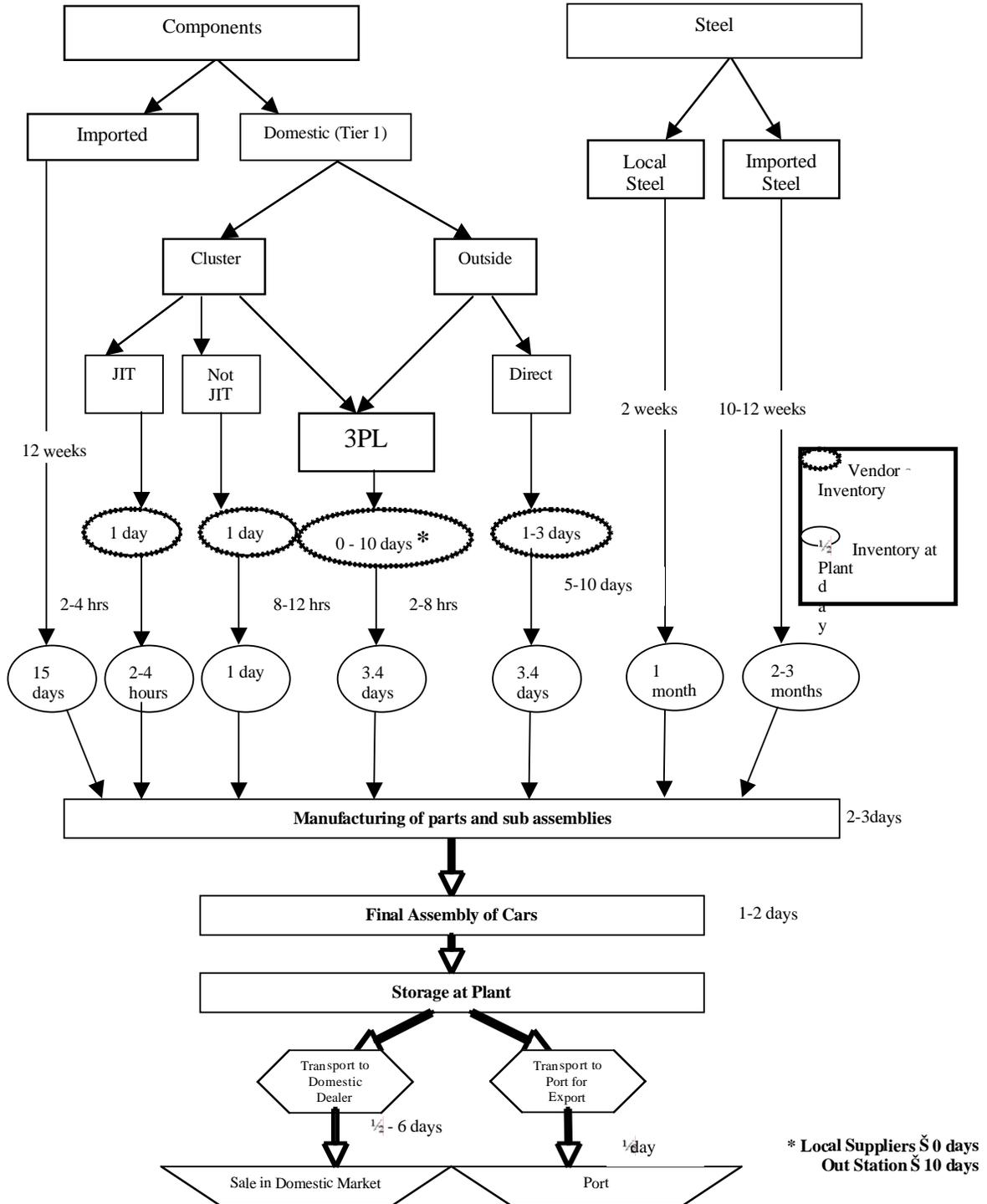


Chart 9 TATA Cars: Import of Components from China

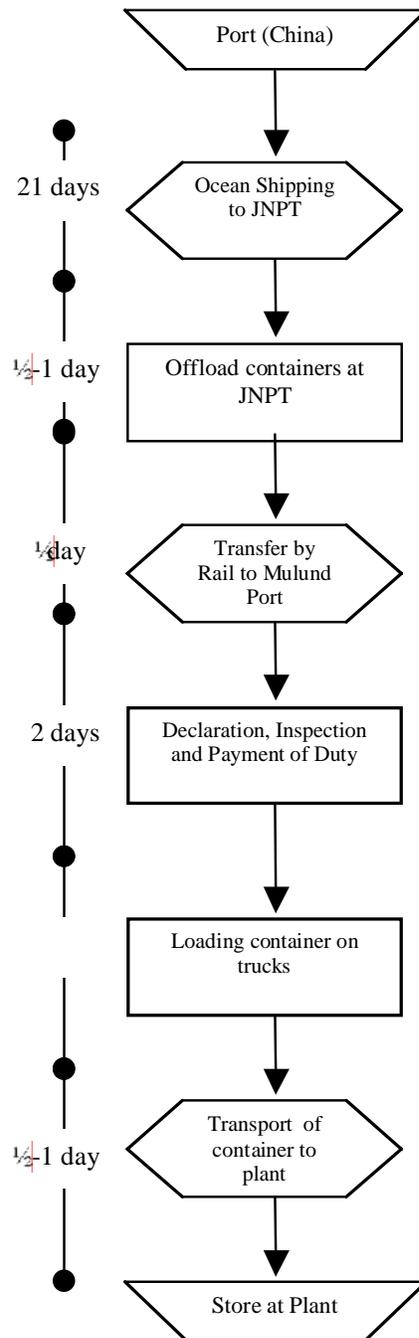


Chart 10 TATA Cars: Import of Steel from Russia

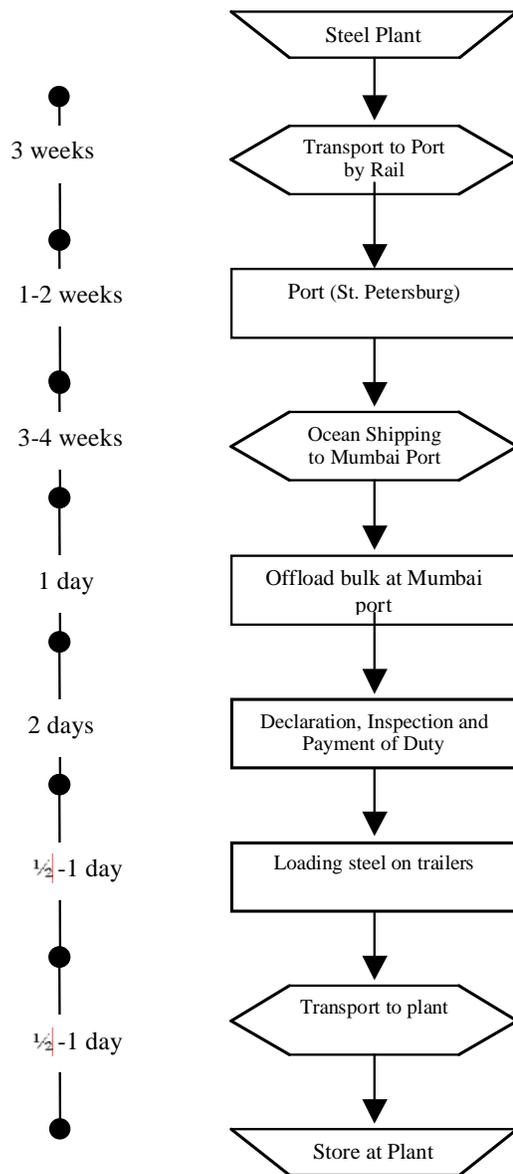
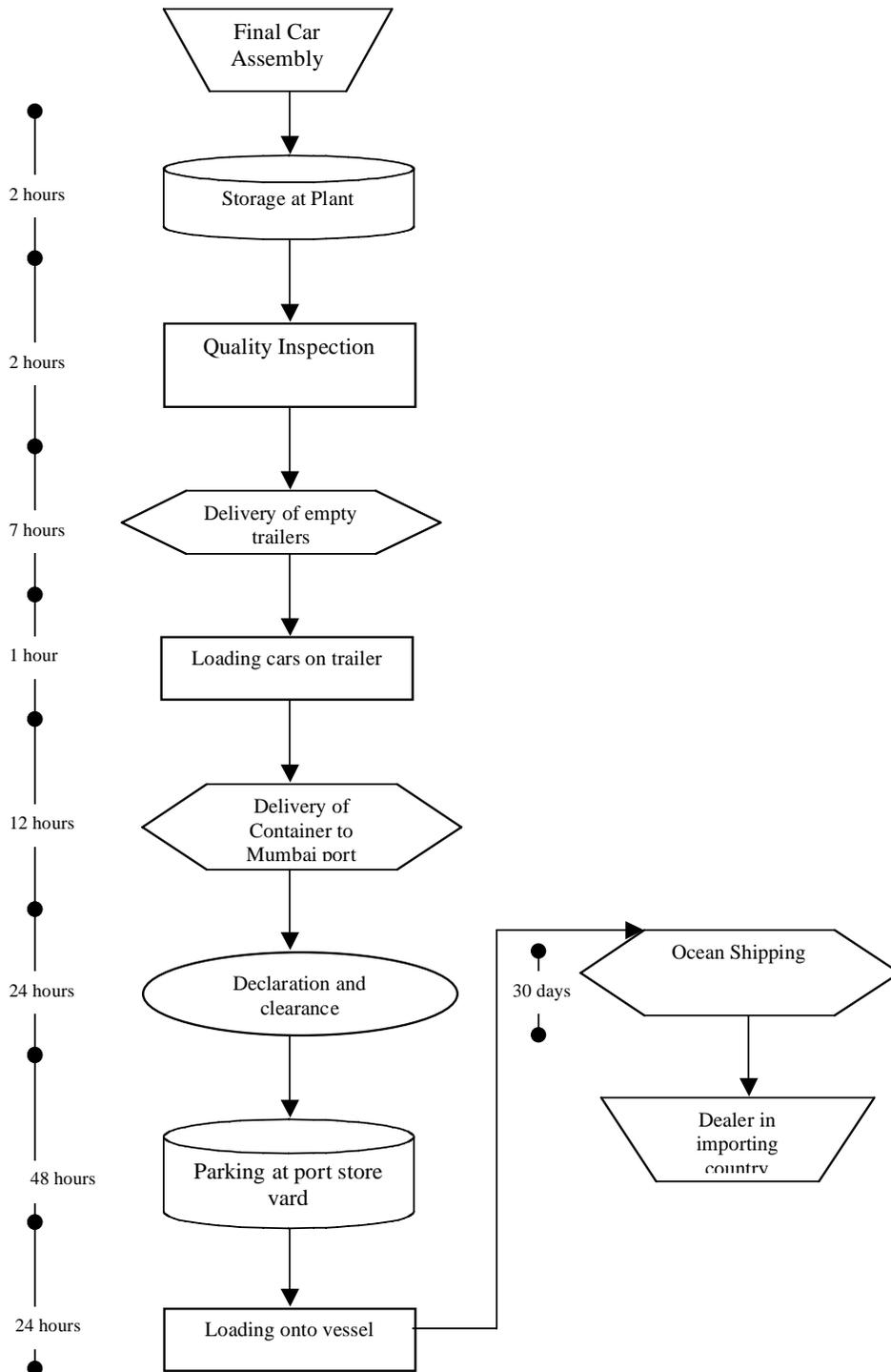


Chart 11 TATA Cars: Exports to Europe



ANNEX 4. INTRA-REGIONAL TRADE

4.1 Formal and Informal Trade Flows

Formal Trade

366. As Section 2.1 detailed, formal trade within continental South Asia is very low in comparison with other regions of the world. It is very imbalanced: India accounts for 64 percent of the exports but only 16 percent of the imports, and has substantial positive trade balances with all the other countries except Bhutan. There are particularly low proportions of reported trade between the region's largest economies, Bangladesh, India and Pakistan. This may reflect the long periods of strained relations, and the fact that Pakistan maintains a restricted positive list of goods that can be imported from India, rather than the more permissive negative list approach. It may also reflect similarities in their export products, and also the large volumes of trade which are either not reported (informal) or misreported.

Informal Trade

367. Such trade may overcome political prohibition or hurdles to trade, but it seems to be a much wider phenomenon. Even where there are few formal barriers to trade as between, for example, Nepal and India, substantial flows of informal trade take place. Reductions in the level of tariffs, through the creation of the South Asia Free Trade Area (SAFTA), may not substantially increase formal trade unless other issues are also addressed:

- Heavy domestic indirect taxes imposed at border crossing points, such as the “additional” duties levied in India, sales and income withholding taxes in Pakistan, or VAT and advanced income tax in Bangladesh;
- High transaction costs at customs posts: documentation, informal payments, and long delays. All may increase if there are strict rules of origin attached to SAFTA trade;
- Long distances/high transport costs to/from the nearest customs post, significantly raising the costs for small local traders.

These factors may make it cheaper and/or more efficient to trade informally despite the necessary pay-offs to customs and other border officials.

Misreported Trade

368. At present, this is confined to trade between India and Pakistan. Goods which are not on the positive list are shipped to a third country, relabeled, and then re-exported to Pakistan. With the growth in the number/diversity of trading agreements being signed, misreporting of export origins to take advantage of either free trade or reduced tariffs may become a more general issue. This has been an issue for some Nepalese exports to India, leading to trade restrictions.

4.2 Key Issues In Intra-Regional Trade

369. One underlying reason for limited intra-regional trade may be a legacy from the inward looking economic policies, a rather mercantilist view of trade – exports are good, imports are bad. Action can be taken to facilitate trade but, if the basic premise that trade benefits both the importing and exporting countries is not fully accepted, it may have limited effect. There are six main issues that need to be addressed if intra-regional trade is to grow substantially.

370. **Infrastructure:** most intra-regional trade is not along the main trade corridors and the quality of infrastructure away from these corridors is often poor. There are infrastructure constraints to rail transport between some countries. With big imbalances in trade, the importing country may feel little incentive to improve the infrastructure, given the negative attitudes to imports.

371. **Transport services:** much of the region's intra-regional trade is carried by trucks and generally they are not allowed to collect/deliver goods in neighboring countries. Consequently, cargo has to be unloaded, at the border, from the trucks of the exporting country and reloaded to the trucks of the importing country. There are important differences in the operating standards of the railways which limit seamless rail services. Until 2006, there were few, if any, direct scheduled shipping services within South Asia, other than to/through Colombo. For some important flows, such as from Nhava Sheva to Bangladesh, this remains the case.

372. **Documentation:** formal trade requires documentation and though governments are simplifying customs documentation and streamlining procedures, these efforts have concentrated on their main gateways to inter-regional trade. The benefits have not yet spread to the less important gateways such as the land customs posts handling intra-regional trade. Inadequate communications and power severely limit the effectiveness of computerized clearance and, consequently, manual systems often continue at the land borders while the computerized systems operate at the major gateways.

373. **Security:** the cross border movement of goods, people and vehicles generate potential security concerns to the receiving country. Security is an issue at all borders but, with the tensions in South Asia and high perceived security threats, tight and often multiple security procedures add to the time and cost of cross-border movements.

374. **Corruption:** highly demanding documentation and security procedures provide an environment that is conducive to rent seeking. Traders are prepared to pay for expedited border clearance. The environment is enhanced by the remoteness and poor communications available at many border crossings. Threats to detain cargo while higher management is consulted have particular resonance when higher management may be miles or days away.

375. **Land port philosophy:** air and seaports are geographical necessities as the interface between air/sea and land. They are unfortunate inevitabilities. Land borders are manmade, dividing political entities. There is no physical need for transport interchange and there has been a worldwide trend toward through cargo flows at land borders: not, however, in South Asia. There is a philosophy which equates the border to the sea coasts. Land ports are being created with the same facilities found at sea ports. They will add to the vested interests for the maintenance of the present border regimes. This attitude is perhaps most developed in Bangladesh which has established a land port corporation and is trying to attract the private sector to develop the facilities. The Indian Government has also announced its intention to establish a Land Port Authority to construct 13 Integrated Check Posts (ICP), at a cost of IRs 853 crore. These ICPs would:

“house all regulatory agencies like immigration, customs, border security together with support facilities like parking, warehousing, banking and hotels in a single complex equipped with modern amenities” Mr. Jairam Ramesh, Minister of State for Commerce

Four ICPs are planned with Nepal, seven with Bangladesh and one each with Pakistan (Wagar) and Myanmar (Moreh). Petrapole, the main crossing into Bangladesh would be the first priority⁹⁴.

376. More than 90 percent of intra-regional trade is between neighboring countries, higher than elsewhere in the world. This reflects partly the long distances and perhaps also the complexity of transit documentation and processes. Since there is little trade between non-contingent countries, this section focuses on the links between neighboring countries.

⁹⁴ Financial Express, January 10, 2007

4.3 Bangladesh and India

377. Trade between Bangladesh and India is the largest intra-regional flow in South Asia, amounting to about US\$1.8 billion, 30 percent of the total intra-regional trade. There is a massive trade imbalance; India exports are more than ten times greater than its imports. In terms of value, cereals and other foodstuffs account for about a third of India's exports, and fabrics and yarn, a further 13 percent. In tonnage, there is substantial flow of very low value building aggregates from India. Bangladesh's exports include inorganic chemicals and fish, but the tonnages are very small in comparison. There is significant informal trade with live animals (mainly cattle) and consumer goods moving from India and synthetic yarn, electronic goods and spices being exported from Bangladesh.

378. While the trade has considerable importance to Bangladesh, about 12 percent of its total imports and key inputs into its garment industry, the quality of land trade/transport facilitation are dire. It is not an exaggeration to describe trade between India and Bangladesh as a logistics horror story.

4.3.1 Infrastructure

379. Trade uses rail, road, sea and inland water transport. Air freight is very little used and flight frequency is limited. There is a working agreement between BR and IR for cross-border rail operations and a protocol on Inland Water Transport and Trade. There are 35 designated land border crossing points through which trade can take place: 21 road crossings, 6 rail crossings (only 3 are operational) and 6 river crossing points.

Rail

380. Both IR and BR operate on broad gauge in the western border area but the operating standards of the two railways have diverged. IR wagons can cross into Bangladesh but BR's wagons do not meet the technical standards required in India. BR hauls the wagons within Bangladesh but the BR system cannot handle the length of IR trains which have to be reconfigured at the border.

381. BR's Eastern Region operates on meter gauge, though some dual gauge sections have been constructed. The Jamuna Bridge provides a link between the two Regions but cannot accept fully loaded IR wagons and the broad gauge does not yet extend to Dhaka. As a result, about half the IR wagons go to Noapara, where the cargo is transshipped to barge for shipment to Eastern Bangladesh. The rest are routed to a terminal just west of Jamuna Bridge where the cargo is transshipped to truck or BR wagons.

382. Other rail links carry relatively little traffic and at least one link in Eastern Bangladesh has been effectively closed by the conversion of the IR track to broad gauge.

Road

383. The road networks on both sides of the border have the same characteristics – narrow, poorly maintained, slow, congested with both motorized and non-motorized traffic (NMT). The main road crossing is Petrapole – Benapole, which accounts for over 50 percent of India's overland exports, and almost 90 percent of Bangladesh's exports. The quality of the road links can be gauged by the truck transit time between Kolkata to Petrapole, a distance of 95 kms. A study by Das and Pohit (2002), estimated 5.6 hours, an average speed of 17 kph; the Asian Institute for Transport Development (2005) estimated 10 hours, an average speed of 9.5 kph.

384. The national highway from Kolkata (NH34) is mainly two lane with unpaved shoulders, carries >3,000 trucks/day, is heavily congested with NMT, and is subject to closure during floods. The roads

connecting the national highway to the Bangladesh border are 5.5 meters. The network is now being improved under the West Bengal Corridor Development Project:

- NH34 is being improved to 7 meter + 2 x 2.5 meter paved shoulders + 2 x 1.5 meter earth shoulders, with four lanes through five towns
- SH1 to Bangaon (Petrapole) and the SH10 to Hilli are being upgraded to 7 meter + 2 x 1.5 paved shoulders + 2 x 1.0 meter earth shoulders

385. The project should significantly improve road service but the improvement of the SHI does not extend to the border itself. Bangaon is some kms from the customs point, trucks have to travel through the town which is always congested and the section to the border is described as “abysmal”. Various officials have stated that investment will be made but

“No concrete schemes have yet been worked out for modernizing Petrapole and the access road” Hindu Business Line, October 30, 2006

The road access is further hampered by the inadequate capacity of the parking areas at the border, so that trucks park along the sides of the road and in Bangaon town itself.

Road Border Facilities

386. At Benapole, the Bangladesh customs station, there has been extensive development of infrastructure with loading/unloading platforms, warehousing, etc. On the Indian side, there is little infrastructure, reflecting the limited imports from Bangladesh. There is a CWC truck park, where trucks wait for customs clearance and their turn to cross the border. However, the truck park does not have the capacity to accommodate the 1,000 – 1,200 trucks that are normally waiting and these trucks have to park elsewhere. The other infrastructure at this key border crossing is poor – power is intermittent; there are no telephone communications between the Bangladesh and Indian Customs’ posts; and there are no banking facilities at Benapole, so traders/CHAs have to go to Jessore to obtain the funds to pay customs duties.

387. Facilities at other land customs crossing points are even more limited. As all cargo has to be transhipped, this lack of infrastructure can only increase the loss and damage to cargo.

Sea

388. The port facilities in both Bangladesh and India are described previously (Section 3, and Transport Annex 1). Intra-regional sea trade faces no particular barriers.

Inland Water Transport (IWT)

389. IWT is still an important transport mode for low value, bulk commodities within Bangladesh. There is cross-border IWT trade in low value commodities and IWT for containers has been proposed. While the waterways exist, their draft is restricted, and need dredging, some of the sections do not allow night navigation, and one section only allows one-way movement.

4.3.2 Transport Services

Rail

390. There is a substantial flow of very low value bulk cargo; the volumes vary but in the range of 2 – 3 million tons a year. There should be the potential for growth, for both bulk and container traffic; border crossings by rail are generally faster and less cumbersome than road crossings. Access across the Jamuna Bridge would remove a major constraint and studies are ongoing to determine whether the bridge can be modified to accept IR wagons. One report concluded that the Bridge could accept IR container trains, but cross-border movement of containers seems not to be permitted. In the longer term,

the proposed bridge across the Padma River would, if rail access is incorporated, provide a much more direct route to Dhaka than via the Jamuna Bridge.

391. Rail offers the potential for substantial reductions in the time/cost of long distance trade. The time and cost for the goods produced in, for example, Ludhiana (Punjab) would be reduced considerably by rail rather than the present rail and sea route, Table 51.

Table 51: Transport Costs: Ludhiana – Bangladesh

	Cost/TEU	Time
Rail and sea, via JNPT	Rs. 90 – 100,000	30 – 40 days
Through Rail	Rs. 60,000	9 – 10 days

Source: AITD

Such a link would require improvements in trade relations, to allow the through movement of sealed containers to ICDs in Bangladesh, improved infrastructure on BR and a substantial improvement in the operational performance of BR. In the

foreseeable future, rail is likely perhaps to remain confined to bulk, low value commodities.

Road Transport

392. Bangladesh does not allow foreign trucks within the country, nor does India allow Bangladesh trucks within India. There is no effective bilateral or multilateral agreement governing road transport operations. All cargo has to be transhipped at the border, adding substantially to the costs of trade-transport by truck.

393. Das and Pohit estimated the truck time, from loading at Kolkata to delivery at Benapole, and re-crossing the border, excluding delays at unloading, averaged just less than 130 hours; over 5 days for a delivery of 100 kms. They estimated that, without unnecessary delays, it should take about 30 hours (which still seems an excessively long time), with two-thirds of the time spent at the border. A more recent study shows much the same; the situation has not improved, Table 52.

Table 52: Truck Transport Time: Kolkata – Benapole

Truck Activity	AITD	Das and Pohit	
	Actual	Actual	Without delays
Loading at Kolkata	5	6.6	2.5
Transport to Petrapole	10	5.6	2.4
Waiting at Petrapole	104	99.4	21.3
Waiting to unload, Benapole	{ 24	n.a.	n.a.
Unloading		10.8	1.8
Return to Petrapole	5	6.3	1.6
Total	148	128.7	29.6

394. If the AITD estimate of time for unloading (including delays) is used, the two estimates correspond closely; a total time of just over 6 days, a delivery speed of less than one kilometer per hour. Delays of up to ten days, at Petrapole, are not uncommon. Trucks carrying perishable commodities, like vegetables, are, however, given priority on both sides of the border and are generally cleared the same day. Unannounced changes to customs and security procedures are not uncommon and, when they occur, the delays and queues of trucks can be even longer.

395. Though all elements of the trip are very time consuming, the major delay is waiting to cross the border. Indian formalities are cumbersome but take nowhere near four days. There is a simple queuing problem; no more than 280 – 300 trucks can cross the border on any one day. The customs facilities are only open 06.00 – 18.00 and are closed, in Bangladesh, on Fridays. Once across the border, the trucks go to the yards to unload to temporary storage. Bangladesh trucks with exports to India cannot proceed beyond the border and the goods are transhipped to vacant land beside the Indian Customs House; there is no customs bonded warehouse.

396. The very long trip time reduces truck utilization and increases transport costs, but the freight rate is a relatively small part of the total delivery cost, Table 53.

Table 53: Trip Cost: Kolkata – Benapole
(9 tonne shipment)

Cost element	Cost (Rs.)
Transport costs ¹	2800
Associated costs ²	3500
Clearing agents fees ³	540
Unloading at Benapole	600
Facilitation/speed money	1500
Total	8940

¹ Cost of transportation from Kolkata to Petrapole.

² Parking at Benapole/Petrapole and CWC parking plots and expenses for the crew.

³ Costs to cross the border and unload at Benapole.

Source: AITD

payments do not include cargo clearance within Bangladesh which are reported to be very much higher, but are not paid by the Indian transporter.

The overall cost is the equivalent of US\$22/tonne, about US\$22 per tonne-km, very much higher than the average freight cost in India (Section 3.5). Transport is only 30 percent of the cost; 70 percent of cost is at the border crossing. The trip involves informal payments at several stages:

- Payment for obtaining a serial number for entry to the CWC truck park
- Payments to local people in Bangaon, mainly as informal parking charges
- Contributions to unauthorized funds e.g. the Petrapole Border People Welfare Fund.

There are also payments to Customs/Security staff for clearance, border crossing and unloading. These

397. Road improvements will reduce truck transit time and cost but will not have a major impact on the total costs; most of the costs are incurred when the trucks are not moving. The major cost reductions would come from reduced time at the border through either streamlined procedures, to reduce the processing time/truck, or more customs officers for the simultaneous clearance of more trucks. The former is clearly preferable. The very poor conditions at Petrapole are leading to plans for extensive border infrastructure.

398. Truck traffic through Petrapole has been falling. 100,000 trucks crossed in FY2005, the 88,000 in FY2006 and 42,600 during the first six months of FY2007, an overall reduction of some 15 percent, although total trade between the countries has not declined.

Sea

399. Sea trade totaled about 750,000 tonnes in FY2004, Table 54.

Table 54: Sea Trade: India and Bangladesh
(‘000 tonnes)

Port/Port Group	-----FY1999-----			-----FY2004-----		
	Export	Import	Total	Export	Import	Total
Kandla	184	0	184	170	8	178
JNPT and Mumbai	237	97	334	275	39	314
South India ports	6	0	6	28	5	33
East Coast ports	65	2	67	71	16	87
Kolkata and Haldia	30	12	42	72	29	101
Total	522	111	633	647	107	750

JNPT is the most important India port, handling about a third of the total traffic. Until 2005, all container traffic had to be routed via a hub port, resulting in a transit time of 34 – 40 days. A direct container service from Vizag, via Kolkata, to Chittagong has now started. The high response caused the operator, Seaways, to increase the frequency with an additional vessel. Seaways have an operating arrangement with Concor to provide a direct container service from Northern India to Chittagong; Concor arranges the rail movement from its ICDs to Kolkata and Seaways undertakes the shipping movement to Chittagong. While inferior to a through rail service to Dhaka, it is a significant

improvement to either transshipping at a hub port, or stripping the containers at Kolkata and moving the contents by road.

Inland Water Transport

400. About 300,000 tons/year of low value cargo moves by barge from India. There has been considerable discussion of the benefits from moving containers by IWT. At a workshop in Dhaka (August 2005), the Indian High Commissioner suggested that shipping containers from Kolkata to Bangladesh via Singapore costs US\$2500 and takes 15 days, while by barge it would cost US\$500 and take only 5 – 6 days.

401. In October, 2005, Concor announced that it was launching an IWT container service, following a successful trial the previous month. The service would follow the routing:

Kolkata → Namakhana (Indian Customs) → Raimangal (border) → Shekbaria (Bangladesh Customs) → Chalna → Kawkhali (a one way section with signals) → Barisal → Chandpur → Narayanguge.

The service was scheduled to take 8 days and would be operated by Leo Gulf (a JV between India's Leonard Express and Bangladesh's Gulf Orient Seaways), using barges with the capacity of 10 – 60 TEU. The containers would be unloaded by floating crane. Demand would come from such companies as Arvind Mills, which sends 60 – 70 containers to Bangladesh monthly, and Nestle. Concor proposed to charge Rs.12,000 for costs in Kolkata and US\$530 for the freight and handling at Narayanguge, a total cost of about US\$800/TEU.

402. A further report (5 January, 2006) stated that traders, “who were earlier exuberant about the service”, had backed out citing the high cost. It also seems that the Bangladesh authorities had not cleared the movement of cotton yarn and rice, two target commodities, for movement by barge; these commodities were only allowed to be handled at the port of Chittagong.

4.3.3 Customs

403. It is not apparent that road based trade has benefited from the customs reforms in Bangladesh and India. Rail trade is confined to bulk, very low value commodities which rarely create customs clearance problems. Sea trade will have benefited from the customs clearance reforms at the ports. Trucked trade continues to move under what might be described as the traditional customs approach. The AITD study lists the Indian documentation required for exports to Bangladesh:

<i>Document</i>	<i>Copies</i>	<i>Document</i>	<i>Copies</i>
Customs export declaration/	5	Letter of indent	4
Consignment note		Certificate of origin	4
Bill of lading	5	Certificate of insurance	4
Letter of credit	5	DEPB original	1
Packing list	4	DEPB declaration	4
Exchange control declaration (GR)	6	Export invoice	4
AR4/AR4A form	2	Certificate of export realisation	4
ETC licence	2	Licence forwarding letter (DEPB – post export)	4
QC certificate	2	Certificate of insurance	4

17 documents, 67 copies, and 330 signatures on the Indian side and similar requirements in Bangladesh. The computerized customs clearance systems (ICEGATE and ASYCUDA) have been rolled out to the border but manual clearance is still very evident. When AITD visited Petrapole, ICEGATE had not been working for the previous two months.

404. Indian Customs does not presently contribute to total delays at the border; the queuing delays waiting to cross the border are far longer than the time necessary to negotiate Indian Customs. In

Bangladesh, cargo is offloaded, put into temporary storage, cleared and then loaded onto Bangladesh trucks for delivery. The whole process takes no less than four days and may well average 10 days. There is little evidence of any recent major reduction in customs clearance times, nor in the degree of cargo inspection. This may be explained by the lack of PSI and CRF arrangements for the trade. There is no green channel although perishable cargo does receive expedited clearance. There is little incentive for streamlined procedures; customs officers and warehouse owners benefit from delay – it raises ‘facilitation’ rates and provides storage income.

405. Changes in customs procedures can quickly disrupt the system, as a report in September, 2004, indicates:

Since 1/09/2004 export trucks need a second quick clearance by Customs embossed on the Export Manifest, after clearance from BSF (new order by Commissioner of Customs, Preventive, Kolkata). “informed sources say that only 60-odd trucks managed to cross at Petrapole against the daily average of almost 350. If trucks do not pass the second check, they are sent back to the Central Warehousing Corporation parking lot and demurrage of Rs. 500/day. Learnt that the change in procedures due to the huge revenue leakage at the LCS “documents are going forward but not the export goods.”

Revenue protection rather than trade facilitation remains the objective; presumably the goods could be diverted to the domestic market, free of indirect taxes and benefiting from export incentives.

4.3.4 Security

406. Border security is a major issue between India and Bangladesh. India has concerns that Bangladesh is a refuge for certain insurgent groups and Bangladesh has concerns that criminals and extremists are sheltering in India. Illegal immigration from Bangladesh is also a factor. India is accelerating the construction of an 8ft high, 4000 km fence to seal its border with Bangladesh, with key sections electrified. While not directed specifically at informal trade, the fence will certainly disrupt the trade and, at the very least, increase its transaction costs.

407. The security concerns and consequent security checks, inspections and formalities add to the border clearance time and cost. Indian truck drivers, assistants and customs agents were able to cross between Petrapole and Benapole with little restriction, beyond normal identity certification. GOI announced in July, 2006 that from January 1, 2007, drivers, cleaners and CHAs without passports and valid visas would not be allowed to cross the border. All were told to obtain passports and multiple entry visas into Bangladesh by September 30. According to Mr. I. K. Ghosh, President of the Calcutta CHA Association, it was an “absurd proposition” which would virtually derail exports. But, there have been no reports that exports, by road, have ceased.

408. Security is not simply a political issue. It is perhaps inevitable that, when informal trade/smuggling is rampant, criminal elements become a problem. This appears to be the situation around the major truck crossing points. In a meeting (reported 30 November, 2006), Mr. S. Roy, the local MLA, complained not only about the poor infrastructure at Petrapole but also the stranglehold of the Mafia Raj over the area, and the lack of local administrative control. Mr. Nirupam Seb, the West Bengal Minister for Commerce and Industry, conceded that the local mafia was cause for concern. Petrapole-Benapole does not meet the criteria for modern trade facilitation. Perhaps the Indian High Commissioner encapsulated the situation in her speech to the August, 2005 workshop, “*it is difficult to imagine the reality at Petrapole*”.

4.3.5 Corruption

409. The level of informal payments at Petrapole is modest, Rs.1500/truck, the equivalent of about US\$35, and this includes much more than speed money to officials (of course, time through Indian Customs is not on the critical path).

410. At Benapole, a Transparency International Diagnostic Study, published 2006, estimated that the speed/facilitation payments to clear an import consignment averaged Tk.17,203 (about US\$250), the equivalent of Tk.253/tonne. The payments are substantially higher than at Chittagong Port, according to a comparable study. Payments have to be made at 30 different points and the rates were effectively fixed. The payments for export consignments were very much lower, averaging Tk 2,400 (US\$35). The lower payments on exports may reflect smaller consignments and the lower leverage of customs officials. The customs officials received most of the payments (71 percent) but the land port officials were also paid (29 percent). The Transparency International Study also surveyed a less important road border crossing and found lower facilitation payments per consignment but a higher average rate/tonne, reflecting much smaller consignment sizes.

411. Streamlined, computerized clearance at Chittagong was associated with reduced facilitation payments. The same may happen at land border stations but their remoteness may make both streamlined clearance and reduced corruption more problematic.

4.4 India and Nepal

4.4.1 Indo-Nepal Trade System

412. The Indo-Nepal Treaty of Trade, 1996, effectively gave Nepal duty free access, without quantitative restrictions, to the Indian market for all manufactured articles. The Treaty removed the value addition norms and resulted in a rapid growth of Nepalese exports. India claimed that some exports were essentially re-exports with little or no value added, and imposed antidumping duties on some products. GOI informed Nepal, September 2001, of its intention to seek modifications to the Treaty before extending its validity. A revised treaty was agreed in March, 2002, and it was just renewed for a further five years without modification.

413. Under the revised treaty, Nepalese manufactured exports have to meet two criteria for duty free import into India:

- 4-digit HS code transformation to qualify as manufacturing along with an exclusion list of simple processes, which would not qualify as manufacturing.
- Maximum ceiling for third country inputs of 75 percent in year one, and 70 percent thereafter

In addition, quotas were fixed for four products: acrylic yarn, zinc oxide, vanaspati ghee and copper products. Exports above the quota levels are subject to MFN custom duties

414. India is the major trading partner of Nepal but its importance has fluctuated quite widely during the last 25 years, Table 55.

During the early/mid 1990s, Nepal pursued a policy of trade diversification which greatly reduced the importance of Indian trade. The policy was reversed in 1996 and India's has resumed its importance as Nepal's primary trading partner.

Table 55: India – Nepal Trade
(% of Nepal's total trade)

		Exports	Imports
6th Plan	1980-85	64.5	46.5
8th Plan	1992-97	16.6	30.5
	FY2002 – FY2004	56.4	55.7

Nepalese Exports to India

415. *Local Trade:* Goods, not subject to prohibitions or duties, can be exported without official formalities along the 1754 km open border. The goods include vegetables and fruits etc. They are subject to various Indian Agriculture Committee/ Market Committee levies en route to the destination. Quarantine regulations can be a major non tariff barrier and, from time to time, produce has to wait for certification from offices located long distances from the border.

416. *Duty free exports*: while termed duty free exports are subject to various duties/taxes.
- 4 percent Special Additional Duty (SAD) for products which are free from any other duty
 - Countervailing Duty (CVD): if there is excise duty on the goods produced in India. Nepalese exporters have to pay the same amount as CVD⁹⁵.
417. *Exports under most favored nation (MFN) terms*: Under the Indo-Nepal Trade Treaty, Nepal can export to India any product on most favored nation (MFN) terms and some export has taken place under this arrangement. However, fearing that if the MFN export developed, India would ultimately withdraw preferential entry for other Nepalese exports, the Federation of Nepalese Chambers of Commerce and Industry (FNCCI) will not issue certificates of origin for such exports.

Indian Exports to Nepal

418. *Local trade*: Goods not subject to prohibitions or duties can be imported without any official formalities by traditional routes across the borders.
419. *General dutiable goods*: Indian imports which are not under Bond or DRP can be imported by paying the duty at any of the custom posts along the border. Large consignments have to be routed through the larger custom offices.
420. *In-Bond*: Some Indian manufactured goods can be imported directly from India using foreign convertible currency. The Nepal Rastra Bank has designated 29 such commodities. Indian companies get incentives for export earning in convertible currency, so prices are more competitive. Nepalese rolling mills have been successful in importing Indian ingots and exporting steel rods back to India.
421. *Duty Refund Procedure (DRP)*: Indian manufactured goods are directly imported using Indian currency. Only Indian excisable goods come under DRP and manufacturer has to be the exporter. The importer has to pay custom duty in excess of the excise duty. If the custom duty is less than the excise duty, the importer pays nothing. The total amount of Indian excise duty on the imports is reimbursed by GOI to the Nepalese government on a yearly basis.

Informal Trade

422. Nepal and India share an open border; no permits are needed to cross the border, live, or do business in either country; the currency of one country is convertible in the other. Adjoining areas of West Bengal, Sikkim and Uttaranchal share a common language and social relations flourish. Along the border with Bihar and Uttar Pradesh, the same ethnic group resides with a common local language, culture and social relations. The socio-cultural environment is conducive to informal trade.
423. Informal trade is composed of two elements: (a) Goods which are not subject to prohibitions/duties and can be traded without any official formalities, i.e. legal informal trade; and (b) Goods which are prohibited or dutiable and are traded illegally.
424. *Legal informal trade*: vegetables, fruits, milk and all noncommercial purchase for use of domestic household. Residents from both sides of border use cross border bazaars (village markets) for the purchase of groceries, toiletries and other non-durable goods.
425. *Illegal informal trade*: prohibited goods include those that are subsidized or have mandatory quality specifications. Nepal has petroleum subsidies and the lower priced fuel is illegally exported to India. Nepal has specified standards for imported fertilizer, but fertilizer of dubious quality is illegally imported from India. Goods not manufactured in Nepal are a prohibited import in India, so are informally exported. The smuggling of electronics and other quasi-luxury items from Nepal has been

⁹⁵ This CVD used to be calculated on the invoice value, but the maximum retail price (MRP) printed on the retail package is now used; the MRP is up to 50 percent higher than the invoice value

an issue for years, though, with the liberalization of India's trade regime and reduced tariffs, the impetus for such trade should be diminishing. The factors which encourage the illegal trade include:

- High duties and taxes: most imports to Nepal are subject to customs duty of 10 to 30 percent and VAT of 13 percent. There is potential for profit.
- Formalities and delays: custom clearance is a hurdle in formal trade; there are no such delays in informal trade.
- Informal money transfers: an informal network, "Hundi", operates between the major cities of Nepal and India, facilitating informal transactions.
- Informal business sector: unregulated, unmonitored businesses thrive on both sides of the border. To avoid entering the formal sector, these businesses can only use informal trade. Formal trade requires a multitude of official documentation and registrations and they have to be renewed and updated every year.
- Low working capital: formal trade needs large amounts of working capital, whereas informal trade can be started with very little.
- Low transaction costs: the bribes are only 5 to 10 percent of the cargo value and the risks of getting prosecuted are negligible. There is also connivance/encouragement by officials who only receive *Chai Pani* (small tips) from formal trade.
- Criminal syndicates: smuggling has become a very lucrative and well organized criminal operation in the border areas.
- Poverty: the border areas are economically deprived, with incomes below US\$200/capita and widespread unemployment, there is no shortage of recruits for smuggling:

Kids take to smuggling for a living

Fourteen-year-old Anwar's day begins at 3 AM. He is a student of grade four and hails from Chhapakaiyan tole in Birgunj-2. He has to carry loads on his head and walk a distance of seven kilometers. He is not a common porter – he is smuggling goods without his knowledge just for earning a living. His task is to bring smuggled goods from the Indian village of Pantoka to Birgunj via a clandestine route.

Anwar's case is just the tip of the iceberg. There are several others who are now widely used for smuggling goods across the porous Nepal-India border. They cross the border as many as four times a day. The children are being mobilized, as government revenue team and police do not easily confiscate goods carried by them (children). Also, as children can easily escape the revenue officials, guardians are luring them to the profession.

Parents of several children in Chhapakaiyan, Inurwa, Alau and other villages are forcing their siblings to take this illicit job for survival. A child can earn between Rs. 50 and Rs. 100 a day by smuggling goods. Most of the smugglers are of ages 12 to 15. At least 100 children are involved with the racket, it is estimated. The Child Rights Act, 2048 BS and International Labour Treaty forbid children below 14 years from doing such works. Anwar's guardian, Reyajuddin Miyan, said he has no option, as his income is not sufficient to keep the family going. He, however, said he is looking for alternatives. But, the task is not easy for guardians like him as they lack skill and education.....

(Source: The Himalayan Times, November 21, 2005)

It is perhaps little wonder that some observers put informal trade at the same level as formal trade.

4.4.2 Infrastructure

Rail

426. Until the 1990s, the IR railheads along the border were linked by meter gauge. For long distance rail, transshipment between broad and meter gauge was necessary, a major deterrent. The main border crossings, Raxual and Jogbani, are now connected by broad gauge. The conversion of Gorakhpur –

Nautanwa route, serving Bhairahawa, to broad gauge is now an approved IR project. The three main border crossings will thus soon be linked into IR's main freight network. Rail crosses the border only at Raxaul, a 5.8 km spur line to the Birgunj ICD which started operating in 2004. A rail link from the Indian border to Kathmandu has been discussed for many years, and private interests have proposed the financing. The topography (and thus costs) and the relatively limited traffic (in railway terms) make the economic/financial feasibility of such an investment questionable.

Road

427. Nepal's trade routes with India are primarily road-based; rail only carries large consignments. India's investment in its arterial road network has benefited Nepal's trade on some routes but the final links are less important highways through Uttar Pradesh and Bihar. The key road routes are shown in Table 56.

Table 56: India – Nepal: Principal Road Corridors

	Route	Km	Road	No. of Lanes
Delhi – Raxaul	Delhi – Hapur	45	NH24	Four lane
	Hapur – Lucknow	452	NH24	Two lane
	Lucknow – Motihari	468	NH28	Four lane (Work in progress)
	Motihari – Raxaul	50	NH28A	Two lane
	<i>Total</i>	<i>1015</i>		
Ahmedabad – Raxaul	Ahmedabad-Udaipur	252	NH8A	Four lane (Work in progress)
	Udaipur – Jhansi	609	NH76	Four lane (Work in progress)
	Jhansi-Lucknow	297	NH25	Four lane (Work in progress)
	Lucknow-Motihari	468	NH28	Four lane (Work in progress)
	Motihari – Raxaul	50	NH28A	Two lane
<i>Total</i>	<i>1676</i>			
Kolkata - Raxaul (via Barauni)	Kolkata – Barakar	212	NH2	Four lane (Work in progress)
	Barakar – Barauni	220	State Road	Two lane
	Barauni – Muzaffarpur	102	NH27	Two lane
	Muzaffarpur – Raxaul	134	NH28	Two lane

Some UP state highways are being rehabilitated, but both national and state highways within Bihar are in very poor condition and there is no major program of investment yet under construction⁹⁶.

Inland Container Depots (ICD)

428. Three well designed ICDs have been opened: the rail ICD at Birgunj, and road ICDs at Bhairahawa and Biratnagar. A fourth ICD is planned at Kakarbhitta. The ICDs were established to handle third country transit traffic but now also handle bilateral trade. The Indian and Nepalese governments agreed to allow bilateral and non-containerized trade to use the Birgunj ICD in February, 2005, and some train load traffic has been handled. Previously, the trains were unloaded at Raxaul and the cargo trucked across the border.

⁹⁶ It was reported that on 04/13/2007, the Cabinet Committee on Economic Affairs approved the BOT upgrading of 780 kms of National Highway in Bihar, under NHDP IIIA. This requires that the private sector finances at least 60 percent of the investment.

4.4.3 Transport Services

Rail

429. Direct rail transport into Nepal is only possible at one crossing, Raxaul-Birgunj, elsewhere cargo has to be trucked to/from the Indian railhead. Direct broad gauge services are possible to both Birgunj and Jogbani (Biratnagar). While rail transport has several advantages, it is limited by IR's commercial strategy of handling only train load traffic (normally 60 wagons, each with 55 ton capacity, i.e. ≈3,000 tons). Most bilateral trade is conducted in smaller consignments and uses road transport. It was estimated that, in 2005, approximately 15 trains with Indian bulk exports were unloaded at Raxaul each month. Some trains are now moving across the border, such as 40 covered wagons with industrial salt from Rajasthan, in May, 2006. However, not all IR wagons are allowed to cross the border, only covered, flat (container) and tank wagons. Open wagons are not permitted to cross on security grounds.

430. An alternative to road for smaller consignments is domestic containers and movement by Concor; procedures for such movements have been established. There is little indication that significant containerized traffic has developed, but Concor did run a train with 70 containers of polyester fiber from Nagpur to Birgunj in May, 2006. The transit took 5 days; it should have taken 4 days but for "some mess up by the railways in transit". When bulk loads are railed, the cargo is moved across the border by Nepalese trucks.

Road Transport

431. The Nepal – India border is one of the very few in South Asia where the trucks of one country can cross the border and operate in the other. Indian trucks can enter Nepal duty free for 72 hours to deliver cargo. This is sufficient for the trucks to drive to Kathmandu, unload and return to the border. Transshipment is thus not required. Except for trucks carrying transit cargo to/from Kolkata, Nepalese trucks do not operate into India, beyond the nearest town/railhead. Partly this may be the result of the ultimate destinations being beyond the 72 hour operating limit, but mainly, it is the result of problems/costs caused by the Indian state authorities.

432. Many Indian transport companies provide through services to Nepalese destinations for full truck load and up to the border for less than truck load consignments. Some major Indian transport companies have registered subsidiaries in Nepal to facilitate business. The companies with offices in Kathmandu also act as custom clearing agents. They collect the necessary documents and funds for the custom duties from the importer, clear the consignment and deliver it to Kathmandu.

433. Truck transport, within India, has no more, and no less, difficulties than domestic Indian trucking; long sections of congested roads in poor condition, delays at state border crossings, etc. Unfortunately, most of the main bilateral trade routes pass through Bihar, where state check posts may take up to eight hours to negotiate and many roads are in such poor condition that speeds are reduced to 20 kph. Truck trip times are very slow: 5 days from Delhi to Birgunj (1015 km), 6 days from Ludhiana (1320 km) and 6½ days from Ahmedabad (1676 km).

434. Transport rates depend on the availability of trucks, the state of the market, whether there is a round trip load, type of cargo and likely problems en route, such as elections or strikes. No transport company offers standard rates for full truck loads, rates are quoted on daily basis, but indicative rates (2005) from major Indian cities are shown in Table 57.

Table 57: India – Nepal: Road Freight Rates

Origin	Destination	Full Truck Load Rates (per ton)				Part Truck Load Rates (per kg)	
		Bhairahawa		Birgunj		IRs	US¢
		IRs	US\$	IRs	US\$		
Mumbai		2650	59	3120	69	5	11
Chennai		2760	61	3240	72	6	13
Bangalore		3720	83	3960	88	6	13
New Delhi		1680	37	1920	43	3	7

With manual handling at various stages, the rates of damage and pilferage can be high, so strong packaging is essential, especially for part load consignments.

435. There are expenses for trucks entering Nepal. The delays at customs are calculated and the cost added to the quoted price. The Nepalese government has provided duty free entry but there are local taxes/expenses. The first Village Development Committee (VDC) from the border can charge taxes – these can be as low as NRs 250 or NRs 1000 or higher. Other VDCs enroute try to extort taxes. The Indian trucks have to pay the road toll and informal payments to the traffic and other police personnel (the amount depending on the negotiating skill of the driver and the commodity carried). Another cost is the Kabadi Tax levied by local District Development Committees. Legally the tax is restricted to the export from a district of scrap metal, machinery, used bottles and other junk materials. In practice, the contactor, collecting the tax, tries to collect the tax from any vehicle moving along the roads in the district. These contractors may hire “goondas” to stop the vehicles to collect payment. These costs may add IR 2,000 to the truck trip.

4.4.4 Customs

436. Both Indian and Nepalese Customs have introduced computerized systems, see Section 4, but they have had relatively limited impact on streamlining bilateral trade:

- o ICEGATE, the Indian customs clearance system, has only been introduced at Raxaul
- o ICEGATE, at Raxaul, only handles exports from India to Nepal; imports from Nepal and third country transit trade are still cleared through the manual system
- o ASYCUDA, the Nepalese computerized system, is used primarily for its revenue and statistics functions rather than customs clearance which is still primarily paper based.

Large numbers of documents, copies and signatures are still required, Table 58.

Table 58: India – Nepal: Customs Documentation

	Documents	Copies	Signatures
Indian Customs	12	46	138
Nepalese Customs	14	50	20

Source: AITD

Both Customs administrations are scheduled to extend either the coverage and/or scope of their computerized systems which should help streamline clearance. The present system is cumbersome and time consuming, and could be improved significantly but there is little indication of the very major delays encountered at the Bangladesh – India border. Clearance takes between half – one day, though the time may be longer when there is very heavy traffic.

437. The documentation required for bilateral trade can be compared with the very simple system for trade between China and Nepal. For exports to Nepal, Chinese Customs require only the truck waybill and the invoice; they levy duty of RMB 1500 – 5000/truck, depending on the commodity. Nepalese Customs requires only the invoice, and this is only used if the value is higher than the predetermined level, published by the Customs Department. Nepalese Customs monitors how payment is made. If

goods are imported on credit, ten percent of the value has to be deposited with Customs until proof of payment is produced.

438. Much of the documentation, within India, is directed to ensuring that goods declared for export are exported and there is no leakage of duty and excise. The procedures for container have the characteristics of the movement of uncleared imports from port to inland ICDs.

4.4.5 Security

439. Traditionally, the border has been open for nationals of both countries. The civil conflict in Nepal led to increased vigilance and a pilot project to implement regulated border crossing. A website poll showed almost 80 percent of Nepalese respondents (perhaps a very biased sample) were in favor of regulated border crossing. Regulated crossing and increased security are likely to increase the transaction costs for informal trade. However, security is still very much more relaxed than along India's land borders with Bangladesh and Pakistan.

4.4.6 Corruption

440. There have been no Transparency International surveys similar to those undertaken in Bangladesh. Widespread corruption is said to exist at the border crossings; the manual systems require lubrication to work smoothly. Customs officers are reported to pay for the opportunity to work in the major customs posts along the border; and there are periodic court cases against customs officers with assets disproportionate to their incomes. This goes back a long way, in the 1970s, it was said that Nepalese customs officers financed their retirement through a posting to Birgunj.

4.5 India - Pakistan⁹⁷

4.5.1 Trade Relations

Formal Trade

441. Though trade between India and Pakistan has grown rapidly in the last two/three years and both countries are members of SAFTA, the trade relationship is complicated. India accorded Pakistan MFN status in 1996 but Pakistan still restricts Indian imports to a positive list. In 1996, the list consisted of 600 commodities; it has been increasing but is still less than 1,000 items. The positive list clearly restricts and complicates trade. One researcher undertook a code matching exercise between the 8-digit codes of the items exported by India and the HS codes published by Pakistan⁹⁸. There were only three common codes. This makes it difficult for exporters to determine the eligibility of goods.

442. The situation is further confused; the number of 8-digit categories exported from India, as recorded by Indian statistics, has risen to over 1400 (FY2005), a substantially wider range than the positive list. Pakistan exports a more restricted range to India, but they have increased to 451 items in FY2005. Substantial volumes of commodity trade takes place when there are short-term shortages, such as the recent large scale imports of sugar from India.

443. Given the restricted bilateral trading regime in Pakistan and India's more open regime, it might be expected that Pakistan would have a positive trade balance. The reverse is the case and there has

⁹⁷ Most of Section 6.4 is drawn from two reports: "India -Pakistan Trade", Nisha Taneja, ICRIER Working Paper, No.182, June, 2006; and "Quantifying Informal Trade between Pakistan and India", S.R. Khan, M. Yusuf, S. Bokhari, and S. Aziz, World Bank, June 2005

⁹⁸ Nisha Taneja, *ibid*

been a large and persistent negative balance. Pakistan suggests that high tariffs and formal and informal non-tariff trade barriers restrict its export opportunities.

Informal Trade

444. Informal trade is encouraged by high tariffs and the high costs of formal channels. In addition, Pakistan's restrictions on trade with India provide a further incentive. The estimates of informal trade range from US\$500 million to US\$1 billion. The most recent study⁹⁹ estimated trade on each routes: they aggregated to almost US\$525 million, with a massive imbalance:

- Pakistan informal imports: US\$514 million.
- Pakistan informal exports: US\$ 10 million

The imbalance is much greater than for formal trade. The estimate of total informal trade is close to the level of formal trade (FY2005), US\$600 – 830 million (the Indian or Pakistan trade statistics differ) and much higher than formal trade levels in previous years.

445. Elsewhere, most informal trade is conducted across the direct land borders but, while some such trade takes place, border security requires the use of other channels. Most informal trade, more than 80 percent, is routed through third countries or, indeed, it may be routed through fourth and fifth countries. This is a complicated and costly way to conduct trade.

4.5.2 *Infrastructure*

Rail

446. Prior to partition, there were several rail routes, now only two routes operate:

- Amritsar – Lahore, through the Attari/Wagah border crossing: the major border crossing, broad gauge line, open for many years
- Munabao – Khokhrapur: recently opened with the conversion by PR of its meter gauge line to broad gauge

Amritsar – Lahore carries both passenger and freight services, Munabao – Khokhrapur route only provides a passenger service, the Thar Express.

447. The broad gauge infrastructure of IR and PR are compatible, having the same axle-loads (22 – 23 tons) and operating speeds and should not be a constraint to much larger freight flows between the two countries.

Road

448. Road freight between India and Pakistan only resumed in early 2005, through the Attari/Wagah border crossing. Until October 2007, freight was allowed to cross the border but the vehicles were not. TV showed the start of this new trade link, with sacks of onions being carried manually across the border. Goods were unloaded from trucks several hundred yards from the border, the goods were then carried by porters to the border, porters from the other side then carried the goods to be reloaded to trucks several hundred yards from the border. In October, 2007 trucks were allowed to cross the border to designated unloading sites, where the goods are reloaded to the other country's trucks¹⁰⁰. While clearly an improvement, the system still falls far short of an efficient through trucking service. Moreover, the GOP restricts road transport to only five import items and only allows cement to be

⁹⁹ S.R. Khan, et al, *ibid*

¹⁰⁰ The opening of the border to truck transport resulted in agitation by the porters who would effectively lose employment. It is reported that there was a workforce of about 1300 porters on the Indian side of the border and several hundred in Pakistan.

exported by road. GOI has apparently no such commodity restrictions. The road networks, on either side of the border, reflect the standards and condition prevailing in the region, though the road network in India's Punjab is probably of a higher standard and in better condition than in much of India.

Sea

449. The main ports, their facilities and productivity are described in Section 3 and Annex 1. Bilateral trade, by sea, faces no more constraints than inter-regional trade. A substantial proportion of the trade is routed through Jebel Ali (Dubai) which is a very efficient port and significant volumes of informal trade also pass through the port of Bandar Abbas. Until recently, sea links between the two countries were restricted by the 1975 Shipping Protocol which did not allow the national vessels on the direct India – Pakistan route to carry third country cargo, or bilateral trade on third country vessels. The Protocol was revised at the end of 2006, removing these restrictions but maintains the national preference systems (Section 3.2).

4.5.3 Transport Services

Rail

450. Indian exports are transported by rail or road to Amritsar and then by rail across the border. The traffic can either be carried by freight train or in parcel wagons attached to the bi-weekly Samjhauta Express passenger train. The freight trains are composed of old inefficient four wheeler wagons with limited capacity (24 tons) and high tare-weight ratios, rather than the much higher capacity and more efficient bogie wagons. The ten parcel wagons (bogie wagons with 55 ton capacity) form part of the fixed formation of the passenger train and run whether loaded or empty. The use of the inefficient wagon stock may be explained on the part of PR by the fact that they have a very limited stock of higher capacity wagons and concentrate their use of the Karachi – Punjab routes. IR is unwilling to use its higher capacity wagons as they operate on a wagon balance system with PR and do not want their modern wagons stranded on the PR network in the event of another border closure.

451. Wagons and locomotives are interchanged at the border¹⁰¹. The wagon balance has to be cleared every 10 days. While rail freight is possible and does take place, it can hardly be described as a component of a modern logistics system:

- The wagon stock is old and inefficient and not suited to long distance movement. The wagons have to be loaded manually
- The balance agreement introduces directional wagon availability constraints and delays until the appropriate number of wagons have been interchanged to restore the balance
- The trains do not run to any schedule and traders have to use agents to obtain information on train timings
- The overall wagon capacity was sufficient when trade volumes were low, but there is now a wagon shortage. Traders have to make informal payments for wagons. Perishable commodities receive priority.
- Containers are not moved across the border. There have been press reports (e.g. June 24, 2006) that Concor was considering a container service but nothing has materialized.

452. Overall, there is limited capacity, high transaction costs (up to US\$2.5/ton), and long delays. The average wait for wagons is around 9 days, but non-perishable commodities, such as tires, may wait three weeks for a wagon. Indian sugar exporters in 2006 complained extensively about the shortage of wagons.

¹⁰¹ This differs from the system for passenger services, for which each railway provides through locomotives on a six monthly rotation.

453. The introduction of modern wagon stock would be a major improvement to rail movement as would the adoption of a more flexible wagon interchange agreement, allowing the rental payment for wagons; most other railway systems have much more flexible relations with adjoining railways. The change in the wagon stock may become possible with the planned replacement of outdated rolling stock by PR but a more flexible wagon interchange agreement may be more difficult, given history and the relations between the two countries.

Road

454. In terms of distance and cost, road transport would be the preferred mode of transport between the two Punjabs as well as much of Northern India and Northern Pakistan. However, the deterrent of having to transship cargo at the border, without proper facilities, is a major limiting factor. Greatly increased trade volumes by road would have been unlikely, if goods had to be carried across the border. Through movement of vehicles is very clearly the most desirable arrangement but this will require a much greater degree of cooperation between the countries than has yet been achieved. The problem is to define the measures that need to be taken in the short-term. The creation of a freight handling infrastructure at the border, allowing both storage and cross-docking of vehicles will certainly be a major improvement. Such infrastructure will undoubtedly generate a life of its own and create interests opposed to the through movement of trucks. It might provide short-term benefits but with longer-term costs.

Sea

455. The limited capacity and quality of land routes means that sea transport is used extensively in the trade. Exporters from the Punjab may have to route their exports 3,000 kms, via JNPT and Dubai, rather than taking them directly across the border to Lahore, a distance of about 200-300 kms. For trade from more distant areas, like Mumbai, sea transport may be a more economic alternative, especially with a direct routing to Karachi rather than via Dubai or some other hub port. Direct container services were launched between JNPT and the Pakistan ports, in 2006. Demand was so high that one of the lines has added a second 420 TEU vessel, increased the frequency to a weekly service, and plans to add a third. Container movement between the two countries is not an issue when moved by sea.

Transport Links for Informal Trade

456. Informal trade is conducted through several routes as outlined in Table 59, together with their importance.

Table 59: India – Pakistan: Informal Trade Routes

Route	US\$ millions	Percent of Trade
India → Dubai → Bandar Abbas → Afghanistan → Pakistan	256	49%
India → Dubai → sea → Karachi	105	20%
India → Dubai → air → Karachi	96	18%
SINDO land crossing	58	11%
Delhi → rail → Lahore	8	2%
India → Singapore → sea → Karachi	3	1%

457. *Via Afghanistan:* The major flow of informal trade is routed by sea to Dubai, where the containers are transshipped for the Iranian port, Bandar Abbas. The containers are trucked to Islam Qala on the Afghan border, where they are stripped and the cargo reloaded onto Afghan trucks. The cargo is then trucked through Afghanistan to the Pakistan border, via either Kabul and Jalalabad for delivery to Bara market near Peshawar, or Kandahar for delivery to Chaman. Animal transport is generally used to move the cargo across the border, away from the regular roads. The transport cost/FEU, from Mumbai → Pakistan, may be in the range of US\$6,500 (Chaman) – US\$7,700 (Bara),

in addition to which Afghan customs duty must be paid; for a container of textiles the duty would be around US\$1,800.

458. *Sea via Dubai*: cargo is shipped to Dubai, where the certificate of origin is changed, and then shipped to Pakistan as an export from another country. The cost for a FEU, from Mumbai → Karachi would be about US\$1,300. In addition, there are processing costs in Dubai (certificate of origin, loading/unloading, agent’s fees, etc) which amount to about 4 percent of the cargo value. For a 40ft container with cargo valued at US\$75,000, this would add US\$3,000, making a total cost of US\$4,300/FEU.

459. To avoid the costs of shipping through Dubai, some cargo is shipped direct to Karachi with the documentation changed en-route with a new Bill of Lading. Such substitution is illegal, but the “switch bill of lading” can be obtained for perhaps as little as US\$200 for a 20ft container. The “switch bill of lading” reduces total transport costs from Mumbai → Karachi to around US\$1,300/FEU.

460. *Sea and air via Dubai*: there is a large and well organized movement from Dubai using “khepias” who shuttle by air between Pakistan and Dubai, bringing back goods as personal luggage. The cost for a professional khepia would be around US\$180/trip and they usually carry 70 – 80 kg/trip. If the initial transport cost from Mumbai → Dubai is included, the total cost for Mumbai → Karachi would be around US\$2,500/ton or US\$75,000/FEU and only viable for high value goods. The study on informal trade suggests an average value close to US\$18,000/ton.

461. *Sindh Land Route*: informal trade is undertaken through either through border sections without electrified fencing, or through ditches/tunnels dug under the fencing, or by “kekra” (a modified truck used in the desert) with personal guarantees given to the border guards. Livestock exports to Pakistan form a major proportion (60 percent) of the trade through Sindh; the livestock is driven across the border. The volume of trade by this route is reported to be volatile, depending on the state of security along the border and acquisitiveness of the border patrols. Trade fell to a third of its previous levels following the Kargil problem.

The Cost of Inadequate Trade-Transport Links

462. The present trade-transport regime between India and Pakistan is extremely costly. Not all informal trade can be attributed to the restrictions on imports from India; the trade through Afghanistan is more a response to high trade related taxes (Advance Income Tax and Sales Tax at import which total 21 percent); the flow of informal Indian imports through Afghanistan is at least matched by the flow of informal trade from China. The regime increases costs for both legal and quasi-legal trade:

463. *Legal trade*: inadequate rail capacity and the truck restrictions result in exports from Northern India moving by sea, hugely increasing the distance, time and cost, Table 60.

Table 60: India – Pakistan: Transport Costs
(Costs for 40ft container)

Route	Mode	US\$	Route	Mode	US\$
Delhi – Mumbai	Rail	920	Delhi – Attari	Rail	650
Mumbai – Karachi	Sea	850	Attari – Lahore	Rail	140
Karachi port		230	Unloading		50
Karachi – Lahore	Road	415			
Total cost		2415	Total Cost		840

Source: Taneja and study estimates

Shipping by sea increases the transport cost by about three times, as well as adding considerably to transport complexity. The comparison would look even more bizarre for exports from the Punjab. In terms of transit times, the differential is reduced by the long delays for wagons.

464. *Quasi-Legal trade*: if the switch bill of lading is used, there is relatively little difference to legal trade, though facilitation through customs may cost more. Routing exports through Dubai, with a change in the certificate of origin, increases the cost significantly as does routing through Afghanistan.

4.5.4 Customs

465. There is no indication that trade by sea is treated differently to other cargo. It follows the same formalities and faces the same constraints. The situation is rather different at the land border between the two countries. Formal trade only takes place at the Attari – Wagah crossing. Customs clearance on the Indian side of the border takes place at the Amritsar Customs House which, at the time of the study, was not connected to ICEGATE. All customs clearance follows the old manual systems. If the road-rail route is used, the rail bill of lading can only be issued from Amritsar; on the sea route, a multi-modal through bill of lading can be issued, i.e. Delhi – Mumbai – Karachi. On the Pakistan side of the border, Customs uses the old systems with much interaction between the trader/agent and the customs officials. Customs clearance through the land border should not create major problems as the formal trade through this route is generally low value which rarely raises clearance difficulties.

466. The impact of customs on informal trade clearly differs to that on formal trade. Goods exported legally from India follow normal export procedures but, whether Pakistan Customs is formally involved will depend on the trade route. Informal trade coming across the border with Afghanistan will have no formal contact with Pakistan Customs, though there may almost certainly be unofficial arrangements. Quasi-legal trade through Dubai or the switch bill of lading would be treated as formal trade by Pakistan Customs. The khepias from Dubai as well as some using the passenger trains from India, follow the same procedures as other passengers and “make arrangements” on arrival for the clearance of their “luggage”. Trade through Sindh would have no formal contact with either Customs.

4.5.5 Security

467. Given the tensions between India and Pakistan, it is not surprising that security is a major border concern, though the cross-border tribal groups seem able to skirt around (or underneath) the issue. Security issues may be one reason for the lack of container movements across the border and requirement to transship all truck based freight. Sea freight follows standard international procedures, perhaps because the levels of security are substantially higher in ports.

468. There is considerable trade potential between the Pakistan Punjab and Northern India. Clearly, however, it is not going to develop by being carried across the border manually or in four wheeler rail wagons. Modern transport and logistics will be needed accompanied by streamlined customs procedures and modern security systems, particularly scanners, to ensure that containers and other closed cargo bodies are not used for the movement of prohibited goods.

4.5.6 Corruption

469. Informal payments permeate many of the transactions. Wagon shortages lead to be payments for wagon allocation, bribes are paid for “switch bills of lading”, payments are made to allow informal trade across the borders, bribes are paid to avoid customs duty at airports etc. Both the India Pakistan Trade Study and the Informal Trade Study provide estimates of the levels of payments in the system. The first study is restricted to payments within India and, generally, bribes are much lower in the exporting country. However, informal payment forms a significant component of the total transport cost, Table 61.

Table 61: India – Pakistan: Transport Transaction Costs
(US\$/TEU)

Transport Route	Transport Mode	-----Transaction Costs-----			Bribes (%)
		Transport	Bribes	Total	
Delhi – Attari	Rail	325	66	391	17
Delhi – Attari	Road + Rail	338	77	415	19
Delhi – Mumbai – Karachi	Rail + Sea	1010	48	1058	5
Mumbai – Karachi	Sea	550	26	576	5
Switch bill of lading	Sea	550	226	776	29
Mumbai – Dubai – Karachi	Sea	850	26	876	3

Source: Taneja

470. Facilitation accounts from 3 to almost 30 percent of the total transport transaction cost. In terms of cargo, the level of bribes is low, though for low value rail freight, they would amount to more than one percent of the cargo value. The facilitation payments estimated in the Informal Trade Study are very much higher, especially on some routes, as they encompass payments made in both India and Pakistan, Table 62.

Table 62: India – Pakistan: Total Informal Payments in Trade Transactions
(Bribes as percent of cargo value)

Transport Route	Trade Type	Transport	Bribes
Mumbai – Karachi	Legal	Sea	1 – 5%
Mumbai - Dubai – Karachi	Quasi-legal	Sea	1 – 5%
Mumbai - Dubai – Afghanistan	Informal	Sea - Road	1 – 5%
Mumbai - Dubai – Karachi	Informal	Sea - Air	3 – 5%
Sindh Cross – Border	Informal	Land	5 – 10%

The bribes paid by rail passengers are reported to be higher, 5 – 15 percent of the value. This may reflect the rather lower value of the goods smuggled through this route.

4.6 Afghanistan - Pakistan

4.6.1 Trade Relations

471. There is considerable trade between Afghanistan and Pakistan, totaling well over US\$1 billion, but it is asymmetric:

- A very large flow, over US\$1 billion, of formal exports from Pakistan into Afghanistan. Pakistan is a major source of Afghanistan’s imports for domestic consumption.
- A very considerable flow of informal exports into Pakistan. Afghanistan is the conduit for considerable informal trade from India and other countries.

This is not a new situation, though the routing of the informal trade has changed. During the 1960s and 1970s, considerable volumes of imports were routed through Pakistan and then re-exported back into Pakistan. This led to a list of goods for which Pakistan would not allow transit. These imports, for re-export to Pakistan, are now routed through Iran.

472. Afghanistan has the lowest tariff regime in the South Asia region with average weighted tariffs in the general range of 3 – 4 percent, well below the tax in Pakistan. It is profitable, therefore, for traders to pay Afghan customs duty to avoid Pakistan taxes. Given the differences in tax rates, the porous nature of the border areas and the cross- border tribal links, it is difficult to envisage a major change in

this informal cross-border trade unless Afghanistan raises its import duties, which would have domestic implications, or Pakistan reduces its import-related taxes.

4.6.2 Infrastructure

473. There are no rail links between Afghanistan and Pakistan. Pakistan's rail network finishes close to the border at Chaman, in the south, and Peshawar in the north. There are plans for a 103km rail link between Chaman to Spin Boldak in Kandahar Province¹⁰². The rail route to Chaman has high gradients, requiring the splitting of trains or the use of banker locomotives.

474. All formal trade crosses the border by truck. There are nine border crossings, six crossings opened in 2005. In terms of trade, the two most important cross-border routes are:

- Peshawar → Torkham → Jalalabad → Kabul
- Chaman → Spin Boldak → Kandahar

Kili Ghulam Khan → Khost → Kabul may soon become a major route as it reduces the distance from Karachi to Kabul by some 400 km. The condition of the road routes inside Afghanistan has improved greatly; the Torkham → Kabul route has been completely reconstructed and only the Peshawar → Torkham section remains in poor condition.

475. Substantial road and rail investments are planned within Pakistan to improve the National Trade Corridor which connects Peshawar, and thus Afghanistan, with the Punjab and Karachi. There have also been proposals to upgrade the rail route to Quetta and Chaman but this may be unlikely in the short-term. Overall, the infrastructure is not a major barrier to intra-regional trade.

4.6.3 Transport Services

476. Formal trade relies on truck transport and the border areas are home to a considerable trucking industry. On the northern route (Peshawar → Kabul) Pakistan registered trucks are allowed to Kabul, but Afghan trucks are restricted to Peshawar. On the southern route, goods are transshipped between Pakistan and Afghan trucks; the local trucking cartels prevent the through movement of vehicles¹⁰³.

477. The trucking sectors in Afghanistan and Pakistan are very similar in terms of structure (very fragmented) and vehicles (relatively old, often small and almost always overloaded). Trucking companies in both countries are small but some operators, through tribal affiliations, can mobilize large fleets. Both Afghanistan and Pakistan are in the process of acceding to the TIR Convention (in the case of Afghanistan, this requires the re-activation of membership, which lapsed in the late 1970s). However, to meet TIR standards, a very different type and condition of truck will be required. Transshipment of cargo from one truck to another is time consuming and costly; it also seems unnecessary when the vehicles are so similar¹⁰⁴.

¹⁰² A rail link is being constructed from the ports of Bandar Abbas and Chabahar to Mashhad, with a connection to the Afghanistan border at Islam Qala. Afghanistan already has short rail spurs crossing the borders with Turkmenistan and Uzbekistan.

¹⁰³ Afghan registered trucks are not allowed to operate through Pakistan but, with truck owning groups spanning the border, the situation is somewhat blurred.

¹⁰⁴ On the Afghanistan – Iran route, a different situation exists. Trucks are permitted to operate through the territory of the other country. But, Iranian trucks do not operate into Afghanistan because of the road conditions, the fees, the insecurity, and the Herat trucking mafia. Afghan trucks cannot operate in Iran because they do not meet the vehicle standards. Afghan trucks also carry much higher loads so transshipment reduces costs within Afghanistan. Truckers also take the opportunity to reconfigure cargo loads into owner and destination-based consignments for delivery in Afghanistan.

4.6.4 Customs

478. There is no difference in the arrangements/handling of intra-regional trade to inter-regional trade which was described in Section 2. Afghanistan's Customs is moving rapidly but still has a considerable distance to go before it can fully fulfill the range of operations normally expected, especially in terms of customs intelligence and enforcement. The introduction of ASYCUDA, on the main trade routes, is a major achievement and offers the prospects of not only improved systems for Afghan trade but also for transit traffic to Central Asia. The Ilm-o-Kabहार document requirement on the Peshawar route has been replaced by the ASYCUDA transit document, ADC T1, which is issued at the border when the truck enters.

479. In general, Afghan customs policy is to move customs clearance away from the border to inland destinations, with trucks moving in transit from the border to the internal destinations. The customs bonding mechanism rules and sub-legislation have already been prepared by the customs department and approved by government, but have yet to be implemented. Some freight, by nature of its packing and type, will continue to be cleared at the border, whether or not the transfer between trucks is required.

480. Similarly, Pakistan customs is undergoing a period of rapid change. The recently piloted customs clearance system has not been rolled out to the land borders but it is hoped that this and the more comprehensive system, for which GOP is advertising, will bring the levels of efficiency to those presently being achieved at the ports. While Pakistan customs has been providing technical assistance to Afghan customs, cross border cooperation and intelligence sharing, including the exchange of customs data, have yet to develop, but this lack of cross-country cooperation is not specific to this border but seems common throughout the region.

4.6.5 Security

481. Security is very obviously a major issue in Afghanistan, in general, and along the border with Pakistan, in particular. In addition to Customs, various security and other official organizations are involved in border security and cargo clearance. At border crossings, a combination of the following may be present:

- Afghan National Security Force
- Border Police
- Customs
- Ministry of Commerce
- Ministry of Transport
- Ministry of Agriculture

482. At some border crossings, there may also be the Ministry of Culture, Ministry of Tourism and even the Civil Aviation Authority. There may also be representatives of the local or regional government, the State Bank, and representatives of the local transport cartels. Some border crossings are controlled by the Ministry of the Interior and provincial bosses, with little or no presence of customs or the other ministries, while another border station is still controlled as a multimodal logistics facility by the Ministry of Commerce and the neighboring country security and customs organizations (Hairatan). The overlapping roles of all these various bodies have yet to be rationalized and, in an efficient trade-transport regime, some should be removed; for example, those enforcing the local transport cartels, or diverting customs revenue to provincial rather than national coffers.

483. Security is a major issue for the movement of freight on the highways of Afghanistan; trucks are attacked by both insurgents and criminals. The severity of the security issue varies and presently the

main trade routes may be the most secure sections of the network. But, it remains a constant issue as the following press report indicates:

KABUL: When Khan Aga powers up his Mercedes diesel truck and leaves Kabul for southern Afghanistan, he doesn't know if he will ever see his wife and eight children again. Aga's constant companion in the driver's cabin is fear, and it's not because of gruelling traffic or the nature of his freight.....The 37-year old trucker supplies foreign military camps in Afghanistan and has therefore, become a rolling target for militants..... The truck he drives is owned by an Afghan company earning hard US dollars from the purchase orders of its military clients. Its sides are emblazoned with 'Kuehltransporte Sebastian Beisl,' but instead of driving for the German chilled freight company, it is now commissioned by NATO and US-led coalition forces. The only adornment in Aga's driver's cabin is a bunch of blue plastic flowers. The bumpers and side mirrors are decorated with colourful pieces of fabric in the style of the Pashtuns.....However, this somewhat pathetic camouflage is not very successful. Chilled transports are expensive and, therefore, are likely commissioned by foreigners..... Aga has been attacked three times, and three of the colleagues he had gotten to know have been murdered Many more who he hadn't ever met have also been killed. The last time Aga's truck was fired on by militants was three months ago on the 'death 'route' between Kandahar in southern Afghanistan and the northern city of Ghasni. Despite suffering two flat tyres, Aga hit the gas while the truck of his colleague behind him was going up in flames. 'I didn't stop,' he said.....PPI

THE NEWS, March 20, 2007

Until security is reasonable, it will be difficult for Afghanistan to exploit its potential role as a transit route from Pakistan to Central Asia, turning Afghanistan from landlocked to land-linked.

4.6.6 Corruption

484. Afghanistan ranked 117 and Pakistan 144 in the 2005 Transparency International Perceptions Index¹⁰⁵, which may suggest that corruption, is a potential issue in cross-border trade. Certainly, there are well established relationships, between traders and officials, along the border to allow the uninterrupted flow of informal trade from Afghanistan into Pakistan. Informal toll collections on Afghan roads leading to the borders are common. It is reported that there are some 15 such toll collection points between Torkham and Kabul, charging between \$10-100 per container. Apart from these unauthorized tolls, checking and charging tariff and local taxes on the same consignment at different customs check posts causes delay and adds to the costs of importers. It is estimated that importers have to pay nine 'illegal' taxes.

4.7 Facilitating Intra-Regional Trade

485. While each of the important intra-regional trading links has particular characteristics and issues, there are some common features which need to be addressed, if intra-regional trade is to grow to the levels achieved in other regions:

- Allowing cross-border movement of road transport
- Improving the capacity of regional rail links
- Upgrading the standards of customs/trade facilitation to those at the gateway ports

Achieving these objectives would provide the basis for increased trade. Whether such trade develops would then depend more upon modifications to trade regimes, as in the case of India-Pakistan, or political attitudes, as with Bangladesh-India.

¹⁰⁵ In the 2006 Index, Pakistan was ranked 142 and Afghanistan was not listed

4.7.1 Cross-Border Road Transport

486. With limited exceptions, trucks cannot cross the borders in South Asia. Goods have to be unloaded from one truck and reloaded on another. Neighboring countries, in all other regions of the world, have found that it is possible to allow the cross-border movement of trucks and the direct delivery of freight. There are various ways that such an outcome might be achieved.

487. **Limited time entry for cargo delivery:** This is the practice between India and Nepal with Indian trucks having 72 hours to delivery their consignments and return to the border. Extending this approach to the rest of South Asia would encompass significant potential trade links, such as between Northern India and Pakistan Punjab. However, the time allowed with the neighboring country would have to be adjusted to reflect the transport reality; for example, it would take longer than 72 hours for trucks to reach Dhaka from the Indian border and return.

488. **Route licensing for foreign trucks:** The broader solution would be the provision of specific route licenses for foreign truckers without the time restriction. One issue for the limited time entry could be a lack of reciprocity, as is the case with India – Nepal, under which the destinations within only one of the countries can be reached within the allowable time. A second issue, important in the case of highly imbalanced traffic flows, is that the trucking industry of the exporting country could monopolize the business. The route licensing could be accompanied by quotas to ensure an equal or equitable distribution of the traffic between the truckers of the different countries.

489. **Dual country vehicle registration:** Vehicles could be registered in both countries, obtaining the relevant licenses and paying the applicable taxes. To an extent, this already happens between Afghanistan and Pakistan. To protect national interests/sensibilities, a first step might be to have the number of trucks with such dual registration limited by quota. It is conceivable that the security concerns might be raised about foreigners driving trucks in the country (though this seems acceptable elsewhere). This could be addressed by the dual registration of semi-trailers: the semi-trailer would be delivered to the border by the tractor unit of one country and then hauled by a tractor unit from the neighboring country. Such arrangements often take place at short sea crossings, such as between England and France, to avoid the cost of shipping the tractor unit.

490. **Joint venture trucking companies:** This would be a more restrictive form of the dual vehicle registration. It would reduce the flexibility and possibly capacity of the system, but it could be a major improvement upon the present arrangements especially for higher value, time sensitive goods. In effect, the formal requirement of a domestic only trucking system would be preserved. The drawback of the approach is the possibility that governments would see an opportunity for the creation of public sector trucking enterprises, and these have an almost universal record of poor customer service as well as financial failure.

491. **Containerization/swap bodies:** If, for political or quasi-security reasons, it is not possible for vehicles to cross-borders, then the alternative would be allowing the movement of containers or other forms of swap bodies which can be shifted quickly and cheaply from one vehicle to another, avoiding the costs of manually unloading and reloading trucks. Containerization has many advantages in trade logistics and their use on intra-regional routes would help to avoid some of the unnecessary costs imposed by the present system. It would require the investment in a pool of regional containers as well, perhaps, as deposits to ensure their return. It would also be necessary to invest in simple container yards at border crossings and suitable container handling equipment. However, such costs would be well below those for warehousing to store cargo etc.

492. The possibilities outlined above do not include the TIR system which is now such a feature of cross-border transport in Europe and Central Asia. Certainly, TIR or similar regionally based system would be very desirable but they address more a customs rather than a transport issue. They would

allow the clearance of cargo away from the border, providing a guarantee for the payment of customs duties if cargo is diverted to the domestic economy prior to clearance. Certainly some such system would need to accompany through movement of vehicles or containers: there would be little improvement if trucks had to be unloaded or containers stripped or unsealed at the border to allow for customs examination and clearance.

4.7.2 Regional Rail Links and Services

Bangladesh and Pakistan

493. While there is presently some inter country traffic and the potential for more, the flows are limited by critical capacity constraints. Cross-border rail transport requires not only the physical infrastructure and operating assets but also the cooperation of the participating railways, if capacity and efficient services are to be achieved. In terms of physical assets, both BR and PR require major renewal of their wagon fleets to meet modern loading and operating standards; their present old four-wheeler wagons are simply incompatible to modern railway operations. The wagons need to meet the operating standards of Indian Railways. While the fixed infrastructure of PR is sufficient to handle much higher levels of freight traffic, BR is limited by the weight restrictions on the Jamuna Bridge and the lack of a broad gauge connection to Dhaka. In view of the fact that the Jamuna Bridge can probably already accommodate trains loaded with containers, the initial priorities may be: (a) achieve agreement for the cross-border movement of containers; and (b) complete the broad gauge connection to Dhaka.

494. Physical infrastructure and operating assets need to be accompanied by appropriate operating systems which allow the wagons of one country to move on the network of the neighboring railway. Wagon interchange agreements are needed which provide both flexibility and compensation for wagon use. The present wagon balance system is too restrictive, but no railway wants to see their wagons accumulate within the system of a neighboring railway. Some wagon rental agreement is required, perhaps with an escalating price, depending upon the length of wagon detention within the neighboring country. Some form of payment guarantee system may also be desirable to provide confidence in the initial stages of such interchange systems. But, no system will survive an environment in which either wagons are detained for extended periods or payments are delayed.

495. Wagon rental is also necessary to compensate for the short hauls within one or other of the countries. PR has little financial incentive to give priority to cross-border traffic as the haul, within Pakistan, is very short and the revenues limited. It is financially more attractive to concentrate available resources on the main, long haul corridor between Karachi and the Punjab. On the other hand, the economic benefits of cross-border rail to Pakistan could be very substantial. Rental income, while wagons were in India, would help redress this imbalance.

496. The first priority is to raise the level of capacity and efficiency of cross-border rail freight movement. The railways each raise their own freight bills and users are faced with two freight bills. In the longer term, a more commercial and competitive approach would be through freight bills, with the revenue shared between the railways. Joint marketing and pricing, however, is probably well beyond the present levels of cooperation between the railway systems in the region. There is, however, the need to resolve some commercial/operational aspects of joint rail operations; for example:

- Whether the trains would be operated as fixed rakes from each railway or in a pool arrangement, which would add flexibility.
- How to market the potential of rail for less than train loads on which Indian railways now concentrates its activities.
- Should there be some intermediary between the customer and the railway to market and consolidate individual consignments to train load traffics for the railways to haul.

The real question, however, is whether the railways see intra-regional trade as a priority market. IR faces a growing domestic market which it finds hard to satisfy; it may view cross-border traffic as a difficult and complicated market, not worth the management time.

497. In particular, there is the issue of marketing the potential of rail for smaller consignments than the train loads in which railways now concentrate their attention. Much the same issue, however, has to be faced for domestic traffic, if the railways are to get back into the long distance, general freight market. Some intermediary between the customer and the railway is required to market and consolidate individual consignments to train load traffics for the railways to haul. One approach, to provide commercial management on both sides of the border, might be some form of cross-border concession, to market and manage the traffic, operating on a hook and haul contract with the neighboring railways, in the same way as the companies have been licensed to operate container traffic in India. Such an arrangement would also overcome the short-haul disincentive, if the concessionaire owned the wagons.

Afghanistan, Bhutan and Nepal

498. Neither Afghanistan nor Nepal have domestic rail networks but they do have cross-border spur lines connecting to the networks of their neighbors¹⁰⁶. Such lines allow trains to be originated and terminated within domestic territory which can provide some important advantages:

- Allows the country to develop the level and standard of infrastructure appropriate to its trade – storage, processing, repackaging etc. Such investment rarely occurs at railheads in neighboring countries¹⁰⁷. The railheads are transfer points rather than logistics' hubs.
- Allows cross-border movement by rail which is generally less cumbersome and time consuming.
- Allows, conceptually at least, the country to develop its own wagon fleet though such wagons would be hauled by the locomotives of the neighboring country.

499. Spur lines should make rail more attractive, especially if border transshipment between trucks is required. The real issue is then whether the quality of service makes rail a commercially competitive mode. IR provides efficient freight services, but PR's freight service is poor and the benefits of a line to Pakistan are likely to be limited, until the restructuring of PR delivers results.

500. Both Afghanistan and Nepal have the level of trade which can justify rail freight. Bhutan, with much lower trade flows, is in a more difficult position, given that IR only runs train load services. Bhutan would generate relatively few such loads, making investment in rail connections/spur lines and associated facilities difficult to justify. Similarly, the low traffic would mean low service frequency and a big advantage to road transport, especially for export traffic.

4.7.3 Upgrading Customs and Trade Facilitation

501. The basic requirement for intra-regional trade facilitation is to extend the reforms being implemented at the major inter-regional trade gateways to the land crossings, especially replacing the manual by computerized systems. Such a roll-out may require investment in more reliable power and data transmission communication infrastructure to allow the systems to operate effectively. The nature of the trade may be rather different to that through the major gateways, perhaps more minor traders and smaller consignments, requiring a rather different approach to risk assessment and perhaps a rather higher level of examination. As customs reforms and streamlining proceeds further at the main trade entry/exit points, these reforms should be applied to the intra-regional, land based trade flows.

¹⁰⁶ Afghanistan has no link with Pakistan but does have links with Turkmenistan and Uzbekistan and a link is being constructed from Iran.

¹⁰⁷ The World Food Programme does have storage facilities for bulk cargo in Peshawar from where it supplies Afghanistan.

502. The issue of cross-border container movement has to be resolved; a difficult issue as, at some borders, there may be security as well as customs concerns. However, if very much larger magnitudes of intra-regional trade are to develop and trade is to move up the value chain, some means of allowing cross-border container land movement has to be devised. Stripping containers at land customs for goods' examination cannot be the answer; some other solution is required, even if this requires the use of scanners to check containers for illicit or non-declared cargo.

503. There is also the need to introduce the customs procedures which will allow customs clearance away from the border. Such systems already operate from the gateway ports to inland destinations; comparable systems need to be developed and introduced at the land customs stations, especially when the through movement of trucks and containers is allowed. Afghanistan is already moving in this direction and other countries with ASYCUDA could also apply its transit module. Such systems would allow countries to avoid the unnecessary investment, operating costs and delays associated with land port facilities which have the real danger of becoming permanent blots on the South Asian economic landscape.

504. Equally important to these procedural changes and associated investments may be greater cross-border cooperation and coordination between the customs authorities within the region, both at the national and local level. This is not to suggest one stop customs facilities or similar joint border processing of trade, which are being tried elsewhere; such developments may have significant benefits but may seem unlikely in the region, at present. Rather, closer working relations and the sharing of intelligence and data would facilitate the work of Customs and other authorities on both sides of the land borders. Even basic telecommunication links between customs offices at the borders would be a step forward. History and political and economic differences have resulted in intra-regional relationships with particular characteristics, but customs authorities elsewhere manage good working relationships, despite governmental differences.

505. Streamlining customs procedures and reducing the costs of formal trade should help to shift some of the present informal trade to documented channels, as would the normalization of trade relations between countries, most particularly India and Pakistan. However, they are unlikely to eliminate the trade where there is a conducive environment, such as along the border of Afghanistan and Pakistan and India and Nepal, and large profits to be made by avoiding formal trade routes and import duties/taxes. Shifting the onus of government revenue generation away from import-related sources may be the ultimate solution, reducing the profit from informal trade. Improved customs enforcement along the border would also assist by increasing the costs of such trade. Such enforcement has to face the issue of addressing corruption among border officials and perhaps also their lack of cooperation.

4.7.4 Intra-Regional Trade Corridors

506. The approach to improving trade-transport facilitation in South Asia has generally been rather fragmented with each separate institution undertaking reforms, making investments, etc according to its own priorities. While the actions have raised the overall levels of performance, they have probably been less effective than a more integrated and comprehensive approach to trade facilitation, taking into accounts the key linkages in the trade-transport chain. Investments at the ports, for example, will be less effective if the delays caused by customs or other official procedures are not also addressed. Some major improvements are being made to the highway networks but these could provide a greater stimulus to trade and economic activity if the other constraints to modern truck operations were simultaneously removed/reduced. Reducing the time to reach the border by a few hours is welcome, but the greater problem is the days that the trucks wait at the border.

507. While national trade facilitation committees and taskforces have been established, they have tended to concentrate rather narrowly upon the issues relating to customs and other trade-related documentation. These issues, while extremely important, are only a sub-set of the total issues that have

to be addressed if South Asia is to develop international standard trade-transport corridors, providing the region with increased potential to compete in the global market and raise intra-regional trade to global levels. Infrastructure, transport operations, transport regulation and other trade-transport issues must also be addressed. Some of these issues may be national but many will be more corridor specific. To provide a more inclusive approach to raising the levels of trade-transport performance, many countries have moved toward a corridor approach, addressing the issues on a corridor as an integrated problem requiring multi-faceted solutions.

508. Establishing the corridor approach within a country is not easy; establishing the approach when the corridor connects two countries is even more difficult. But other countries have demonstrated that it is achievable, if there is the underlying belief that trade brings benefits and that efficient trade-transport encourages such trade. The Northern Corridor Transport Agreement, in East Africa, harmonizes the customs procedures and transport regulation of five countries and finances a secretariat to monitor performance and identify further improvements. The Trans-Kalahari Corridor has similarly linked South Africa, Botswana and Namibia and the approach has made major improvements to performance along the corridors through South Eastern Europe.

509. Establishing such corridor based approaches to improving the trade-transport arrangements for intra-regional trade, within South Asia, may offer a promising alternative to the present unilateral and departmental management of trade transport. Certainly, there are key issues which require a common and coordinated approach if real advances are to be achieved; for example, the issue of customs procedures, through movement of trucks and inland clearance of cargo almost demand an integrated approach. Developing corridor arrangements will certainly be a challenge in the South Asian environment, but the rewards could be very considerable and little else seems likely to provide the transformation in intra-regional trade-transport that is needed.

ANNEX 5. TRANSIT TRADE

5.1 Introduction

510. Landlocked countries (LLC) generally face higher barriers to participation in international trade than other countries and higher barriers than areas of similar distance from the sea within coastal countries. The barriers are partly the additional customs formalities required for transit through neighboring countries and the time, cost and unreliability these generate. They can also derive from the LLC's lack of control over the quality of transport infrastructure and services. There may be no overt discrimination but the routes and facilities used by the LLC may not be priorities for the transit country. The trade to/from the LLC may be small and not use the main trade corridors and gateways.

511. The South Asia region now contains three landlocked countries – Afghanistan, Bhutan and Nepal. They are all landlocked but have rather different trade and transport opportunities:

- *Afghanistan*: the country has several transit routes through different countries, all of which are either used now, or have been used extensively in the past:
 - Pakistan: road and rail routes to the Karachi ports and potentially to India
 - Iran: road routes, and potentially rail access in the future, to the ports of Bandar Abbas and Chabahar, and through Iran to Turkey and Western Europe
 - Turkmenistan and Uzbekistan: rail access to Russian ports or Western Europe. This was the main transit route during the 1970s.
- *Bhutan*: While Bhutan borders China, all the trade routes are either to or through India.
- *Nepal*: Nepal was considered more India-locked than landlocked, entirely dependent upon India for access. Growing trade with China and the improved infrastructure to Tibet, is beginning to offer other trade opportunities/routes.

512. The three LLC share the characteristic that their principal transit country is also their major trading partner. Transit is generally considered an issue for inter-regional trade, but it also affects trade within the region. India used to be a major market for Afghan fruit, and Bangladesh is a market for both Bhutan and Nepal.

513. Transit is a major issue for most LLC, and studies have concluded that the lack of direct sea access has a substantial negative impact on economic growth and development. Transit is also an issue for the transit country. Transit may be an economic opportunity and, at times, transit earnings have been a major source of foreign exchange for some countries; for example, Mozambique during the 1960s and early 1970s. Iran is investing to become a major transit route for Central Asia. New infrastructure is being constructed to reduce the transport costs and preferential port rates introduced, particularly at Chabahar. Pakistan also sees economic opportunities from becoming a transit route for Central Asia, using the new port of Gwadar. Transit can also be used as a political lever to influence the policies of the landlocked.

514. Transit can also be an economic cost, especially if facilities, constructed for transit traffic, are under-utilized. This may not be a major issue in South Asia as transit traffic is a small proportion of total flows. Redundant or under-used transit facilities have, however, been identified elsewhere. There is perhaps a danger that infrastructure designed for the Central Asia market may be abortive, given Central Asia's other transit opportunities. Transit may have a revenue cost to the transit country, if used to evade economic policies as well as import duties and taxes. LLC have been accused of excessive

imports which then leak into the transit country economy. Both Afghanistan and Nepal have, at times, faced this claim from Pakistan and India which have then placed restrictions on transit traffic.

515. More generally, there is a concern that goods will be diverted into the domestic economy of the transit country, while en-route. In reality, such goods are never really in transit they are always destined for the transit country; “transit” simply provides the opportunity to evade customs duties. To control diversion, transit countries introduce protective measures:

- *Customs transit formalities and documentation*: Such formalities are often the equivalent of customs clearance and thus transit trade is effectively subject to double customs clearance – once by the transit country and once by the landlocked country.
- *Customs bonds, guarantees or duty insurance*: Financial measures are applied to compensate the transit government for lost revenue on diverted cargo. It is never quite clear whether such mechanisms are effective in either deterring diversion or compensating for lost revenue
- *Designated transit routes*: Transit cargos are only allowed to operate along certain designated routes, and may have to report at check points
- *Transit Convoys*: Trucks carrying either transit cargo, in general or specific “sensitive” commodities have to travel in convoys escorted by customs or security officials. Such convoys are inevitably slow, costly and inefficient.

All these measures are used in South Asia; transit documentation is universal, except where escorted convoys are required.

5.2 Afghanistan

5.2.1 Iran and CIS Routes

516. Transit traffic through Iran is carried on Iranian trucks to the border at Islam Qala or through to Herat, when the cargo is perishable commodities. The cargo is unloaded, cleared through Afghan customs and re-loaded to Afghan trucks. Formalities through Iran have not appeared as a significant issue, perhaps reflecting Iran’s objective of becoming a major transit route. The rail route through the countries of the former Soviet Union has yet to be re-activated fully though there is extensive rail-road interchange infrastructure at Hairatan and trains cross the border. Rail transit was never a major customs issue, reflecting the customs control advantages of rail movement by public sector railways. The break-up of the Soviet Union and the creation of separate national railways will have complicated the route, and contributed to a reduction in overall rail traffic, but does not seem to have created insuperable documentation and customs transit issues.

5.2.2 Pakistan Route

Afghan Transit Trade Agreement

517. Transit through Pakistan takes place under the 1965 Afghan Transit Trade Agreement (ATTA) which specifies the routes, transport modes and customs transit procedures:

- Afghan area at the port of Karachi for the storage of transit cargo
- Two routes: Karachi →Torkham (Peshawar route) and Karachi→Spin Boldak (Chaman route)
- Rail transport from Karachi to the railheads at Peshawar and Chaman
- Open competition for road transport to/from the railheads; both Afghan and Pakistan registered trucks allowed to cross the border
- Multiple entry visas for transporters and route permits to be valid for six month periods

- Transit invoice document in quadruplicate – duplicate and triplicate copies sent to customs house at border. On receipt of the invoice from Pakistan Customs, the Afghan Customs will retain the duplicate and return the triplicate to the Customs House, Karachi, with the appropriate endorsement, certifying the arrival of the goods.

518. The ATTA envisaged that the rail would be extended across the border from Chaman to Spin Boldak and from Landi Khana to Torkham, thus allowing direct delivery by rail into Afghanistan. Transit traffic should be free of:

“Customs duties, taxes, dues or other charges of any kind.....except charges for transportation or those commensurate with the administrative expenses entailed by traffic in transit or with the cost of services rendered” Article IV.

While the agreement is clear and provides for no restrictions on the movement of transit cargo, there is a rather broad permit for unilateral action:

“Nothing in this Agreement shall be construed to prevent the adoption and enforcement by either party of measures necessary to protect public morals, human, animal or plant life and health and for the security of its own territory.” Article X

519. Subsequent to the Agreement, Pakistan imposed a list of goods which were not allowed transit. These were commodities that the Pakistan Government decided were being re-exported back into Pakistan. Initially, the negative list covered 24 commodities, but the list has been gradually reduced and in the early 2000s, it was reduced from 24 to 6 commodities and in July, 2005, the list was further reduced from six to three commodities – cigarettes, cooking oil and auto parts.

Developments since ATTA

520. The ATTA was agreed when rail was the main freight mode, Karachi was the only port, containerization had hardly started and general cargo was transported as break bulk. Transport in Pakistan has changed very substantially since 1965:

- Pakistan has two major ports, Karachi and Port Qasim, and Gwadar has just opened.
- Port terminals are now being operated by the private sector.
- Containers have become the major mode for general cargo.
- Trucking dominates both short and long distance freight transport.
- The cross-border movement of Afghan and Pakistan trucks applies only the Peshawar – Kabul route, elsewhere cargo is transshipped at the border

Transit arrangements have been modified to take account of these changes. Port Qasim has been added to the entry points and a third transit route, through Ghulam Khan Gilli, specified. Non-commercial cargo has been allowed to move by road from the ports to Afghanistan.

521. Commercial cargo was still restricted to rail and, given PR’s limited capacity this was a major source of complaint. ATTA traffic was one of PR’s few sources of commercial traffic. In December, 2004, the Pakistan Government authorized the National Logistics Cell, Pakistan’s largest trucking fleet (owned by the army) to move commercial transit traffic by road and to sub-contract other carriers to supplement its capacity.

Streamlining Transit through Pakistan

522. Afghan transit traffic will benefit from investments and restructuring already on-going or planned:

- Implementation of modern customs regimes in both Afghanistan and Pakistan with streamlined procedures and computerized customs clearance. A transit module and communications between the main land crossings and the Customs Houses at the ports will be necessary.

- Improvements in Pakistan to raise the National Trade Corridor (NTC) to international standards will benefit transit, especially to Kabul:
 - Lower port charges
 - Expedited customs clearance
 - High capacity, high service level highways/expressways
 - Reduced en-route checkposts
 - Modernized road freight sector
 - Enhanced freight forwarding/logistics sector.
- The refocusing of PR to freight should provide the most economic route for much of Afghanistan's transit traffic, given the very long haul, >1700km, from the ports to Peshawar, and the possible control of truck axle-loads, which would increase trucking rates for bulk cargo.

523. These will improve the existing system, but will not create a modern system, comparable with those found elsewhere; this will require further change. The most fundamental is that procedures are agreed so Pakistan Customs does not break the seals and inspect 100 percent of the containers carrying commercial cargo. It will also be necessary that the shipping lines agree that Afghanistan is an acceptable destination for their containers. This will remove the need for importers to purchase the container or to strip the containers at the port and move the contents as loose cargo. Once this is achieved, then dry port arrangements within Afghanistan, together with through bills of lading become possible.

524. The second major change would be the through movement of both Afghan and Pakistan trucks from port to final destination within Afghanistan. The ATTA is supposed to provide cross-border movement for the trucks of both countries, this need to be extended through Pakistan to the ports. Once both countries have become functioning members of TIR such movement "should" present no major technical issues, but perhaps a political problem with the trucking cartels operating in the border areas.

525. TIR membership and compliant trucks is one approach but, given the similarity in the vehicles operated by the trucking enterprises in the two countries, some form of bilateral arrangement could also be possible. Bonded transport is already allowed and operating within Pakistan, the principle of such transport is accepted, and it is just a question of finding acceptable modalities to extend the system to Afghan transport enterprises carrying transit traffic. Such arrangements could be confined to the more formal segments of the trucking sector.

526. The Government of Afghanistan is preparing a draft for a new Pakistan – Afghanistan Transit Agreement for discussion. The draft agreement includes not only routes between Afghanistan and Pakistan but also transit corridors through Afghanistan. Such transit corridors, and Pakistan's interest in becoming a major sea access route for Central Asia, should provide the incentive for restructuring the transit system on modern lines¹⁰⁸.

Afghanistan's Access to India

527. The ATTA also makes provision for transit between Afghanistan and India, with entry/exit at Lahore. Rail transport is envisaged for such transit traffic. Presently, there is little transit between Afghanistan and India, through Pakistan; imports from India move primarily through the Iranian route. The transit situation is somewhat confusing; in response to the Afghan Foreign Minister's request for transit facilities through Pakistan to India, the PakTribune reports:

"Pakistan allowed India and Afghanistan transit facility for exporting goods. Talking to a private TV station, spokeswoman of Foreign Office, Tasneem Aslam, said we have allowed Afghanistan to export

¹⁰⁸ The Pakistan Times reported on March 15, 2007, the signing of a transport trade and transportation agreement between Pakistan and Uzbekistan in Tashkent.

items to India using land routes of Pakistan and India can use Karachi port for trading with Afghanistan” November 21, 2006

The rationale for such an asymmetric arrangement is not clear, other than to act as a barrier to trade for Indian goods. Road based transit is being requested by both the Afghan and Indian Governments under the umbrella of SAARC. It is not clear how road transit would operate. As systems in the region currently operate, they would require the goods to be transshipped at both the Indian and Afghan borders and would be very cumbersome.

528. The draft new Pakistan – Afghanistan Transit Agreement, prepared by the Afghan Government does not, rather surprisingly, include provision for transit routes between Afghanistan and India.

5.3 Nepal

529. Nepal is dependent on India for access to the sea or for access to Bangladesh. Nepal’s transit through India has improved over the last thirty years:

- o In the early 1970’s Nepal’s transit traffic was restricted to the use of Kolkata; container road transport was not possible (the container was supposed to be riveted to the chassis of the truck); cargo was mainly break-bulk; transport was largely by rail with cargo manually transshipped between the broad and meter gauge networks at Barauni, and then transshipped again between rail and road at the Indian railheads along the border.
- o In the mid 2000s, Nepal utilizes both Haldia and Kolkata and has the agreement to use JNPT; broad gauge has been extended and links Kolkata and Nepal (Raxaul and Jogbani); general cargo is now generally containerized; unit container trains operate between Kolkata and Nepal; containers move by road; and Nepal has two road ICDs.

Major improvements to the system have been achieved but further improvements should still be possible in terms of both the infrastructure and the procedures.

5.3.1 Transit through India

Transit Services

530. Transit takes place under the provisions of the Treaty of Transit between Nepal and India, which specifies the ports, modalities and procedures required. Kolkata and Haldia are both used extensively, but for rail transport containers from Haldia have to be road bridged by Concor to Kolkata. The present distribution of container traffic through the ports is detailed in Table 63.

Table 63: Nepal: Container Transit Traffic
(TEU)

	-----Import -----			-----Export -----			Total Traffic
	Kolkata	Haldia	Total	Kolkata	Haldia	Total	
FY2001	27796	707	28503	860	860	1720	30223
FY2002	13947	9180	23127	1071	1071	2142	25269
FY2003	14799	10619	25418	1502	1502	3004	28422
FY2004	15539	13653	29192	2550	2850	5400	34592
FY2005	11052	8645	19697	366	1543	1909	21606

There is a large import imbalance which has a significant impact upon both the cost and modal choice for transport. The use of Haldia has grown very rapidly since the 2000 and the port now handles just under 50 percent of Nepal’s containers. Neither Kolkata nor Haldia have direct container liner services, so all Nepalese containers have to use feeder services to/from a hub port. In terms of entry points

within Nepal, almost 70 percent of container traffic uses the Raxaul/Birgunj crossing, which feeds Kathmandu and Pokhara:

<i>Border Crossing</i>	<i>Percent TEU</i>	<i>Mode</i>	
Bhairahawa	7%	Road	531. Container movement by rail has developed since the Birgunj ICD was opened in 2004 ¹⁰⁹ , but it is almost entirely restricted to import containers; the ICD and rail transport has had virtually no impact on export containers, Table 64.
Biratnagar	24%	Road	
Birgunj	69%	Road 45% Rail 55%	

During the first 14 months of operation, the ICD received 100 import trains, with an average of 66.5 TEU/train. In FY2006, there were \approx 145 import trains, i.e. three trains/week. Only 17 trains carried export containers in the first 14 months of the ICD's operation, with an average load factor of only 6 TEU. Exporters, with shipping deadlines, cannot depend upon such infrequent services and thus continue to use road transport. Overall transit-transport costs are lower by rail, partly because of lower freight charges, partly because of reduced or exempted charges for various transit/customs related fees, Table 65.

Table 64: Nepal: Rail Container Traffic (TEU)

	Imports	Exports
July 2004 - June 2005	5543	79
July 2005 - June 2006	9629	64

Table 65: Container Transit Costs: Kolkata - Birgunj (US\$)

	TEU		FEU	
	Road	Rail	Road	Rail
Port Charges	234	113	346	165
Customs House Agent Fees	78	56	122	67
Line Haul Freight Charges	600	393	911	711
Container Insurance and bond	23	0	32	0
CTD courier	3	0	3	0
Border Crossing Costs	38	0	58	0
Misc Expenses	22	0	22	0
ICD Expenses	0	58	0	92
Local Trucking Costs	0	43	0	71
Total Costs	998	663	1494	1105

532. Total rail movement costs are some US\$330 – 400 lower than by road. In addition, if the goods are moved by road, the customs duty on goods considered “sensitive” by the Indian Government has to be covered by insurance. Such insurance adds to the road cost, the equivalent of about 0.225 percent of the CIF value. For a 20ft container, loading 13 tonnes with a CIF value of US\$5,000/ton, the insurance cost would add a further US\$150 to the road transit cost.

533. Rail may have lower direct costs but often provides a slower service than road transport and may thus be considered inferior for higher value cargo. To compare the service times, by road and rail, the movement of containers from Kolkata – Birgunj was analyzed for the November, 2005, Table 66.

¹⁰⁹ Construction of the ICD and the rail spur line was completed in April 2001 but opening was delayed by the concessioning of the terminal's management and the concluding of a rail operating agreement.

Table 66: Transit Time: Kolkata – Birgunj
(days)

	Road	Rail
Berthing to customs clearance	6.0	6.6
Customs clearance to loading	0.5	3.3
Loading to arrival Birgunj	4.0	2.7
Total time	10.5	12.6

On average, the total transit time by road is two days faster than by rail. The time difference is almost entirely due to the delay between customs clearance and loading. This reflects Concor’s policy of only moving full unit trains; boxes are delayed until a full train is assembled. During the month, ten trains were

dispatched and the delays in loading ranged from 1.6 – 6.2 days. Rail has faster customs clearance through Indian Customs at the border, normally 4 hours, while trucked containers may be delayed at the border for 8 hours or more. The actual movement time by rail is significantly faster than by road. Four days to cover a road distance of 668 km reflects the low service provided by the highway network.

534. The average transit time is increased by a small percentage of containers that remain at the port for extended periods, primarily due to inadequate documentation or because they are considered sensitive. By rail, over 40 percent of the containers reach Birgunj within 10 days of the ship’s berthing, 85 percent within 17.5 days, but about 3 percent of containers take in excess of 25 days.

535. The ICD and container trains have improved Nepal’s transit but the ICD has not proved a financial success for the concessionaire¹¹⁰. Traffic has not developed to the levels forecast in the feasibility studies (20,000TEU in the first year and then annual growth of 10 percent). As a result, the concessionaire has sought to renegotiate the concession agreement. It is reported that the lease agreement was revised from NRs 86 million annually to NRs 48 million in the first year, progressively rising to NRs 110 million by 2014¹¹¹. The report also suggested that the concessionaire was trying to persuade the Government to move from a fixed annual lease to a profit or revenue sharing arrangement.

536. The financial results of the ICD have been poor, with revenues in the first year (FY2005) covering only 50 percent of the NRs 70 million expenditure; the terminal made a loss of NRs 25 million in the following year. The ICD was established to handle transit containers but to increase the utilization of the terminal; the operating scope of the ICD has been widened to include both non-container traffic and non-transit traffic. While there has been some success in attracting other traffics, the terminal still faces restrictions with regard, for example, to the types of wagon that the Indian Government will allow to cross the border. There can also be resistance to the loss of traffic; road transporters for example, resisted Concor’s attempts to move vegetable oil from Kolkata to Birgunj in container tanks.

537. While the Birgunj ICD has shifted a substantial share of Birgunj-destined containers to rail, considerable transit traffic still goes by road to Birgunj as well as to other entry points. There is also considerable non-containerized road traffic moved from Kolkata to Nepal. The road freight rates for non-containerized cargo are lower than the container rates, Table 67.

¹¹⁰ Concor initially owned 60% of Himalayan Terminals Pvt Ltd, with Nepal Transit Warehousing Corporation and Interstate Multimodal Transport Pvt Ltd each owning 20%. Subsequently Concor sold 20% of the shares to Transworld Ltd, a private Indian shipping company. The concessionaire is thus joint Indian (60%) - Nepal (40%), and public (60%) - private (40%).

¹¹¹ “Birganj ICD: Concor’s Himalayan Blunder”, Hindu Business Line, May 1, 2006

Table 67: Road freight Rates: Kolkata – Nepal
(US\$)

	Birgunj	Biratnagar	Bhairahawa
Full truck (two axle)	320	225	355
Part load/ton	32	22	40
TEU (+ empty return)	600	475	910
18ft closed van	405	325	735
22ft closed van	450	370	765

Transit Procedures

538. Transit formalities differ depending upon whether the goods are imports or exports, whether containerized and whether moved by rail or road; ‘simplified’ procedures have been agreed for rail container movement.

Container Imports by Rail

1. At the Indian port of entry the importer has to prepare the Import Containerized Cargo Declaration (ICCD) which requires the following information:
 - Name of the Ship, rotation number and line number
 - Name and address of the importer
 - Number, description, marks and serial numbers of the packages
 - Country of consignment and country of origin, if different
 - Description, quantity and value of goods
 - Import license number/date, and L/C number/date/issuing bank or a certificate from the Nepalese Consul stating that import license or L/C not required
 - Declaration that the goods are in transit for Nepal and shall not be diverted en-route to India or retained in India.
2. Submit the ICCD (in quadruplicate) to the Indian Custom House; all copies of the ICCD to include copies of the bill of lading (non-negotiable), invoice, packing list, import license, and L/C authenticated by a designated authority of HMG or the issuing bank or a certificate from Nepalese Consul,
3. The shipping agent submits to the Appraiser/Superintendent an application to issue the Transshipment Permit (TP), 5 copies together with copies of the relevant parts of Import General Manifests (IGMs).
4. On receipt of the TP application, the Appraiser/Superintendent will issue the TP if all is in order. After the arrival of the containers at the port, Customs will check the one time lock and, if intact, will allow the rail transport of the container without examination.
5. On arrival of the container at Raxaul Land Customs station, the carrier has to present the original copy of the TP, Indian custom will examine the one time lock and, if intact, will endorse the TP and approve the border crossing of the container to the ICD. If there is suspicion of pilferage, Indian Customs can check the goods as many times as they like.

539. While simplified relative to other procedures, the system still requires the import license and L/C or certificate from the Nepalese Consul. These requirements are intrusive, especially as normal imports into Nepal do not require licenses and trade payments seem hardly the concern of Indian Customs.

Imports by Road

1. The process can only commence after the shipping line or shipping agent has filed the IGM with Kolkata Customs, normally before the arrival of a vessel.
2. Importer sends all original shipping documents with a letter of authority to a Customs House Agent (CHA). Customs require that the signature on the letter of authority is certified by the bank that issued the L/C. The Bill of Lading (B/L) is endorsed to the nominated CHA.

3. The CHA:
 - prepares six copies of Customs Transit Declaration (CTD): red for private imports, green for Government imports
 - obtains 'Delivery Order' (DO) against B/L from the shipping line and settles any outstanding payment to the shipping line
 - pays the fees for obtaining the DO
 - obtains a duty insurance policy from the National Insurance Company Limited, Division–X for private sector imports or a letter of undertaking from the Nepal Transit and Warehousing Company Limited (NTWCL) for public sector imports.
 - submits the following documents to the Nepal Section of the Customs House.
 - CTD.
 - Duty insurance for sensitive goods, a legally binding undertaking for other imports or letter of undertaking from NTWCL for Government imports.
 - DO or original B/L.
 - Original letter of authority from importer
 - Invoice-original.
 - Packing list-original.
 - Copy of L/C (certified by the bank or the Royal Nepalese Consulate in Calcutta).
 - Certificate of origin (COO).
 - Import license, if required-original.
 - Duty insurance or NTWCL's undertaking for container.
 - Additional documents for specific cargo such as health certificate for raw wool, phyto sanitary certificate for plants, veterinary certificate for animals etc.
4. For containers, the CHA has to submit a cash deposit/bank guarantee/bond equivalent to the value of the container to the Shipping Agent for permission to take the container to Nepal and bring it back. Most shipping lines also require insurance against damage to the container. Customs require duty insurance on the container box of IRs 100,000/TEU for private imports or a letter of undertaking from NTWCL for public sector imports (IRs. 30,000/TEU)
5. The CTD is stamped as a receipt of the document. The Appraiser and Assistant Commissioner of Customs (AC), Nepal Section, put their signatures on the original documents, including the COO, before returning them to the CHA. Kolkata Customs retains the 5th and 6th copies of the CTD, and one copy of the other documents.
6. Depending upon the request made, the back of the CTD is stamped with instructions for the Shed Appraiser/Preventive Officer (PO) - to check the seal/one time lock (OTL) on containers to Nepal, or for loading the cargo into an open truck/box van. The AC and the Appraiser at Kolkata Customs jointly sign the instructions
7. The CHA approaches the shed appraiser and Examining Officer (EO) with the documents, pays the port fees at the Kolkata Port Trust (CPT) payment counter, returns with the payment receipts to the shed and obtains clearance from the stevedore or staff of the shipping line
8. The Shed Appraiser and EO normally examine only the seal number and condition of the OTL. If the container is stripped, about 5 percent of the packages are checked to ensure accordance with the CTD. If the OTL is damaged, the Customs will allow the CHA or shipping line to put on a new OTL and endorse the OTL number on the CTD. After checking, the Appraiser and EO issue 'Pass Out' order on the back of the CTD.
9. The container is then allowed loading onto a truck or the break bulk cargo loaded from the shed or containers to trucks; undertaken in the presence of the EO or PO (the PO normally works during office hours, and EO works before and after office hours; they perform the same work).
10. After loading, the PO endorses the back of the CTD with the seal number of the OTL and the lock and key numbers for break bulk trucks. The Port Customs do not write anything on other documents except

for some marks, such as a circle on the OTL number in the B/L or DO and on the invoice value. The 4th copies of the CTD and DO, and a photocopy of the invoice and packing list are retained by the port shed.

11. The PO issues a temporary permit called Transit Pass (TP) to the CHA or driver of the vehicle for clearance at the border, pending the arrival of the sealed cover, especially when the consignment cannot all be cleared in one day.
12. The TP is now used only for bulk cargo. Generally, after the final endorsement on the CTD by the Port Customs, a photocopy is made and signed by the Port Customs for carriage along with the cargo by the driver. This is used as a replacement for the TP.
13. After loading the cargo and obtaining the endorsements on documents by the Port Customs, the CHA returns to the Kolkata Customs to obtain the sealed cover (an envelope closed with customs seal). Kolkata Customs records details of cargo delivery and the CTD number, hands the original CTD to the CHA and prepares the sealed cover with a key to the customs lock on the truck/wagon, the 2nd and 3rd copies of the CTD, and the Railway Receipt for cargo dispatched by rail. Customs clearance at Kolkata normally takes 2 – 4 days.
14. The sealed cover can be sent to the concerned border customs by post but, to avoid delay, the sealed cover is usually given to the CHA. This is not allowed for importers/CHAs that previously have not produced the documents within a reasonable time at the border.
15. The CHA couriers the sealed cover with the other documents to his agent or to the importer's nominated agent at the Indian border customs post.
16. On the arrival of the vehicle and sealed cover at the border, the Customs Inspectors verify the documents with the vehicle. If in doubt, they may check the cargo. The vehicle is then allowed to cross the border, where the CTD is stamped “entered Nepal” and sent back to the Indian border customs that send it back to Kolkata Customs to close the file.

540. This is an unnecessarily cumbersome process and traders suggest that it is designed to deter trade with third countries. It is perhaps more likely that the procedures are a relic of the previous approach to the entire customs function. It remains a totally manual system; the advances that Indian Customs have made to computerize procedures have not been applied to transit. ICEGATE is a bespoke system and thus does not have an off-shelf transit module, as does ASYCUDA, and thus computerizing transit clearance could require some additional work.

Exports

541. Exports from Nepal follow much the same processes as imports. Twenty-two documents, including an export CTD are prepared. After export clearance, within Nepal, the customs agent is given permission to cross the border to the Indian Customs office where s/he submits the necessary documentation. After examination of the documents and the vehicle lock/container seal, the Indian Customs officer will endorse the export CTD, giving back the original to the agent, retaining the 4th copy and sending the 2nd and 3rd copies to Kolkata Customs. The provisions for duty insurance are the same for exports as for imports. At Kolkata, Customs will inspect the documents and seals and, if all are in order, will endorse the documents and allow the cargo to proceed for shipment. If any discrepancies exist or the lock/seal has been broken, physical examination of the cargo takes place.

Improvements to the Transit System

542. *The introduction of a computer-based transit monitoring system:* the present process comes from a bygone era in customs which is moving to a computer based, paperless system. The transit procedures remain manual with numerous steps, copies of documents and signatures. It is difficult to imagine that all this is still necessary. Unfortunately, there would be costs to Indian Customs in developing a computerized system while the direct benefits would be almost entirely received by groups in Nepal. Indeed, replacing the present manual system might affect adversely some interests in India (customs officers and CHA). GOI may view increased Nepalese economic growth and trade as benefit to the region and thus indirectly to India. There may also be those who would like to see a computerized

system replace all the old manual systems which have tended to bring the Department and its officers into disrepute.

543. *Streamlining the existing processes:* trade policy and government oversight of trade has moved forward in Nepal; import licences are generally not required nor payment by L/C. However, the transit procedures continue to be based on this documentation. Similarly, the involvement of the Nepalese Government, through its Consulate General in Kolkata, is most unusual in transit procedures, especially for cargo not destined for the government. The present transit system could be simplified prior to the development and introduction of a computer-based system. Otherwise, there is a danger that the antiquated system will be incorporated into the computer system and then be much more difficult to change. Given the achievements of Indian Customs in streamlining procedures for Indian trade, it must be possible to reduce the present transit clearance times of 2 – 4 days very significantly.

544. *Liberalizing the Insurance Bonds:* It is common for the transit country to require that cargo in transit has some form of transit bond or insurance to cover the payment of duties in the event that the transit cargo enters the domestic economy. It is more unusual for a monopoly to be given to a particular insurance company, as is the case in India. The liberalization of the Indian economy has moved beyond such public sector protection in most areas. There is no evidence of the extent to which claims are made on the insurance, nor whether the rates for the insurance are related to the actual transit losses. There have been recommendations that the requirement for duty insurance on the container box be removed¹¹². If applied to containers entering into India, it should also be applied to containers in transit. The duty foregone would be little more than trivial, and the shipping companies already impose penalties to deter the non-return of their boxes.

545. *Development of ICDs as Dry Ports:* Presently, containers are shipped C&F Kolkata or Haldia, rather than direct to Nepal on through bills of lading. The ocean and land freight segments of the freight movement have to be settled separately and insurance liability for loss and damage to the cargo becomes an issue. Designating the ICDs as dry ports and attracting the shipping agents to appoint representatives, especially at Birgunj, would offer both the opportunity to simplify shipping and transit procedures and the opportunity to reduce land transport costs. At the present time, shipping companies charge for the return of their containers to the port, while also charging a repositioning fee for sending containers to Nepal for export cargo. Establishing dry ports within Nepal would make such repositioning fees no longer necessary and offer the opportunity for low backhaul rates for exports.

546. *Enhancing the rail container service:* Concor does not operate on a schedule, rather it runs a service when it has accumulated sufficient containers. This is understandable as it has to pay a fixed haulage rate to Indian Railways. Consequently, if there are too few containers at the port, the containers are delayed until more arrive. This can delay the dispatch of cleared containers by days. As container traffic increases, this problem should somewhat diminish as the average frequency of trains will increase. Nepalese importers may be willing to pay more for more regular service, on a take or pay basis, i.e. the trains runs whether full or empty but the revenue to Concor would remain the same. Such a regular service would clearly require a premium and would probably have to be arranged through an intermediary company such as the ICD concessionaire.

547. It is perhaps more difficult to see a solution for the movement of exports by rail, the volumes are too small to justify regular and frequent trains. Difficult until it is recognized that the import containers have to be returned to the port whether loaded or empty, the empty containers are not retained in Nepal. The containers are already being railed back to Kolkata and it seems implausible to think that the haulage charges are not already covered on the inbound direction. This seems more a marketing and pricing problem for Concor.

¹¹² Inter-Ministerial Committee on Trade Facilitation

548. *Diversifying the transit routes:* Nepal cargo transits through the ports in the Bay of Bengal and faces limitations in terms of draft and service provision. Routing exports through JNPT or a Gujarat port would offer reduced ocean freight rates and transit times, by avoiding the need to feeder through a hub port. The problem is the cost of reaching such ports which are much farther away than Kolkata. Given the small volume of exports, it is highly unlikely that any container operator would be prepared to offer the frequency of rail service required for export traffic. Consequently, the export containers would have to be moved by road, and this would reduce significantly potential time and cost savings. On the other hand, there seems no logical reason why Nepal traders should not use such ports, if they consider that they offer an overall better service, other than the fact that the present transit customs system is based on Kolkata Customs. A modernized, computerised transit system should be applicable to any customs house.

549. *Upgrading the transit infrastructure:* Some improvements to the road routes from Kolkata are already underway, but the state highways in Bihar and Uttar Pradesh are likely to continue as issues, and given the present traffic growth rates in India, some of the improvements may have a relatively short lived before the roads again become congested. Unfortunately, the scale of the infrastructure need is such, especially in lagging states like Bihar, that it is difficult to envisage an early solution, unless a corridor approach can be agreed and funded, perhaps with external grant or low interest assistance, under the aegis of SAARC.

5.3.2 Transit through Bangladesh

Present Arrangements

550. The development of Bangladesh as an alternative transit route for Nepal has been discussed for many years and agreements have been reached between the governments on the use of Bangladesh's ports for Nepalese trade. Despite the discussions and agreements, little has been achieved in terms of trade shifting from the traditional routing. One of the problems is that transit through Bangladesh also necessarily requires transit through India. Though the distance through India to Bangladesh is very short, 35 kms, it still means additional formalities.

551. Bangladesh is also a bilateral trade partner with Nepal but any intra-regional trade has to transit through India to reach its destination. While overall intra-regional trade has been growing, bilateral trade between Bangladesh and Nepal has declined; falling from US\$13 million in FY95 to under US\$3 million in FY05. Bangladesh imposed a 25 per cent tariff on most Nepalese agricultural goods and a special duty ranging from 15 per cent to 60 per cent. The same duty increases were not applied to Bhutan's exports, which now received an almost 50% tariff discount and are consequently less expensive in the Bangladesh market.

552. The downward trend in bilateral trade is, however, also partly the result of problems in transit and transport. These problems have also reduced Nepal's use of Bangladesh's ports as a transit route. Nepal had been using Mongla and Chittagong for some bulk import cargo. The cargo would be loaded in meter gauge wagons and transported via Biral Customs (Bangladesh) and Radhikapur Customs (India) to Jogbani from where it would be transported across the Nepal border to Biratnagar. Nepal Warehouse and Transit Company maintained a small office in Radhikapur to give undertakings to Indian Customs for the transport of government and aid cargo transiting through the route. The direct cost of this route was lower than alternatives but it was only suitable for low cost bulk cargo. The uncertainty associated with BR and IR, the lack of cargo security, and the extra time made it unacceptable for higher value and time sensitive cargo.

553. The route was also used for the export to Bangladesh of commodities like lentils. The conversion of the IR meter gauge line to broad gauge has closed this route. The only functioning route connecting Nepal and Bangladesh is the road Kakarbhitta → Phulbari → Banglabandh. This transit route was

opened September 1, 1997 but its use is very limited. Nepalese or Indian trucks take the cargo from Kakarbhitta to Phulbari on the India-Bangladesh border, Nepalese/Indian trucks are not allowed to enter Banglabandh, and the cargo has to be transshipped at the border, which is some 400 metres away from the land port. From the land port, the goods are again loaded in a Bangladesh truck for delivery. The Nepalese business community claims that the lack of proper communications at the border crossing, bad roads and the unsystematic issuance of identity cards to Nepalese businessmen and truck crews are major impediments to the smooth operation of this transit route.

554. The Banglabandh land port has an 8,000 square feet warehouse, buildings for banks, Customs and other services. It was once expected to be a major transit route to Nepal as well as to Bhutan, not only for bilateral trade but also for overseas trade; however, due to the procedures, it is little used by Nepal. India does not use this crossing, even though it is only 6 km from Siliguri, the main business center in the area, but uses Burimari which is 72 km further away. However, India has recently agreed to permit Bhutan to use the Phulbari- Banglabandh route and is also planning to develop this border crossing for its own use and is in the process of building an ICP. Once the infrastructure is completed, this route may become important for intra-regional trade and possibly for overseas transit traffic, though this is less likely, given the lack of rail access and the inadequacies of Bangladesh's ports.

555. India used to allow only 4 hours for Nepalese trucks to transit to the Bangladesh border and only on two days a week. This has been extended to office working hours but the following provisions still apply:

- Only up to 25 trucks permitted in a convoy
- Maximum of four convoys/day
- Only closed trucks (GVW 16.2 tons) or containers (GVW 19 tons)
- Only Nepalese trucks
- Truck crews to hold Nepal issued IDs
- No transit for goods on negative list
- Nepal has to appoint an authorized customs agent to handle import/export
- Goods should be insured to the satisfaction of Indian Customs

Indian Customs do not require duty insurance as on routes to/from Kolkata, instead the convoys are escorted by Indian Authorities. The system is complicated further by the municipal authorities in Siliguri banning truck convoys from passing through the town during the day.

Improvements to the System

556. From time to time, the Bangladesh and Nepal government officials have agreed to the hassle-free entry of Nepalese trucks into Bangladesh, destined with cargo for specified industrial and trade centers. Nepal has requested that the duration of return should be at least 15 days to reflect the condition and congestion on Bangladesh's road network. Nepal has also requested that the Bangladesh Government issue visas to the truck crews on their arrival at the border crossing. Such changes would result in major improvements to the present arrangements but they have not been implemented. A 15 day entry period for Nepalese trucks would be a major step forward for intra-regional trucking in South Asia but it might require reciprocal access for Bangladesh trucks and that would necessitate India allowing such trucks across its territory; presently, only Nepalese and Indian trucks participate in the movement.

557. Some improvements to the road infrastructure on the Banglabandh route, within Bangladesh, are being financed under an ADB highway project. A more substantial improvement would be the establishment of rail links. The broad gauge connects Singabadi (India) and Rohanpur (Bangladesh) and this is one of the major crossing points for rail traffic between India and Bangladesh. Now that the Birgunj ICD is linked into the IR broad gauge network, rail could be used for both bilateral trade with Bangladesh as well as transit cargo using Bangladesh ports. It appears that the route was used on one

occasion, at the request of the Government of Nepal and was found to be effective. In 1999, Bangladesh proposed to link, under the rubric of the Asia Railway Network, Birgunj ICD to Bangladesh, using this transit point. The proposal was turned down by India.

558. An ICD is to be built at Kakarbhitta, on the Eastern border with India, under the ADB Subregional Transport Facilitation Project. Kakarbhitta is the most used customs point for the export of Nepalese containerized cargo. This customs crossing is also used for bilateral trade with India, and is the designated crossing point for trade with Bhutan and Bangladesh. There have also been longstanding plans to promote Mongla, in Bangladesh, as an alternate transit port for overseas cargo. These developments may make Kakarbhitta an important customs transit crossing in the future, though the large scale use of Mongla seems somewhat unlikely. The operational arrangements proposed for the ICD are similar to those already operating at the other road-based ICDs. The ICD will handle trucks carrying break bulk cargo as well as containers. All trucks carrying goods across the border will be required to utilize the ICD.

559. Hassle free transit through Bangladesh has been under discussion for the last 30 years, but very little has been achieved. The situation illustrates the problems when more than one transit country is involved on the route. India has been indifferent to the subject. Perhaps under the auspices of BIMST-EC or SAARC some actual progress may be achieved.

5.4 From Landlocked to Landlinked

560. Being landlocked is a disadvantaged geographical position and is associated with lower incomes, trade and economic growth. Most landlocked countries are also least-developed, as is the case with Afghanistan and Nepal. In most transit situations, the landlocked country has very limited bargaining power to persuade the transit country to streamline transit procedures and provide the level/quality of infrastructure that the landlocked country would like. Unless the transit routes coincide with the main transport corridors of the transit country, they tend to receive much lower priority.

561. However, some landlocked countries have managed to become very successful, partly by becoming important components of the transit routes for other countries, e.g. Austria and Switzerland. Similar opportunities may exist in South Asia. Afghanistan occupies a central position on transit routes between the warm water ports in Iran and Pakistan and Central Asia, as well as between South Asia and Central Asia. Pakistan's development of its National Trade Corridor is, at least, partly motivated by its desire to become a central player in transit to Central Asia. Pakistan sees economic opportunity in providing transit access for Central Asia, as does Iran. Such opportunities are generated not simply by the fees and charges associated with port handling, storage and transport, but also by the potential development of port associated industries to supply Central Asia.

562. A similar situation potentially exists for Nepal; it provides a possible land transit route between the two economic giants of Asia, China and India. Trade between the two countries is large (US\$17.5 billion in FY06) and growing rapidly (37 percent higher than FY05); China now accounts for just over 7 percent of India's total trade. China is constructing extensive road and rail infrastructure to connect Tibet and integrate its economy. The recently opened rail link with Lhasa offers the potential for lower cost land transport. A land transit link between China and India could provide an attractive alternative for high value, time sensitive trade though land transport will not replace shipping for the low value bulk commodities that form most of Indian exports to China.

563. India already has some border trading links with China and a new link opened through Sikkim in 2006, but the infrastructure is limited and the routes are only open during the summer months. An all-weather, all season route would be necessary to establish a viable land transport corridor between the

countries. Nepal offers one possibility¹¹³; Kathmandu is connected to the Indian transport system, and the Kodari Highway connects Kathmandu with Tibet. Nepal already receives imports from China by land routes. While a land link, between India and China, already exists through Nepal, it does not have the geometric or capacity characteristics to qualify as a major transit route between two mega-economies. Substantial investment would be necessary to improve the route to allow much larger tractor-trailers and much higher traffic volumes. The proposed investment for a “fast-track” highway from Birgunj to Kathmandu would provide one element of the highway infrastructure required; the need to improve the highway from Kathmandu to Tibet would then remain.

564. The direct benefits of transit to an intermediate transit country like Afghanistan or Nepal are likely to be much more limited than to either the landlocked destination country or the coastal transit country (in the case of Afghanistan) or to the two trading nations (in the case of Nepal). However, there would be some benefits in terms of the provision of ancillary services to transit traffic, possible participation in the international trucking sector, as well as the potential to charge transit fees. Transit fees are, however, double-edged for landlocked countries as they can also be applied to their own transit traffic. For years, landlocked countries have argued, in international fora, that fees should be directly related to the costs of the services provided, rather than used to take advantage of geography. It would be difficult, therefore, for either Afghanistan or Nepal to justify extremely high transit fees although fees related to the costs of infrastructure development and maintenance would be acceptable. It would be more prudent for the landlocked country to require the capital costs of any infrastructure to be funded by the potential users and then relate user fees to subsequent maintenance; this would avoid the financial risk from transit traffic diverting to other routes.

565. The main benefit to the landlocked countries from becoming land links for their neighbors would be the opportunity for restructuring the entire regional transit systems. Pakistan is unlikely to become a major transit route for Central Asia, if transit cargo has to be transhipped from one truck to another at each border crossing. Similarly, a land link between India and China is unlikely to meet its full potential if the present transit processes and procedures are maintained, much simpler, much more streamlined procedures will be necessary. Afghanistan and Nepal might like the idea of the employment and income generated through transshipment and storage at their borders, together with local trucks shuttling the cargo from one border to another. But such country focused solutions are not the basis for long distance transit links, and some TIR like system would undoubtedly be necessary to allow the through movement of vehicles and cargo.

566. The main benefits for the landlocked country as a landlink would be to have: (a) the same systems applied to its own vehicles and cargo within its transit countries; and possibly (b) a share of the total transit market, through the allocation of route permits between the countries participating on the routes. Whether such is possible will depend upon the degree to which the end-users want the potential routes to function – the potential provides the landlocked with bargaining leverage with their more powerful partners.

¹¹³ The other alternative would be a route through Myanmar



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