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REPORT OF THE WORKING GROUP ON

LOGISTICS

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Government of India
Planning Commission
Transport Division
New Delhi

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Preface

The Planning Commission constituted a Working Group to consider the issues relating to logistics. The composition and Terms of Reference of the Working Group are given as Appendix 'A'. For assisting in the work of the Working Group, four sub-groups were set up to examine issues related to (i) capacity; (ii) industry structure; (iii) procedural, process, regulatory, tax; and (iv) technology, Information Technology (IT), and manpower skills. The composition of these sub-groups is given as Appendix 'B'. The work done by these sub-groups provided a very useful input in drafting the Report of the Working Group. Finalisation of the Report was greatly facilitated by the discussions held with Shoummo Acharya, Cyrus Guzder, Ajay Khera, and Anil Gupta.

I would like to thank the members of the Working Group for taking time off from their busy schedule and actively participating in the meetings and contributing to the work of the Working Group. I would also like to place on record my appreciation of the work carried out by the members of the sub-groups.

I would like to thank the experts, individuals, and organisations who provided valuable inputs, in particular Shri Satish Chandra, Secretary, Empowered Committee of State Finance Ministers and R. Balasubramanian, Director, Central Institute of Road Transport (CIRT).

The Working Group received a great deal of assistance from a large number of organisations and individuals. At the outset, I would like to acknowledge and place on record my deep appreciation to Shri B. N. Puri, under whose stewardship the research work and task of putting together the reports of the sub-groups and inputs received from a large number of experts and stakeholders was accomplished by the Transport Division of the Planning Commission. I would also like to acknowledge the work of Mrs. Urvashi Sadhwani, Mrs. Jasmine Fialoke Acharya and Dr. Krishna Dev.

The Report has taken a somewhat longer time in its preparation. This mainly reflects the complexity of the issues facing the logistics sector. Though there exists a large body of work in one sub-sector of logistics, i.e. Transport, there is hardly any systematic work carried out in the field of other sub-sectors of logistics. Moreover, in the past, efforts have not been made to look into the issues facing the logistics sector in an integrated manner. In fact, integrated logistics operation is a nascent activity in the country. All these made the task of the Working Group difficult and time consuming.

It is my earnest hope that the Report will reinvigorate the work already being done in the Ministries and Departments of the Government of India on several elements of the recommendations and that work will be initiated on the new suggestions contained therein. Such follow-up action will

give renewed impetus to measures for cutting down logistics cost in the country and bring about concomitant improvements in the international competitiveness of Indian industry.

(Anwarul Hoda)
Member, Planning Commission
Chairman, Working Group

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Abbreviations and Acronyms

3PL	Third-Party Logistics
4PL	Fourth-Party Logistics
ACTO	Association of Container Train Operators
AERA	Airport Economic Regulatory Authority
AICTE	All India Council for Technical Education
AIDS	Acquired Immune Deficiency Syndrome
AIS	Automated Identification System
AMTO	Association of Multimodal Transport Operators
AWB	Airway Bill
B2B	Business to Business
B2C	Business to Consumer
BOT	Build–Operate–Transfer
CAGR	Compound Annual Growth Rate
CBEC	Central Board of Excise and Customs
CENVAT	Central Value Added Tax
CFS	Container Freight Station
CHA	Customs House Agent
CII	Confederation of Indian Industry
CIRT	Central Institute of Road Transport
CLDC	Central Logistics Development Council
CLM	Council of Logistics Management
CMVR	Central Motor Vehicles Rules
CONCOR	Container Corporation of India
CSCMP	Council of Supply Chain Management Professionals
CSO	Central Statistical Organisation

CWC	Central Warehousing Corporation
DEPB	Duty Entitlement Pass Book
DFC	Dedicated Freight Corridor
DGFT	Directorate General of Foreign Trade
DPR	Detailed Project Report
EC	Electronic Commerce
ECA	Essential Commodities Act
EDI	Electronic Data Interchange
ERP	Enterprise Resource Planning
ETC	Electronic Toll Collection
EU	European Union
EXIM	Export–Import
f.o.b.	free on board
FAK	Freight All Kinds
FAR	Floor Area Ratio
FCL	Full Container Load
FDI	Foreign Direct Investment
FMCG	Fast Moving Consumer Goods
FOIS	Freight Operation Information System
ft	feet/foot
FTA	Free Trade Agreement
FTL	Full-Truck-Load
FTWZ	Free Trade Warehousing Zone
GDP	Gross Domestic Product
GIS	Geographic Information System
GMO	Genetically Modified Organism
GPRS	General Packet Radio Service
GPS	Global Positioning System

GSA	General Services Administration
GST	Goods and Services Tax
GTRIP	Grand Trunk Road Improvement Project
HC	Hinterland Connectivity
HCV	Heavy Commercial Vehicle/s
HRM	Human Resource Management
IATA	International Air Transport Association
ICD	Inland Container Depot
ICEGATE	Indian Customs and Central Excise Electronic Commerce/Electronic Data Interchange (EC/EDI) Gateway
ICES	Indian Customs EDI System
ICTT	International Container Transshipment Terminal
IFTRT	Indian Foundation of Transport Research and Training
IGM	Import General Manifest
IMG	Inter Ministerial Group
IR	Indian Railways
IRDA	Insurance Regulatory Development Authority
IRR	Internal Rate of Return
IRU	International Road Union
ICP	Inter-state Check Post
IT	Information Technology
ITI	Industrial Training Institute
JNPT	Jawaharlal Nehru Port Trust
LCL	Less than Container Load
LMO	Living Modified Organism
LOGSCOM	Steering Committee on Logistics Development
LOGSCOUNCIL	Hong Kong Logistics Development Council
LTL	Less-than-Truck-Load

MANSAA	Mumbai and Nhava-Sheva Ship Agents Association
MAV	Multi-Axle Vehicle
MBA	Master of Business Administration
MIS	Management Information System
MLP	Multimodal Logistics Park
MNC	Multinational Corporation
MoR	Ministry of Railways
MoS	Ministry of Shipping
MoSRTH	Ministry of Shipping, Road Transport and Highways
MoU	Memorandum of Understanding
MT	metric tonne/s
MV	Motor Vehicle
MVA	Motor Vehicles Act
MVP	Motor Vehicular Population
NAFTA	North Atlantic Free Trade Agreement
NGO	non-governmental organisation
NH	National Highway/s
NHAI	National Highways Authority of India
NHDP	National Highways Development Project
NIC	National Informatics System
NMDP	National Maritime Development Programme
NS–EW	North South East West
NTKm	Net tonne kilometer/s
NVOCC	Non-Vessel Operating Common Carrier
OBU	On Board Unit
PBD	Pre-Berthing Detention
PC	Port Connectivity
PCPIR	Petrochemical Product Investment Region

PCS	Port Community System
PCU	Passenger Car Unit
PHO	Primary Health Organisation
PMGSY	Pradhan Mantra Gram Sadak Yojana
POL	Petroleum, Oil, and Lubricant
PPP	Public Private Partnership
PSU	Public Sector Undertaking
RBI	Reserve Bank of India
RCC	Reinforced Cement Concrete
RFID	Radio Frequency Identification
RITES	Rail India Technical and Economic Services
RKMS	Route Kilometres
RLW	Registered Laden Weight
RMS	Risk Management System
ROB	Road Overbridge
Ro–Ro	Roll-on–Roll-off
ROW	Right of Way
RTG	Rubber Tyred Gantry
RTO	Regional Transport Office
RUB	Road Underbridge
SARDP-NE	Special Accelerated Road Development Programme for the North Eastern Region
SCM	Supply Chain Management
SEZ	Special Economic Zone
SIAM	Society for Indian Automobile Manufacturers
SPM	Single Point Moorings
STD	Subscriber Trunk Dialling
TELCO	TATA Engineering and Locomotive Company

TEU	Twenty Feet Equivalent Unit
THC	Terminal Handling Cost
TIN	Tax Identification Number
TINXSYS	Tax Information Exchange System
TMS	Terminal Management System
TQM	Total Quality Management
TRT	Turn Round Time
UAE	United Arab Emirates
UK	United Kingdom
ULD	Unit Load Device
US$	United States Dollar
US/USA	United States of America
USPS	United States Postal Services
UT	Union Territory
VAT	Value Added Tax
VSAT	Very Small Aperture Terminal
VTMS	Vessel Tracking Management System

Conversion Table

1 lakh = 0.1 million

1 crore = 10 million

PART - A

Chapter 1

Introduction

1.1 In 1962, Peter Drucker, the management guru, observed that physical distribution was the US economy's 'dark continent' (Drucker 1962). This comment marked the beginning of an era that saw big advances in logistics management, embracing transportation and distribution functions, which include inventory control, order processing, materials handling, warehousing, and other specialised activities.

1.2 The word 'logistics' is of French origin. Originally a military term, it referred to the art of transport, supply, and quartering of troops. Historically, logistics has been a deciding factor between success and failure in many military conflicts. Transportation gave nations the ability to not only wield military power domestically, regionally, and globally, but also to expand their share in international trade.

1.3 In recent decades, efficient and effective logistics management has become an important determinant of business success. Although variously defined by authors, the term essentially means the art of managing the flow of goods and services from source to user.

1.4 The Council of Logistics Management (CLM), now the Council of Supply Chain Management Professionals (CSCMP), defines logistics as 'that part of the supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements[1].

1.5 According to Stern and El-Ansary (1988), 'the term Logistics Management encompasses the total flow of materials, from acquisition of raw materials to the delivery of the finished product to the ultimate consumer and the counter-flow of information that controls and records the material movement'.

1.6 Kotler (1997) offers a simpler definition: 'Market logistics involves planning, implementing and controlling the physical flow of materials and final goods from points of origin to points of use to meet customers' requirements at a profit.'

1.7 Business logistics is, therefore, the study of flow management that can best provide a profitable level of distribution services to customers through effective planning, organising, and controlling of the stock movement activities that facilitate product flow (Ballou 1987). It is the set of facilities, equipment, people, and operating policies that makes this flow of goods and the related flow of information from acquisition of raw materials through production and distribution possible.

1.8 Bowersox and Closs (1996) describe six operational objectives of a logistics system, as follows:

[1] Founded in 1963, CSCMP is the pre-eminent worldwide association dedicated to research and knowledge on supply chain management. With over 9000 members from 63 countries, it has its headquarters in Illinois, USA

(i) Rapid response;

(ii) Minimum variance;

(iii) Minimum inventory;

(iv) Movement consolidation;

(v) Quality;

(vi) Life cycle support.

1.9 During the 1980s and early 1990s the world of logistics underwent a transformation that involved more changes than seen in all the decades since the Industrial Revolution. The main drivers of this transformation were significant regulatory changes, microprocessor commercialisation, the information revolution, widespread adoption of quality initiatives, and the growth of partnerships and strategic alliances.

1.10 Various activities associated with logistics are as follows: movement of raw materials, manufacturing activity, primary movement of goods to distribution centres, secondary movement of goods, Business to Business (B2B) and Business to Consumer (B2C) distribution, export–import (EXIM) activities, after-sales services, warehousing, and inventory.

1.11 The contemporary definition of logistics involves the integration of information, transportation, inventory, warehousing, materials handling, and packaging. Logistics management includes the design and administration of systems to control the flow of material, work-in-process, and finished inventory to support business unit strategy (Bowersox and Closs 1996). Figure 1.1 provides a description of logistics integration.

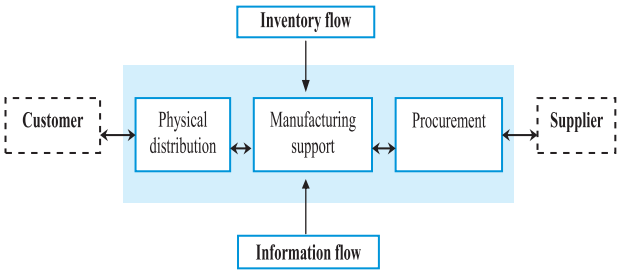


Figure 1.1 Logistics Integration

Source: Bowersox and Closs (1996).

1.12 For individual firms, logistics expenditures are typically in the range of 5–35 per cent of sales, depending on the type of business, geographical area of operation, and weight/value ratio of products and materials. Logistics typically accounts for one of the highest costs of doing business, second only to materials in manufacturing or cost of goods sold in wholesaling or retailing.

1.13 Physical infrastructure or 'hardware' and supporting procedures and processes or 'software' are both factors that impact the logistics environment for a country. The hardware component of logistics comprises of core infrastructural assets and facilitating infrastructure, such as transportation, warehousing, and inventory, logistics hubs and parks, technology, etc. The software component of logistics consists of policies, procedures, regulations, and services in the field of logistics. These encompass Customs, taxation policies, regulatory aspects, registration and licensing policies, human resource development, etc.

1.14 The components of logistics costs for India can be broadly classified into the categories of: transportation costs, inventory carrying costs (comprising of inventories, handling, warehousing, and packaging), and other costs, which comprise primarily of administrative costs. The Department of Transport of the

United States gives a detailed breakdown of total logistics costs, viz. carrying costs (comprising warehousing, interest, taxes, obsolescence, depreciation, and insurance), transportation costs (sub-divided into truck-intercity, truck-local, railroads, water-international, water-domestic, oil pipelines, air-international, air-domestic, and forwarders), and other costs (including shipper related costs and logistics administration costs).

1.15 While logistics principles are the same everywhere, operating environments in international trade are both more complex and costly, as they are affected by distances, document requirements, diversity in culture, and demands of customers. On the whole, the logistics costs tend to be higher in international trade.

Table 1.1: Country-wise Logistics Cost as Per Cent of GDP

Country	Logistics cost as per cent of GDP
China	14.5
India	14.0
Singapore	12.5
United Kingdom	12.2
France	11.7
Japan	10.5
United States	8.7

Source: IMD (2003).

1.16 Logistics costs as a percentage of Gross Domestic Product (GDP) range from around 9 per cent in the United States of America (USA) to 11–12 per cent in France and the United Kingdom and 10–15 per cent in China, India, Japan, and Singapore, as can be seen from Table 1.1.

1.17 Variations in time and cost across countries arise from differences in the quality and cost of infrastructure services as well as differences in policies, procedures, and institutions. These differences have a significant effect on trade competitiveness (Hausman et al. 2005). The factors that have an impact on logistics performance can be categorised into indicators of time, cost, complexity, and risk. These are:

(i) Indicators of time:

- Total time for trade-related procedures (average and maximum)
- Customs inspection clearance time (average and maximum)
- Technical control clearance time (average and maximum)
- Time for trade document procedures (average and maximum)
- Inland transport time
- Additional time due to Container Security Initiative
- Vessel turnaround time (average)
- Time to resolve Customs appeals (average and maximum)
- Vessel waiting time to obtain berth;

(ii) Indicators of cost:

- Total cost for trade-related procedures
- Port- and terminal-related charges
- Total cost for trade document

procedures

- Border control costs
- Inland transport cost
- Additional cost due to Container Security Initiative;

(iii) Indicators of complexity and risk factors:

- Total number of documents per trade transaction
- Criteria for Customs inspection
- Percentage of containers inspected
- Level of Customs inspection
- Damage or pilferage as percentage of value of container
- Shutdown of port due to natural disaster and labour dispute (days)
- Whether the port is a signatory to the Container Security Initiative
- Speed (inland transport by trucks) (kilometres per day)
- Frequency of vessel calls at port
- Number of agencies that have the power to inspect goods
- Number of times consignments are typically inspected
- Percentage of containers electronically scanned
- Percentage of containers physically inspected;

(iv) Additional possible logistics indicators for landlocked economies:

- Waiting time at border crossings (average and maximum)
- Inland freight cost (through transit country)
- Harmonisation of documents with transit country
- Number of transit countries crossed
- Number of borders crossed
- Whether there is free transit access for vehicles across borders.

Source: World Bank (2005).

1.18 At present, India's manufacturing competitiveness is seriously affected by critical bottlenecks in the transport infrastructure and by poor logistics management, leading to time delays and high transaction costs. The time taken in inland transport is too long on account of deficiencies in the road network as well as delays at the inter-state borders. The performance of the Railways is improving but it is still not possible to have assured transportation of a consignment within a given time frame. Both the vessel turnaround time and vessel waiting time to obtain berth at ports do not measure up to world standards.

1.19 For integration of transport systems in logistics, the key components can be identified as: transportation by road, by rail, by sea, or by air within the country; international freight forwarding, viz. movement of goods into and out of the country, by air and by sea; and

warehousing, viz. storage of goods in depots, container yards, silos, port terminals, airport cargo complexes, etc. Underlying the various modes of transport are the processes relating to Customs clearance, information flow relating to the status and movement of goods as well as for Customs clearance, operational planning of the movement of the goods, and the human resources that service this industry. Each one of the above components currently suffers from serious bottlenecks.

1.20 This Report is primarily focused on the development of support activities and functions such as policies, procedures, services, as well as the facilitating infrastructure required for the logistics industry in India to be efficient and cost-effective. However, since the logistics costs are critically dependent on the quality and characteristics of the physical infrastructure, the profile of such infrastructure is given in Chapter 2 and the desiderata spelt out in Chapter 3. The scope also includes the key role of Government in a global economy, and the implications of government regulations, policies, and initiatives that can significantly impact the business of logistics.

Chapter 2

The Logistics Landscape

2.1 Globalisation has led to increased trade and investment flows among countries and has also intensified competition among them. Greater competition has increased the importance of efficiency in logistics management, which is an important determinant of competitiveness.

LOGISTICS LANDSCAPE: INTERNATIONAL SCENARIO

2.2 In today's economically integrated world, trade matters more than ever before. According to World Trade Organization (WTO) statistics, world merchandise exports increased by 8.0 per cent in volume in 2006, while the world GDP grew at 3.5 per cent. In terms of volume, the world exports from Asia have grown at the faster rate of 13.0 per cent in the same period (WTO 2007).

2.3 High-income economies grew at an average annual growth rate of 2.2 per cent while middle-income countries averaged a remarkable 5.2 per cent during 2000–05. By 2005, low- and middle-income economies accounted for 29 per cent and 27 per cent of merchandise exports and imports, respectively. Though the middle-income economies were by far the fastest growing traders, high-income economies, which accounted for more than 70 per cent of world trade and almost 78 per cent of global output by 2005, remain the most important markets.

2.4 Many countries that have intensified their links with the global economy through trade and investment have grown more rapidly over a sustained period and have consequently experienced economic development. On the other hand, inadequate policies, institutions, and infrastructure have hindered the efforts of other countries to integrate into the global economy.

2.5 In addition to outward looking economic policies, developing countries need trade-supporting logistics infrastructure that makes full use of modern and more efficient communication and transportation technology. In the case of some countries, the problem is compounded by poor roads and high inland transportation costs.

2.6 Other obstacles include an unfriendly business environment and inadequate policies and institutions. For example, in sub-Saharan Africa, it takes twice as long to comply with the procedures required to export or import goods as it does in East Asia and the Pacific countries and four times as long as in high-income countries (World Bank 2006).

2.7 Entrepreneurship is vital for the overall development of an economy. In some countries, however, entrepreneurs are hampered by the large number of procedures and time required for setting up a new business. Australia, Denmark, and the United States, which require less than five procedures for starting new businesses, are ahead of the rest of the world in terms of growth-conducive environments for new businesses. In contrast, India, Ghana, and Brazil require 11, 12, and 17 procedures, respectively. To start a new business, it takes 152 days in Brazil, 96

days in Zimbabwe, 81 days in Ghana, and 71 days in India while it takes less than 5 days in Australia, Denmark, and the United States. Lack of access to capital and a small entrepreneurial class willing or able to take risks also impede the growth of trade (World Bank 2006).

2.8 The quality and performance of logistics services also differ markedly across countries. Exporting a 20-foot full container load (FCL) container of cotton apparel takes 93 days in Kazakhstan and 67 days in Mali, while in Sweden it takes only 6 days. The costs of all trade-related transactions for a 20-ft FCL container, including inland transport from the ocean vessel to the factory gate, amount to slightly more than $3000 in Namibia and to slightly less than $3000 in Georgia. In Germany, these costs amount to only $813, and in Sweden to a little more than $500.

2.9 Warehousing is an important element of logistics management. The procedures and time required to set up a warehouse also vary from country to country. Setting up a warehouse takes 56–60 days in Finland and Korea, while in Denmark, New Zealand, and the United States of America (USA) 65–70 days are required. In contrast, in China, Cameroon, Zimbabwe, and the Russian Federation, setting up a warehouse takes 363, 444, 481, and 528 days, respectively, while in India, 270 days are required. The number of procedures required for setting up a warehouse ranges from 7 in Denmark and New Zealand, to 11 in Korea, 14 in Japan, 19 for the United States, and 20 for India. China, where 30 procedures are required, has by far the largest number of procedures required for setting up a warehouse.

2.10 Logistics and supply chain development differs markedly not just from country to country but also from region to region. The following sections discuss the logistics and supply chain environments in (a) North America, the established leader in this area, (b) the Asia-Pacific, the fast emerging new entrant, and (c) India.

LOGISTICS COSTS IN NORTH AMERICA

2.11 With the establishment of the Canadian–US Free Trade Agreement (FTA) and later the North Atlantic Free Trade Agreement (NAFTA), governments in North America have endeavoured to develop the region as an integrated logistics landscape. Necessary partnerships are being developed through alliances to further reinforce the logistics infrastructure required to support the robust trade flows.

2.12 Estimates of logistics costs in the United States, based on data from the CSCMP's *17th Annual 'State of Logistics Report',* show that the total logistics costs were $1183 billion in 2005 (see Figure 2.1), equivalent to 9.5 per cent of the US GDP in the same year (US Department of Transportation 2005b). Transportation accounted for 62.9 per cent of the total logistics costs, out of which motor carriers (local and inter-state trucks) had a 78.4 per cent share, railroads had a 6.5 per cent share, and air (international and domestic) had a 5.4 per cent share. Inventory-carrying costs accounted for 33.2 per cent, of which interest costs account for 14.8 per cent and warehousing for 22.9 per cent. Logistics administration costs accounted for 4.0 per cent of the total cost.

2.13 Though the largest logistics service providers are headquartered in Europe, the US still remains the largest market for logistics services.

Carrying costs	**393**
Interest: 58	
Taxes, Obsolescence, Depreciation, Insurance: 245	
Warehousing: 90	
Transportation costs	**744**
Motor carriers	**583**
Truck – Intercity: 394	
Truck – Local: 189	
Other carriers	**153**
Rail-roads: 48	
Water (International 29, Domestic 5): 34	
Oil Pipelines: 9	
Air (International 15, Domestic 25): 40	
Forwarders: 22	
Shipper related costs	**9**
Logistics administration	**46**
Total logistics costs	**1928**

Figure 2.1: Logistics Cost Structure in the US, 2005 ($billion)

Source: CSCMP (2006).

LOGISTICS IN ASIA-PACIFIC

2.14 In the Asia-Pacific region, Japan and the 'four dragons', viz. Hong Kong, Singapore, South Korea, and Taiwan, have risen to industrial prominence primarily by exporting to the United States and selected European and South American countries. In recent years, the booming export-oriented economies of Indonesia, Malaysia, Philippines, and Thailand have also been added to this group. The Asia-Pacific region has emerged as the most dynamic economic region in the world today, and is likely to become the most dominant region in world economy during the twenty-first century. Inter-port Asian trade between nations in Asia is the fastest growing segment of ocean liner traffic.

2.15 Significant logistics infrastructure development is occurring in the Asia-Pacific region. The trade opportunities within the region are motivating the development of air, sea, and inter-modal links. Singapore, having developed comprehensive government sales, distribution, and administrative operations, is rapidly taking position as the economic hub for the entire Asia-Pacific region. Singapore offers one of the three premium sea–air port facilities in the world. Malaysia is also becoming a distribution hub and an important global trade centre. Strong growth in the air cargo market is also projected in the region and by 2010, two-thirds of the world's air cargo traffic will be derived from East Asia and the Pacific Rim countries (Jedd 1999).

2.16 A study carried out by Accenture titled 'Supply Chains in Asia: Challenges and Opportunities' describes the various characteristics of supply chain and logistics development in different countries (Easton and Zhang 2003b). The supply chain environment in Asia is a result of the interplay of the following major factors:

(i) Market and regulatory diversity: In Asia, there is an increasing gap between the developed countries (such as Hong Kong, Japan, and Singapore), the developing countries (such as China, Malaysia, the Philippines, and Thailand), and the emerging countries (such as India, Indonesia, and Vietnam). This gap can be attributed to differences in economic development, customs and duties, taxation and regulatory systems, logistics and communication infrastructure, etc. This diversity in markets and regulations can further be divided into the following sub factors.

(a) Diversity of infrastructure: The quality, efficiency, and capacity of infrastructure differ markedly from country to country. While the Asian developed countries have well-established, highly efficient transportation networks, some developing countries and most emerging countries require heavy investments in this sector. Further, intra-Asian trade is hampered by the absence of a pan-Asian integrated transport and distribution network.

(b) Diversity of capabilities: Deficiencies and shortcomings in capabilities are a result of a shortage of skilled manpower and professionals, scarcity in enabling technologies like Enterprise Resource Planning (ERP), Management Information System (MIS), and information systems, applications for demand and procurement management, and Customer Relationship Management, and finally insufficient accessibility to third party logistics (3PL) providers. Only a few of the developed countries in Asia—for example, Singapore and Hong Kong—have advanced supply chain capabilities.

(c) E-commerce diversity: There is considerable variation across Asia with respect to Internet penetration, online payment systems, 'eServices' providers, and regulations regarding online transactions.

(d) Organisational diversity: Varied linguistic, cultural, and regulatory systems have also brought about a fragmented, country-specific approach to creating supply chains in Asia, which hinders companies from reaping the full advantages of a synergic regional supply chain.

(ii) Supply chain network complexity: Asian distribution channel networks are generally multilayered, with three or four intermediaries between the manufacturer and customer. A greater prevalence of network complexity is seen in emerging countries and some developing countries, as for example in China and Korea. This complexity causes distribution networks to bear additional costs due to operational inefficiencies, duplication, and fragmentation. Figure 2.2 depicts the stages of development of various Asian countries with respect to supply chain and logistics management.

(iii) Market penetration: The developed countries and urban areas of developing countries in Asia are viewed as more lucrative markets and have deeper market penetration. These countries also have advanced supply chain networks and infrastructure. However, with the increasing importance of countries such as China, India, and Indonesia as markets, the development of infrastructure and capabilities, along with realignment of supply chain networks, becomes a prerequisite for the Asia-Pacific countries.

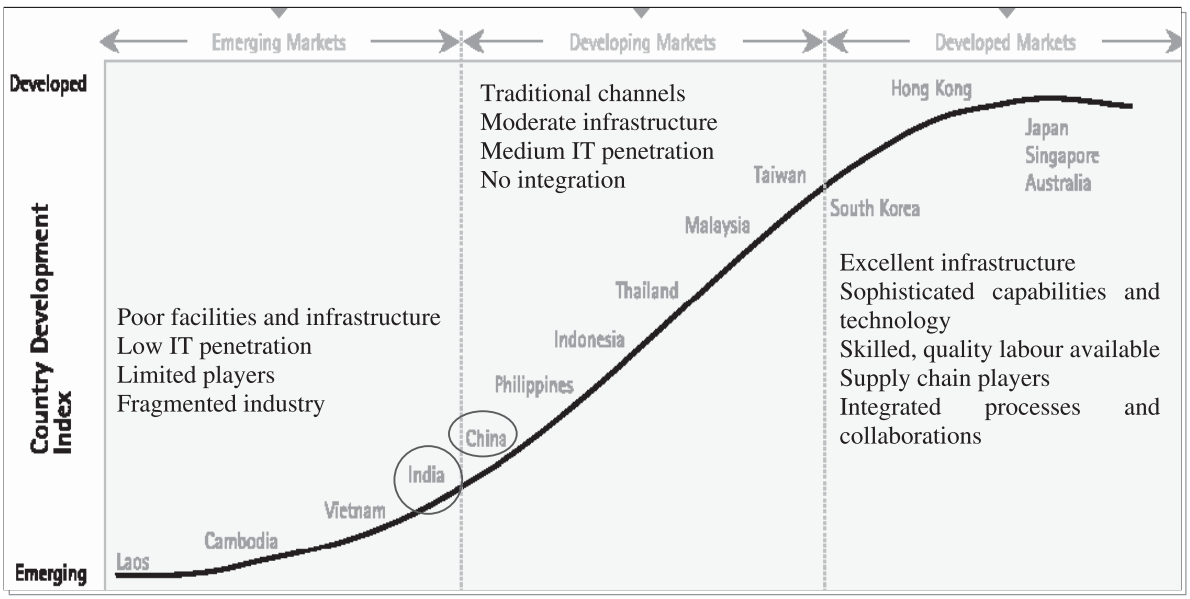


Figure 2.2: Key Supply Chain and Logistics Characteristics of Countries in Asia-Pacific

Source: Easton and Zhang (2003b).

(iv) Organisational models: The organisational forms predominant in the Asia-Pacific region are large conglomerates, which account for over 30 per cent of Asia's 50 largest companies. In Southeast Asia, Hong Kong, and Taiwan, family-owned conglomerates are also common, while State-Owned Enterprises dominate in China. However, these conglomerates are characterised by disparate acounting, technology, and information systems and inflexibility as well as inability to form new relationships and a general aversion of outsourcing.

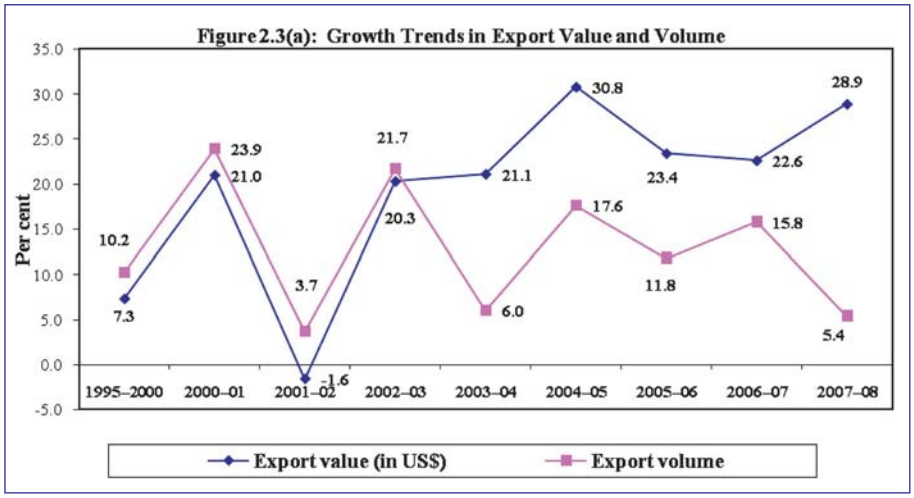
(v) Cultural mindset : Certain practices in the Asian communities — such as stringent hierarchical orders, top-down approach in management, anticipated risk of technological upgradation making workers redundant — discourage change, coordination, and development of new approaches. Further, unwritten rules and entrenched practices vary across countries, complicating business environments.

LOGISTICS LANDSCAPE : INDIAN SCENARIO

2.17. The growth prospects of the logistics industry are linked to the macro-economic indicators of the country such as GDP, domestic consumption, exports, and imports. With the Indian economy aiming to achieve a GDP growth rate of 9 per cent, which in turn would augment the growth of its international trade, the logistics industry in the country will grow further in importance. In 2007–08, the GDP (at factor cost and current prices) was at Rs 4320 thousand crore, registering a growth of 14.3 per cent over the previous year. The GDP growth since 1997 has averaged about 11.8 per cent per annum. The advance estimate of GDP for 2008–09, released by the Central Statistical Organisation (CSO), placed the GDP at factor cost and current prices at

Rs 4933 thousand crore, with a growth rate estimated at 14.2 per cent over the previous period (National Accounts Statistics-CSO).

2.18 There has been substantial growth in imports and exports too in the past decade. From 1995, exports (in US$ terms) have increased on an average by 17.5 per cent per annum in terms of value and by 18.4 per cent per annum in terms of volume. Similarly, imports (in US$ terms) have registered a growth of 19.8 per cent in value terms and 8.5 per cent in volume terms annually. Exports at current prices were at US$ 162,904 million and imports at current prices were at US$ 251,439 million in 2007–08, growing over the previous year at 28.91 per cent and 35.36 per cent, respectively. The provisional figures for 2008–09 for exports were US$ 168,704 million and for imports were US$ 287,759 million, registering a rate of growth of 3.56 per cent and 14.4 per cent, respectively, over the previous period. During the current decade India has had a higher growth rate in exports than any other developing country, except China.



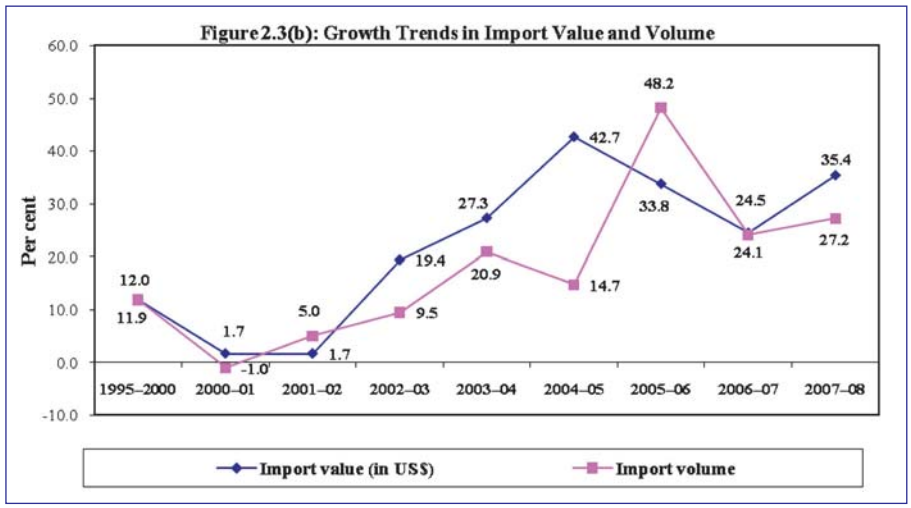


Figure 2.3: Growth Trends in Foreign Trade

Source: Government of India (2008), Economic Survey 2007–08.

2.19 India's container trade has been growing at around 15 per cent over the years 2001–02 to 2006–07. Given the high rate of growth of India's trade during the current decade, significant opportunities are likely to open up for the logistics industry in the country in the coming years. At the same time, the industry may face challenges of increasing dimension.

2.20 In India, a liberalising market, massive investment in infrastructure, increasing levels of disposable income, and dynamic manufacturing and retail sectors are combining to produce a conducive market environment for logistics. Frost & Sullivan (2006) estimated that the revenue of the logistics industry from the manufacturing sector alone, which was $13.46 billion in 2003, was likely to grow at a compound annual growth rate (CAGR) of 6.2 per cent during the next five years.

2.21 Total logistics cost in India as a percentage of GDP increased from 13.41 per cent in 1999–2000 to 14.97 per cent in 2005–06. Thus, India incurs around 15 per cent of its GDP as logistics costs while this figure is only 9.5 per cent for the US and 10–12 per cent for other developed countries. A high percentage of logistics cost in India is accounted by transportation and carrying costs, as can be seen from Figure 2.4.

2.22 The Indian logistics cost is estimated to be Rs 486.66 thousand crore in 2005–06. Table 2.1 shows the break-up for the Indian logistics cost components. It can be seen that transportation accounts for 62 per cent of the total logistics costs incurred in India in 2005–06, with inventory carrying costs (including inventories, packaging, and handling) at 34 per cent and administrative costs at 4 per cent (see Figure 2.4).

Table 2.1: Logistics Cost Components for India, 2005–06

(in Rs '000 crore)

Logistics Cost Component for 2005–06	Estimates
Transportation	301.73
Inventory carrying cost	165.46
Administrative costs	19.47

Source: Calculated in-house from CSO data.

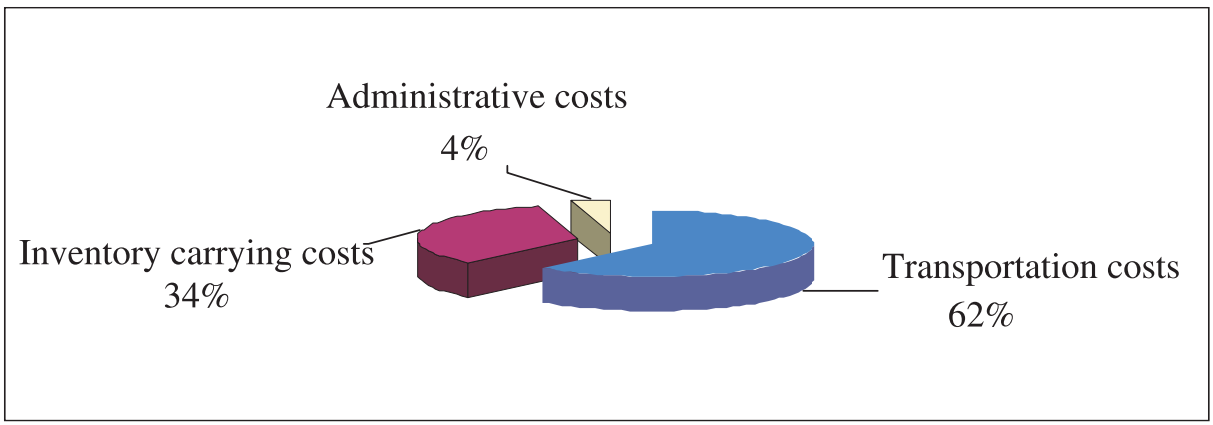


Figure 2.4: Logistics Cost Estimates for India, 2005–06

Source: Calculated in-house from CSO data.

[2] Frost & Sullivan, the Growth Partnership Company, partners with clients to accelerate their growth. The company's Growth Partnership Services and Growth Consulting Services empower clients to create a growth-focused culture that generates, evaluates, and implements effective growth strategies.

2.23 India's current trade profile provides important clues about the development of the logistics industry. The US is the biggest origin and destination market for both import and export while China is rapidly becoming important on both the export and import fronts. The composition of exports has been changing during the current decade, from light manufactures, such as textiles, ready-made garments, and leather products, to heavy manufactures, such as engineering products, including automobiles and auto parts and petroleum products. This is not to say that export volumes of traditional items have shrunk, but that the exports of non-traditional items have been growing faster, as a result of which the latter account for a much larger proportion of exports. As the trade profile changes, so will the need for more reliable, seamless supply chain solutions that offer real-time visibility along the pipeline.

2.24 It has been seen that globally the key driver of demand for world-class logistics services is a critical mass of multinational corporations (MNCs), who typically require low-cost manufacturing locations connected to highly efficient supply lines. Although India is already an important sourcing country, the surge of business is not coming to the country on account of the fact that some pieces of logistics hardware are not up to the global standards. At the ports, ships have to wait long in the channel for berthing, and productivity in loading and unloading is low. There are gaps in hinterland connectivity as well. While significant progress has been made in improving the roads in the Golden Quadrilateral, there are deficiencies in the full network connecting cities and production and consumption centres. Ribbon development and mixing of motorised and non-motorised traffic slow down the movement of vehicles. In addition, there is a lack of capabilities in some segments of the supply chain, absence of common standards for equipment and technology, and inter-state as well as intra-state barriers. These factors lower India's attractiveness as an investment destination.

2.25 An effective logistics provider should have the expertise and global connectivity to manage cargo through an integrated network from the time the cargo leaves the origin and upto the time it reaches the destination. Expertise in freight analysis, audit, and payment, plus service-level reporting move freight more efficiently.

2.26 Transportation is an essential and a major sub-function of logistics that creates time and place utility in goods. In fact, the backbone of the entire supply chain is the transportation management that makes it possible to achieve the well-known seven 'R's—the right product in the right quantity and the right condition, at the right place, at the right time, for the right customer at the right cost. Transportation decisions affect the other sub-functions, and there is a close linkage between them.

PROFILE OF THE INDIAN TRANSPORT INFRASTRUCTURE

Indian Seaports

2.27 Ports not only serve as trans-shipment points between water and land transport, but also form critical links in the international supply chain networks. As the gateways to India's international trade by sea, the ports in India handle over 90 per cent of the country's foreign trade. There are 12 major ports that are managed by the Port Trust of India under Central Government jurisdiction and 187 non-major ports along the 7517 km long coastline of the country.

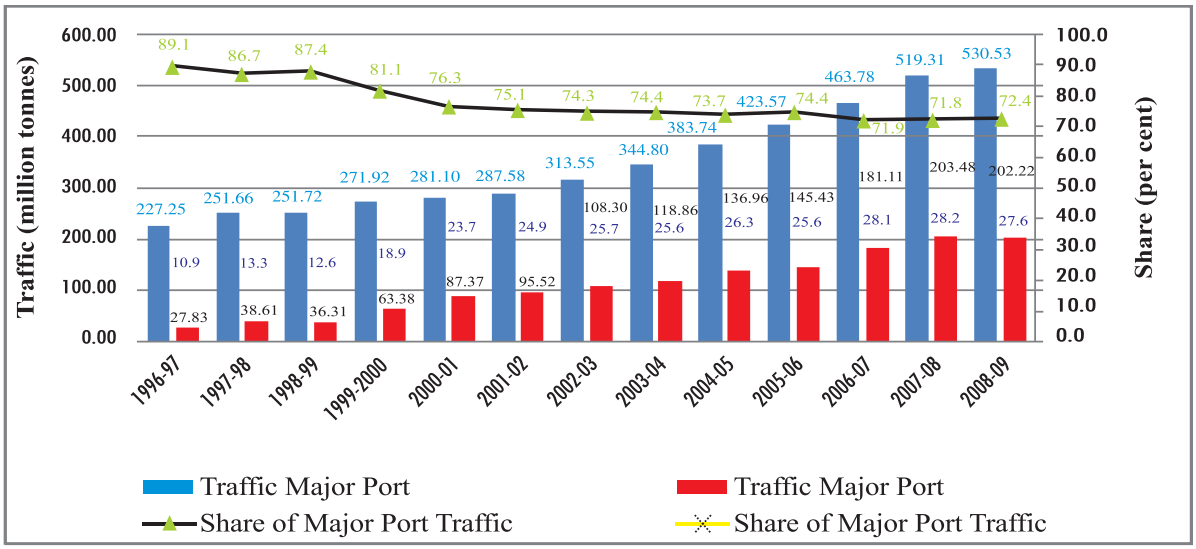


Figure 2.5: Port Traffic for Major and Minor Ports

Source: Ministry of Shipping, Road Transport and Highways, Government of India, Annual Reports, various issues.

2.28 The 12 major ports of Kolkata/Haldia, Mumbai, Jawaharlal Nehru Port at Nhava Sheva, Chennai, Cochin, Visakhapatnam, Kandla, Mormugao, Paradip, New Mangalore, Tuticorin, and Ennore, together with 259 berths, handle around 73 per cent of the all-India port traffic. During 2008–09, the total cargo handled at these major ports was 530.53 million tonnes, registering a growth of 2.16 per cent over 2007–08. The predominant commodities handled at these ports during 2008–09 were petroleum, oil, and lubricant (POL) (33.20 per cent), iron ore (17.72 per cent), coal (13.27 per cent), fertilisers and raw material (3.43 per cent), containers (17.55 per cent), and others (14.81 per cent). Major increases in traffic over 2007–08 were observed in POL (32.49 per cent), containerised cargo (17.77 per cent), other cargo (16.35 per cent), and fertilisers and raw material (3.20 per cent).

2.29 The composition of traffic has undergone significant changes in recent years. Container traffic has shown more than fourfold increase, from 1.05 million twenty feet equivalent units (TEUs) in 1993–94 to 6.71 million TEUs in 2007–08, at the major ports (see also Figure 2.6).

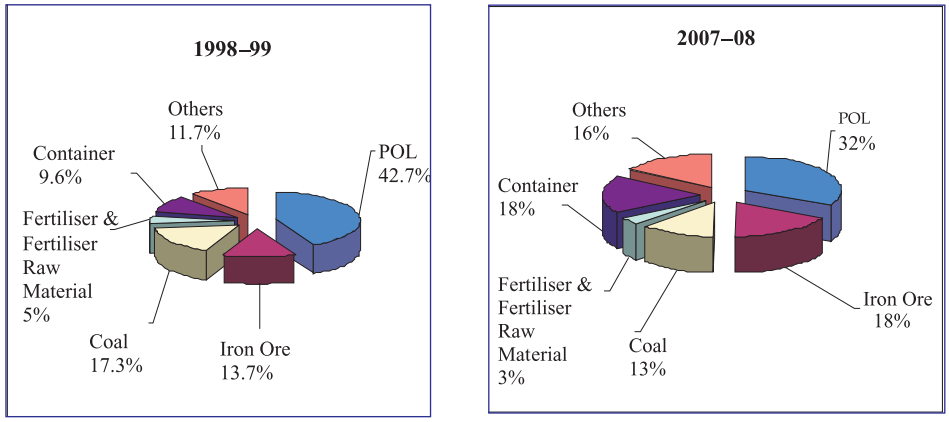


Figure 2.6: Commodity Composition of Traffic Handled in Major Ports (in per cent), 1998–99 and 2007–08

Source: Department of Shipping, Ministry of Shipping, Road Transport and Highways, Government of India.

2.30 Jawaharlal Nehru Port Trust (JNPT) remains the premier container port in India, with a share in total container traffic at 59.52 per cent in 2007–08. Other important container handling ports were Chennai Port Trust (15.99 per cent), Tuticorin Port Trust (6.80 per cent), Mumbai Port Trust (2.49 per cent), Cochin Port Trust (4.10 per cent), and Kandla Port Trust (3.21 per cent). The share of Mumbai Port Trust in total container traffic has seen a dramatic decline, from 40.8 per cent in 1993–94 to 2.49 per cent in 2007–08, due to diversion of container traffic to JNPT, while the share of JNPT has surged ahead from 16.5 per cent to 59.52 per cent during the same period.

2.31 Although container traffic has grown well in India, there is still a considerable lag when compared to the larger international ports. The largest trans-shipment port in the world in 2005, namely Hong Kong, processed 22.60 million TEUs. In the same year, the tenth largest port, Antwerp, processed 6.46 million TEUs. In contrast, JNPT, India's largest port, handled only 4.06 million TEUs in 2007–08.

2.32 The thrust in the Tenth Five Year Plan was on the creation of general and bulk cargo handling facilities, with focus on container traffic, and also to enhance and improve the efficiency and productivity through private sector participation. Initiatives included the National Maritime Development Programme (NMDP) 2011–12, which involves a total of 276 projects in the areas of berth construction, channel deepening, improvement of equipment, and enhanced connectivity.

Inland Waterways

2.33 India has 15,544 km of navigable waterways, including rivers, backwaters, canals, etc. While the entire length of the waterways is not available for mechanised transportation, a significant proportion stretching over about 5200 km of rivers and 485 km of canals are suitable for such transportation. Despite the advantages of moving cargo by inland waterways, gaps in the supporting infrastructure have led to the share of inland waterways in the transport of cargo remaining small. Although around 100 million tonnes of cargo moves within India by sea, about 20 million tonnes (corresponding to 1.5 billion tonne km) of cargo is moved using the inland water transport system, which represents only 0.15 per cent of the total cargo transported by all inland transportation systems.

Indian Air Cargo

2.34 Recent years have seen a significant growth in the air cargo industry in India in the backdrop of the liberalised economic environment and increased economic activity in the country. This growth has been mainly due to the opening up of the domestic skies to private carriers, liberalisation through bilateral agreements with major countries such as Australia, China, France, Germany, United Arab Emirates (UAE), United Kingdom (UK), USA, etc., Limited Open Sky policy in international travel, liberalised Foreign Direct Investment (FDI) norms for domestic airlines (49 per cent) and airports (100 per cent), and grant of infrastructure status to airports.

2.35 In order to meet the developmental objectives of the civil aviation sector of providing world-class infrastructure, meeting the requirements of remote and inaccessible areas, and having private sector participation on a wider scale, a number of initiatives were taken in 2005–06. Fleet acquisition by Indian Airlines, Air India, and Air India Charters was commenced. The process of restructuring and modernisation of Delhi and Mumbai airports was initiated. Two greenfield airports with private sector participation

were launched at Bangalore and Hyderabad. Further, 35 non-metro airports were taken up for development up to international standards at an estimated investment of Rs 4700 crore over five years, along with the upgradation of facilities at eight airports in the North-Eastern region. The greenfield airports at Bangalore and Hyderabad have since been completed and operationalised.

2.36 Work has also begun on the upgradation and modernisation of Air Traffic Management (ATM) System for better utilisation of air capacity and to provide better facilities for cargo handling, including the development of a cargo hub at Nagpur.

2.37 In 2007–08, ten of the major airports—namely Ahmedabad, Bangalore, Chennai, Cochin, Delhi, Goa, Hyderabad, Kolkata, Mumbai, and Thiruvananthapuram—handled roughly 95 per cent of the total international and domestic freight traffic in tonnes. During 2007–08, the international freight traffic stood at 11.34 lakh tonnes and the domestic freight traffic through these airports was 5.09 lakh tonnes, registering an increase of 13.04 per cent and 7.63 per cent, respectively, for these 10 major airports over 2006–07. The respective shares of these airports with respect to the average cargo handled per day can be seen from Figure 2.7. It is anticipated that by the year 2011–12, for all Indian airports taken together, the passenger traffic would be 2054 lakh (540.37 lakh international and 1513.63 lakh domestic passengers) and cargo traffic would be 2683.47 thousand million tonnes (international cargo: 1822.69 thousand million tonnes; domestic cargo: 860.78 thousand million tonnes).

2.38 The total domestic cargo carried by all scheduled and non-scheduled operators during 2006–07 was 321.76 thousand tonnes, with 33.6 per cent being carried by scheduled national carriers, 49.2 per cent by scheduled private carriers, and 17.1 per cent by scheduled cargo operators. Total domestic cargo carried registered a growth rate of 7.4 per cent increase over the previous year 2005–06, with cargo carried by scheduled private carriers growing at 21.44 per cent and the non-scheduled cargo at 42.7 per cent.

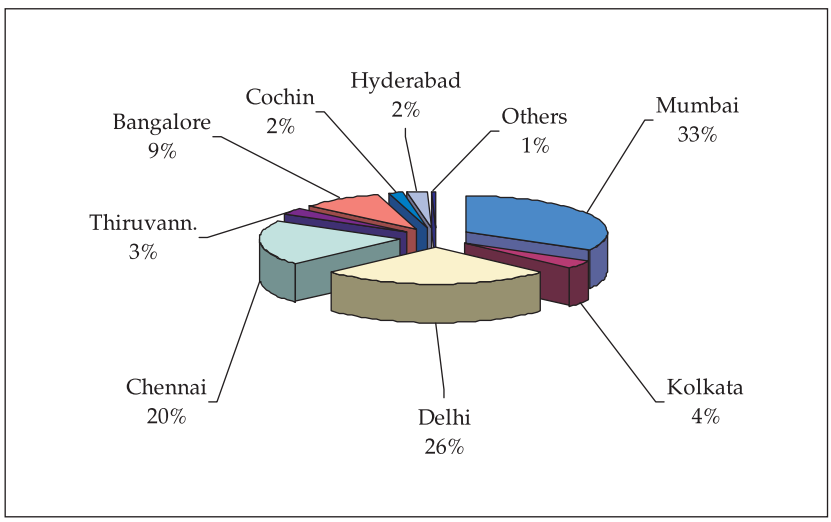


Figure 2.7: Average Cargo Handled Per Day by Major Airports, 2007–08

Source: Ministry of Civil Aviation, Government of India.

Cargo Traffic Trends

2.39 The total freight traffic increased to 1713.96 thousand tonnes during April–March 2007–08 from 1550.91 thousand tonnes of freight traffic handled in April–March 2006–07, registering an increase of 10.5 per cent. Airports that have shown the maximum growth rates during this period are Tirupati (320 per cent), Bhopal (90.8 per cent), Imphal (71.9 per cent), Raipur (50.9 per cent), Mangalore (37.5 per cent), Indore (34.1 per cent), and Agartala and Trichy (32.7 per cent each).

2.40 The international freight traffic increased by 12.3 per cent during 2004–05 to 2005–06, with major increases in growth rates seen at Nagpur (300 per cent), Ahmedabad (58.2 per cent), Bangalore (32.8 per cent), Cochin (22 per cent), Chennai (16.7 per cent), Mumbai (13.9 per cent), Kolkata (12.7 per cent), Hyderabad (10.8 per cent), and Delhi (10.4 per cent). During the same period the domestic freight traffic increased by 7.1 per cent.

2.41 Cargo traffic has witnessed an unprecedented growth during the recent years. From 2001–02 to 2007–08, cargo traffic increased by 12.30 per cent (12.68 per cent international cargo and 11.57 per cent domestic cargo). During 2007–12, international and domestic cargo traffic was earlier expected to grow at the rate of 12.1 per cent and 10.1 per cent, respectively, resulting in an overall increase of 11.4 per cent. The recent economic slowdown has resulted in a modest decline in the growth rate during 2008–09 and 2009–10 but it is likely to pick up once again as soon as the economy is back on the normal growth path.

Indian Road Network

2.42 India has one of the largest road networks in the world, aggregating 3.32 million km at present—consisting of 200 km of Expressways, 66,754 km of National Highways, 128,000 km of State Highways, 470,000 km of Major District Roads, and about 2,650,000 km of other district and rural roads. National Highways account for only about 2 per cent of the total road length of the country, but carry about 40 per cent of the total traffic across the length and breadth of the country. Out of the total length of National Highways, about 35 per cent is of single lane/ intermediate lane width, about 53 per cent is 2-lane standard, and about 12 per cent is 4-lane standard or more.

2.43 Improvement in the road network through the twin objectives of accessibility and mobility has been accorded high priority in developmental planning. The accessibility objective is to be achieved through improved rural roads network through the Pradhan Mantra Gram Sadak Yojana (PMGSY), which aims at connecting every village with all-weather roads. The PMGSY has been re-phased to achieve the Bharat Nirman target of connecting 1000+ habitations (500+ for hilly or tribal areas) by 2009. The mobility is to be facilitated through improvement in capacity and strengthening high-density corridors. Considering the importance of the National Highways and the rapid increase in traffic, the Government has taken up the National Highways Development Project (NHDP). The first initiative in this regard was the 4/6 laning of the Golden Quadrilateral followed by the North South – East West (NS–EW) corridor. Further, keeping in view the need for nationwide connectivity, the Committee on Infrastructure, under the chair of the Prime Minister, has approved the following expanded programme for highway development, with the projected investment of Rs 220,000 crore, which has subsequently gone up to Rs 236,247 crore:

(i) Golden Quadrilateral and NS–EW corridors

(ii) 4-laning of 10,000 km under NHDP Phase III (enhanced to 12,109 km);

(iii) 2-laning of 20,000 km of National Highways under NHDP Phase III;

(iv) Augmenting highways in the North East;

(v) 6-laning of 6500 km (entire Golden Quadrilateral and high traffic density stretches of selected National Highways) under NHDP Phase V;

(vi) Development of 1000 km of access-controlled expressways under NHDP Phase VI;

(vii) Construction of ring roads, bypasses, service roads, etc. under NHDP Phase VII.

2.44 A Special Accelerated Road Development Programme for the North East, covering an additional length of 3916 km of National Highways, has been subsequently sanctioned. The National Highways Authority of India (NHAI) is also implementing several projects with foreign assistance in the form of loans from the World Bank, Asian Development Bank, and the Japan Bank of International Cooperation.

Road Transport

2.45 Road transport dominates all other modes of transport in the movement of goods and passengers in the country. This is mainly because of its accessibility, flexibility, door-to-door service, and reliability. The share of road transport is as high as 87 per cent for passenger movement and 56 per cent in freight movement.

2.46 Road transport has been growing at a rapid pace since 1950. The motor vehicle population has grown from 0.3 million in 1951 to 99.6 million in 2007, marking a 332-fold increase. The number of vehicles has been growing at an average rate of 10.71 per cent per annum (CAGR) over 2000–07 [Government of India (2005) and SIAM (2008)]. The 2-wheelers segment showed a higher growth rate of around 11.49 per cent per annum, while the heavy vehicles segment grew at a lower rate of around 8.09 per cent per annum. The composition of the motor vehicular population (MVP) shows an overwhelming share of the personalised mode (at 86 per cent of the MVP), with the share of buses at 0.9 per cent of MVP and the share of goods vehicles at 4.75 per cent of MVP. The share of cars in India was 13.08 per cent of MVP in 2007, compared to 42 per cent in Malaysia, 18 per cent in Philippines, and 13.2 per cent in China.

Railways

2.47 The Indian Railways (IR) is the principal mode of transportation for bulk freight and long distance passenger traffic. It is the world's second largest rail network under a single management, and has been contributing to the industrial and economic landscape of the country for over 150 years. Of the main two segments—freight and passenger—of IR, the freight segment accounts for roughly two-thirds of revenue. Within the freight segment, bulk traffic accounts for nearly 95 per cent, of which coal is about 45 per cent.

2.48 At the end of 2008–09, the IR network was spread over 63,630 route kilometres (rkms), comprising 52,002 rkm of broad gauge and 11,628 rkm of metre gauge. Around 36 per cent of this network is electrified.

2.49 IR loaded 833 million tonnes of revenue earning traffic in 2008–09, generating 538 billion

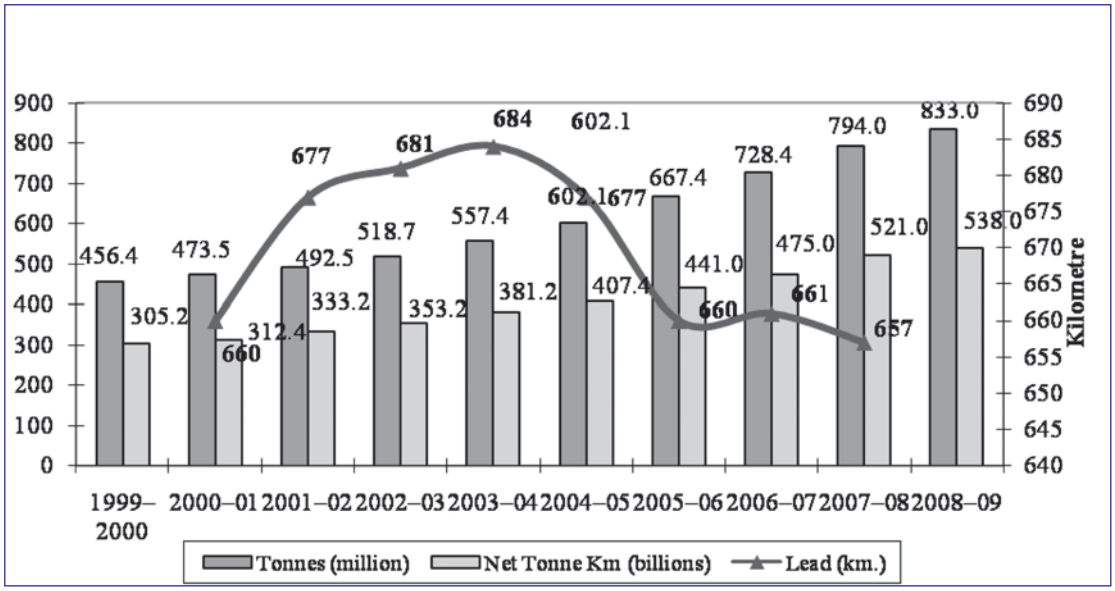


Figure 2.8: Revenue Earning Freight Traffic of Indian Railways

Source: Government of India (2007).

net tonne kilometres (NTKms) of freight output (see Figure 2.8).

2.50 In the past, IR has faced capacity shortages and technological obsolescence which have been a serious constraint to the growth of the railway system. However, IR has made an impressive turnaround in the last few years. In 2007–08, IR registered double-digit growth in the freight traffic and more than trebled the previous growth rate in passenger traffic. To sustain this growth, efforts are being made to broaden the commodity base of rail transport by improving the quality of service and driving down the unit cost of transportation, through the induction of modern technology and by judicious investments in capacity enhancement works. Further, there has been a significant effort at tariff rebalancing and rationalisation of fare and freight structures in the last few years.

2.51 The high-density network, connecting the four metro cities of Delhi, Chennai, Kolkata, and Mumbai, including its diagonals has got saturated at most locations. Additional freight corridors, along with accelerated programme of containerisation, could contribute towards increasing the share of Railways in non-bulk traffic and create capacities to meet the expected increase in demand.

2.52 The construction of the multimodal high axle load computer controlled dedicated freight corridor (DFC) has already been approved on the Eastern and Western Corridors. These corridors, involving the construction of 3000 km of railway line, are expected to augment the capacity of IR to meet the projected increase in traffic.

2.53 IR carries goods, ranging from parcel traffic and small consignments, agricultural products, raw materials such as iron ore and petroleum, other bulk goods, and finished goods like automobiles. Over the last few decades, IR has made an effort to move away from small consignments or piecemeal freight, and to increase the number of block rakes where a

shipper contracts for an entire rake assigned to carry a shipment.

2.54 IR also carries container traffic and smaller consignments, and aims at re-entering the piecemeal freight business actively. Some dedicated parcel trains have been introduced. High-capacity parcel vans ('Green Parcel Vans') are used in special-purpose rakes that are intended for carrying fruits and vegetables. Single high-capacity parcel vans have been seen attached to passenger carrying trains (for example, GT, Lokshakti and Karnataka Express, Saurashtra Mail, Flying Ranee). Parcel vans formed by converting old general passenger stock (GS coaches) are being used for transporting cars and other automobiles.

2.55 Refrigerated parcel van service is available on a few sections. One such service for the Ernakulam–Thiruvananthapuram Jan Shatabdi has a refrigerated parcel van that can accommodate 5 tonnes of frozen goods at -20 ºC and 12 tonnes of chilled goods at 4 °C. Similar services are also being introduced on most major routes.

2.56 Most of the rail container traffic in India is handled by the Container Corporation of India (CONCOR), which until recently was the only such organisation in existence. CONCOR is a public-sector concern, and it maintains its own fleet of wagons and other assets that are separate from that of the IR, although the traffic moves on the tracks of the IR.

2.57 The increased output of basic industries such as power, steel, cement, and fertilisers would necessitate facilities for bulk transport, in which the Railways have a comparative advantage. The increasing rate of urbanisation would also generate demand for rapid transit system. It is anticipated that within the next decade IR would have to almost double its transport output. This would require substantial investments in capacity building as well as enhancing service standards.

2.58 Many new initiatives by IR are encouraging the growth of the rail freight sector. One of the major initiatives taken by IR and its public sector undertaking (PSU) CONCOR is for running double stack trains on some corridors like Mundra–Jaipur and Pipavav–Jaipur. Such double stack operations have provided two major advantages of (i) increase in throughput for a given line capacity and (ii) reduction in the unit cost of container transport as a result of better asset utilisation.

2.59 Another initiative has been a Memorandum of Understanding (MoU) with Central Warehousing Corporation (CWC), one of the biggest public warehouse operators in the country, to develop rail-side warehousing and other ancillary facilities at 23 important goods terminals across the country. All these locations have a full-length rail line provided by the Railways and the warehouse of CWC runs all along the rail line with a parallel road connectivity provided on the off side. As a result, the time taken for loading/unloading the consignment is reduced substantially. In addition, total logistics solutions are provided to the customer in delivering the consignment at his premises. This synergises the expertise of two Indian giants—IR and CWC— in their respective domains, bringing about improvement in the quality of service as well as reduction in end-to-end cost of transport.

Chapter 3

Logistics Industry Structure in India: Issues and Strategies in the Transportation Segment

3.1 As discussed in Chapter 1, the major logistics functions for the Indian industries include transportation, warehousing, freight forwarding, and other value added operations, including MIS. Out of these functions, transportation and freight forwarding have been traditionally outsourced to external service providers with relevant expertise and infrastructure. The warehousing and MIS functions have been mostly managed in-house by industries in India.

3.2 These functions assume importance, especially for the agricultural industry, metals and minerals industry, automobile industry, pharmaceutical industry, fast moving consumer goods (FMCG) industry, retailing industry, etc. at different stages of the product life cycle.

3.3 Integrated logistics operations are a nascent and evolving industry in India. As is the case with other emerging industries, the Indian logistics industry is currently in the growth phase, and is characterised by market fragmentation, emergence of competitors, and increasing sales. There are a number of players in the industry, in both the organised and unorganised sectors, performing different functions, still in a largely unregulated environment.

3.4 The unorganised sector (owners of less than five trucks affiliated to a broker or transport company, small warehouse operators, Customs brokers, freight forwarders, etc.) account for a major share of the Indian logistics market while the integrated logistics providers account for only a very small share. However, it is anticipated that the percentage contribution of the organised sector, which includes both asset-based and asset-free integrated logistics service providers [3PL and Fourth Party Logistics (4PL) providers], would steadily increase in the future. The report 'India Logistics Outlook 2007' by Datamonitor (2007) predicts high double-digit growth rates for both outsourced and contract logistics in India. With India's GDP expected to grow at over 9 per cent per year and the manufacturing sector targeted to achieve double-digit growth rates, the Indian logistics industry is expected to reach a market size of over $125 billion in the year 2010.

INDUSTRY CHARACTERISTICS

3.5 The Indian logistics industry has seen the emergence of a large number of players, both organised and unorganised, in the recent years. The dynamics of market competition and demand from consumers has brought forth certain characteristics of the industry, as indicated below:

(i) The logistics industry is highly fragmented. The road transportation service provider segment is completely dominated by small trucking companies and individual truckers. The freight forwarding service provider segment is also represented by thousands of small Customs brokers and clearing and forwarding agents. Similarly, there are a large number of participants in the warehousing service and MIS segments.

Few service providers have the capability to provide more than one service and it is very rare that a single service provider has the capability to provide all the logistics services. Such fragmentation has led Indian industries to outsource packets of individual logistics functions to different service providers while retaining the overall control of logistics in-house, at heavy administrative and infrastructural costs.

(ii) The logistics industry in India is seeing intense competition between the established and new players, resulting in lower prices. In order to sustain their profitability, these players are tempted to even lower the quality of services offered and evade taxes. The standards of service are further eroded by cost-cutting measures involving non-compliance of the operating norms stipulated in the various regulations and acts, such as the Motor Vehicles Act relating to drivers and vehicles, volume and weight restrictions, etc.

(iii) Due to its highly fragmented and underdeveloped nature, the Indian logistics industry is characterised by the absence of economies of scale. Typically, the expansion of scale and scope of operations generate reductions in costs. Differing rates of State Value Added Tax (VAT) are an additional disincentive for the Indian logistics service providers to increase in size by expanding their operations across states. The implementation of a uniform VAT structure across states and later of the proposed Goods and Services Tax (GST) is expected to provide a solution for this.

(iv) Apart from the non-uniform tax structure, logistics providers have to face multiple check posts and harassment by the enforcement agencies. According to one estimate, informal taxes on account of police, check posts, and others may constitute well over 20 per cent of the freight cost. High costs of operation and delays involved in compliance with varying documentation requirements of different states further raise the costs of operations.

(v) The general lack of trust and awareness among Indian shippers prevents them from outsourcing logistics. The volume of outsourcing by Indian shippers is presently very low (approximately 10 per cent) compared to the developed countries (more than 50 per cent, and sometimes as high as 80 per cent). The unwillingness to outsource logistics on the part of Indian shippers may be attributed to scepticism about the possible benefits, perceived risk, and losing control of sensitive organisational information, and vested interests in keeping logistics activities in-house.

(vi) Indian shippers expect 3PL providers to own quality assets, provide more value-added services to act as an integrated service provider, and establish world-class information systems for greater visibility and real-time tracking of shipments. At the same time, there is also customer pressure to keep the prices low and competitive and stagger the schedule of payments, often resulting in inadequate working capital for the logistics operators. Moreover, the inability of service providers to go beyond basic services and provide value-added services such as small repair work,

kitting/dekitting, packaging/labelling, order processing, distribution, customer support, etc. has demotivated shippers from going for outsourcing in a big way.

3.6 The development of the logistics sector in India is hampered by poor physical and communications infrastructure. Slow movement of cargo due to bad road conditions, multiple check posts and documentation requirements, congestion at seaports due to inadequate infrastructure, and delay in procedural clearances, coupled with unreliable power supply and slow banking transactions, make it difficult to meet the deadlines for international customers. However, there are a large number of initiatives being carried out and planned for the near future to improve this scenario. The present status of cargo movement through various modes of transportation and the major initiatives that are being carried out for the efficient and expeditious movement of goods is discussed in the next section.

3.7 Low penetration of Information Technology (IT) and lack of proper communications infrastructure also result in delays and lack of cargo in-transit visibility and real-time tracking ability. The absence of a seamless flow of information among the constituents of logistics service providers creates a lot of uncertainty, unnecessary paperwork and delays, and lack of transparency in terms of cost structures and service delivery. For example, presently, there is no real-time process by which a shipper may know about the availability of trucks and going rates at the destination market. Therefore, since return loads cannot be ascertained, the shipper has to pay a higher freight rate if it cannot ensure return load. With the availability of market information to both the shipper and the service provider, the service provider can ensure return load from the origin itself and the shipper does not have to pay a higher rate for his shipment. This can enable rationalisation of rates as the service provider's cost structure would become in line with the actual market rate. A similar example is that of Less-than-Truck-Load (LTL) shipments costing more than Full-Truck-Load (FTL) shipments. At present, due to the absence of shipment tracking systems, a shipper booking a LTL shipment cannot track the status of the shipment after it leaves the warehouse at the origin and before it reaches the warehouse at the destination. The service provider may convert this LTL shipment into a FTL shipment at its own warehouse before delivering at the destination. However, the shippers are placed at a disadvantage as they end up paying LTL rates for a FTL shipment. Information availability before and during delivery can address this problem and benefit both the shipper as well as the service provider.

3.8 Indian freight forwarders face stiff competition from multinational freight forwarders for international freight movement. Because of their size and presence in many countries, multinational corporations (MNCs) are able to offer low freight rates and extend credit for long periods. Indian freight forwarders, on the other hand, because of their smaller size, lack of access to cheap capital, and the relative infancy of the Indian logistics industry, are unable to match the same. Moreover, clients of MNCs often want to deal with single service providers and, especially for free-on-board (f.o.b.) shipments, specify the freight forwarders, which most of the time happen to be the multinational freight forwarders. This is unfair for Indian freight forwarders. However, as the Indian logistics industry develops, it will enable Indian freight forwarders to bring down costs and improve their service and price offers.

3.9 The above features of the Indian logistics industry are reflected in varying degrees in the characteristics of the individual industry segments. The following industry segments constitute the overall logistics industry:

(i) Transportation infrastructure providers [through rail, road, air, waterways (sea, coastal, and inland), etc.], carriers (rail-roads, motor carriers, parcel companies, barge lines, air freight), and facilitators (port/airport and Customs authorities, and Central and state government departments related to logistics activities);

(ii) Warehouses, Inland Container Depots (ICDs), and Container Freight Stations (CFSs);

(iii) Intermediaries [Freight forwarders, Non-Vessel Operating Common Carriers (NVOCCs), Inter-modal Marketing Companies, Customs House Agents (CHAs), etc.];

(iv) Logistics providers: 3PL and 4PL providers.[3]

As the transportation segment constitutes the predominant part of the logistics chain, both in terms of cost and time, the issues, strategies, and related infrastructure relating to various modes of transport are discussed first in this chapter and other segments dealt in the chapters that follow.

ROAD FREIGHT: ISSUES

3.10 Road transport has assumed a pivotal role in the predominantly agrarian economy in India with its heavy rural concentration. The absence of an exhaustive, interlinked, and all penetrating railway or inland/coastal waterways or airways network has provided the road transport industry with the opportunity for rapid expansion. Capitalising on its natural advantages of flexibility, comparatively better reliability, and door-to-door delivery, the road transport industry has witnessed steady growth. The road transport industry also captured a major share of the high-value, low-volume freight business as it shifted from railways to roads.

3.11 Road transport has been and will continue to be one of the key drivers of the Indian economy. The subcontinental breadth of the country and the spread of population, resources, markets, and industries across the country necessitate point-to-point connectivity. The last mile limitations of the railway, airways, and waterways networks as alternative modes of transport give road transport an inherent advantage as the preferred mode of transport for goods movement to and from the hinterland.

3.12 However, the road freight industry still has a long way to go to achieve the desired level of efficiency. The industry is plagued by the problems of structure, lack of proper legislative measures to regulate and control, financing requirements, inter-state barriers, heavy taxation, need for technological upgradation and energy efficiency, lack of manpower training and education, and lack of transparency and information availability.

3.13 Not the least part of the problem is the absence of a network of roads in the country of even reasonable quality. The road surface has been considerably improved and broadened to four lanes on some of the major National Highways such as the Golden Quadrilateral joining the five metropolitan cities of Bangalore, Chennai, Delhi, Mumbai, and Kolkata. Work

[3] Third party logistics (3PL) is the outsourcing of a company's logistics operations to a specialised company. A 3PL provider, according to the International Council of Supply Chain Management Professionals, is a company which provides multiple tactical logistics services for use by customers. Fourth-party logistics (4PL) differs from 3PL in that it is primarily a strategic partnership with the client rather than a tactical engagement with a supply chain function.

is in progress on two other major corridors, North–South and East–West, as well as on some key routes such as those providing four-lane connectivity to state capitals and other places of economic importance. Large parts of the remaining network, including about 40,000 km of National Highways, are, however, of low specifications and in many cases in a state of severe disrepair. Even the roads that have been improved, such as the Golden Quadrilateral, suffer from congestion in stretches passing through towns, villages, and other habitations, ribbon development, parking of trucks on the right of way (ROW), and multiple types of vehicles, including vehicles moving with slow speed, as for example tractors. Non-motorised vehicles on highways are a further drag on the speed of traffic flows. The provision of gaps at short intervals in the central verge, in order to enable the vehicles to take a U-turn, is a major constraint on the speed of vehicles. In this connection, the Eleventh Five Year Plan document notes:

Another impediment is stoppage of vehicles at thecheck posts at State borders even when the vehicle is merely transiting the State. Vehicles moving on inter-state routesremain stationary about 40% of the time in the process of being thus inspected. The World Bank has esimated that truck delays at checkpoints costs the Indian economy anywhere between Rs. 900 crore to Rs. 2300 crore.

The cumulative result of all deficiencies is that even when the road surface is good and has adequate width, vehicles move at a slow speed. Trucks (with one or two drivers and one helper) travelling from Delhi to Mumbai (1419 km) take three days and those from Delhi to Bangalore (2019 km) four to five days. According to the same World Bank study, "US equivalent transit times, with one driver operating legally would be two and three days (actually second and third morning), respectively. If the US carrier used two driver teams, a day would be cut from each movement." On the average, Indian trucks are used for 60,000 km to 100,000 km a year, which is a less than a quarter of those in developed countries. [p. 297, para 9.3.36]

The lowered productivity of commercial vehicles considerably increases the logistics cost in the road transportation segment.

3.14 The road transport industry in the country is dominated by the informal sector. The industry has been largely under-regulated, compared to other sectors of the economy. Apart from the role of state governments in licensing the vehicles and drivers, there has been no regulation of the trucking industry. Any truck owner is free to carry out transport trade, provided he conforms to the norms laid down in the Motor Vehicles Act. However, in reality, many of these norms are regularly flouted by the transport companies. The lack of enforcement of the regulations provides further encouragement to the transport companies for not complying with the rules and stipulations that have been laid down in law. Moreover, the assessment is that a large number of the drivers also carry fraudulent licences as well as registration documents. In order to make money en route, the drivers and the transport companies get involved in other activities such as transporting passengers in the goods vehicle, overloading, carrying other consignments on the sly during transit of contracted and authorised consignments, etc. On the supply side, the two principal manufacturers of trucks, TATA Engineering and Locomotive Company (TELCO) and Ashok Leyland, account for more or less the entire fleet of heavy vehicles in the country. Inadequate competition among manufacturers has resulted in little or no incentive for regular technological upgradation of the vehicles.

3.15 The ease in setting up a transport operation has spurred entrepreneur led growth, with road transport now carrying more than half

of the national freight movement and operating in a highly competitive market and generating considerable local employment opportunities. With no major requirements for starting a trucking business other than the registration process, commencing operations with a fleet of two or three trucks is the norm rather than the exception. The industry comprises mainly of small operators, who account for as much as 85 per cent of the total fleet. This has led to the industry having a large number of small and unorganised players, with no industry consolidation and intense competition.

3.16 An overly competitive road transport sector has resulted in pressures for cutting down operating costs together with increasing revenue. Frequent increases in the price of fuel and consumables put an upward pressure on operating costs. Operating costs are pared down by cutting down on maintenance, leading to high probability of accidents and breakdowns. Revenue increase is sought by overloading of trucks beyond permissible limits. Overloading is seldom checked due to the slackness of the enforcement agencies en route, resulting in rapid deterioration of road surface quality, reduced speed, damage to vehicle springs and bearings, and driver fatigue. Paucity of funds also discourages operators from investing in technological upgradation of vehicles, including adopting energy efficiency standards as well as IT tools like vehicle and consignment tracking using Global Positioning System (GPS) and Radio Frequency Identification (RFID) technologies.

3.17 The cost of operation of commercial vehicles is burdened by a number of levies and taxes, including Central Value Added Tax (CENVAT), state VAT, MV tax, road permit charges, as well as taxes, including CENVAT and state VAT, on inputs such as spare parts and fuel, for which no offset is provided in the service tax. Taxation of motor vehicles on the basis of gross vehicle weight rather than on potential axle loads acts as a deterrent against the use of multi-axle vehicles, which would cause less damage to the road surface.

3.18 The total transport function is shared among several actors. Operators perform only the haulage function, while the marketing, aggregating, storing, and delivery functions are undertaken by agents and brokers. Given the fragmented nature of the road transport industry, it is not economically possible for the individual truck owner to market himself. Added to this is the lack of information in the market due to the absence of a centralised information system or database of the details on transport companies, truck availabilities, and rates. The brokers step in to fill in the role of networking across customers and truck owners, arranging for loads in either direction. Brokers wield enormous information power in the system, arranging for meeting the needs of the truck owner and customer. Due to lack of information about the operator as well as his services, the industry is prevented from operating in a transparent environment, which further drives down efficiencies and reliability. The industry productivity is further reduced by the lack of utilisation of the existing fleet. According to one study, only one-third of the trucks operate 300–400 km per day and about 12 per cent of trips are empty trips without load.

3.19 The road freight industry is also plagued by problems of inter-state barriers, poor quality of manpower, overloading of trucks, and lack of palletisation. Road transport is subjected to checking at various inter-state and intra-state

checkpoints. Though these checkpoints were primarily established to collect various tolls or levies for inter-state road movement, they have become major bottlenecks for swift and efficient movement. Manual collection of tolls being collected for the use of National Highways has become an additional impediment as considerable time is lost as trucks and other vehicles wait for their turn in long queues on toll gates at places having high traffic intensity. Inefficient methods of checking and collection lead to delays, reduced productivity, and increased costs, which are ultimately borne by the customer and the economy. This aspect is discussed in detail in Chapter 5.

3.20 The truck drivers are an important segment of the nation's workforce, but their welfare has not received adequate attention so far. Most of them belong to the age group of 18–40 years and have poor qualifications in terms of literacy and schooling (most of them have not even completed their Class X exams). They are typically underpaid, earning Rs 2000–3000 per month, while working under demanding conditions. Though the Motor Transport Workers Act stipulates that the driver should not work for more than the maximum of eight hours, the provision is seldom enforced. Given their poor education and low levels of awareness of health, hygiene, and rights, the drivers fall prey to alcoholism, unsafe sexual habits, and unwarranted harassment by law enforcement agencies. In addition, once they are granted a driving licence, no further training is provided to the drivers. The absence of proper driver training facilities coupled with lax driving testing procedures at the time of granting of the driving licence has led not only to reduced efficiency and productivity but also to increase in the number of accidents causing loss of life and property.

ROAD TRANSPORT SECTOR: STRATEGIES

3.21 The efficiency of the road transportation segment of the logistics industry in the country is critically hampered and its productivity seriously lowered by the deficiencies of physical infrastructure, barriers to inter-state movement of commercial vehicles, and delays at toll gates on National Highways with high traffic intensity. The road transportation segment is further weighed down by fragmentation of the road transport industry, unhealthy competition among large numbers of operators, ineffective enforcement of laws regulating the sector, lack of transparency in information in a transportation market controlled by brokers, deficiencies in training and education of workers (mainly drivers), minimal health and other welfare benefits accorded to workers, and heavy taxation of vehicles and transport operations. These shortcomings need to be addressed in order to bring down the logistics cost and improve the competitiveness of Indian industry. Issues relating to the creation of a proper information system to promote the development of a road transportation market are taken up in Chapter 4 on 'Moving Towards An Integrated Transportation System'. Issues relating to inter-state barriers, toll-gate delays, taxation issues, and enforcement of laws relating to the transport sector are taken up in Chapter 5 on 'Logistics Processes and Procedures' and those relating to training, education, and welfare benefits of transport workers are taken up in Chapter 6 on 'Manpower Issues Related to Logistics'. We discuss below the remaining issues, viz. improvement and maintenance of physical infrastructure and the problem of fragmentation.

Improving Roads Network

3.22 The establishment and maintenance of an efficient roadways network in the country

is a sine qua non for bringing down the road transportation component of the logistics cost in the country. For this the following lines of action can be envisaged.

(i) Completion of NHDP: At present the NHDP covers most of the arterial routes of the National Highways. Out of the total length of 68,826 km, NHDP I covers 7498 km and NHDP II covers 6647 km, and it is expected that under NHDP III and NHDP IV another 10,000 km would be taken up for improvement on build–operate–transfer (BOT) basis. We must add to this the Special Accelerated Road Development Programme for the North East (SARDP-NE), taken up over a length of 3916 km, bringing the total to 28,061 km. When the NHDP I, II, III, IV, VII, and SARDP-NE have been implemented it will bring about improvement in the riding quality and capacity of major stretches of arterial roads over a length of 28,061 km out of a total of 68,826 km of National Highways, which carry around 40 per cent of the road traffic. Particular mention needs to be made of the need to upgrade connectivity in the approach to the cities, and it should not be the case that the time saved from movement on better inter-city roads is lost due to the congestion in the last miles before entering the city. NHDP VII envisages inter alia the construction of ring roads in the cities, and much needs to be done in the stretches of the National Highways near the cities.

(ii) Construction of expressways: Construction of access-controlled greenfield expressways is the next level to which Indian roadways should move as quickly as possible. Expressways will put Indian roads on par with those existing in the developed and advanced developing countries, serve to eliminate the deficiencies of the National Highways, and bring about a quantum reduction in logistics cost through productivity improvement. Even inter-state barriers to traffic movement can be minimised by requiring (through statutory enactment if necessary) that the checks by state authorities be carried out only at the time of entry into or exit from the expressway network. In the immediate future, there must be swift implementation of not only 1000 km of expressways envisaged in NHDP VI, but also include those segments in which traffic levels in the next 5–7 years are assessed to be justifying a six-lane facility (considering both local and long distance inter-city traffic). Opting for six-laning of existing National Highways, even when justified by the traffic intensity (as envisaged in NHDP V), will be suboptimal because most of the deficiencies in the roads on existing alignments would be perpetuated, as explained earlier. The traffic needs in the interim period should be met by the provision of paved shoulders along existing roads. Work on other stretches of NHDP V in which the traffic density is less than that required for a six-lane facility should be deferred and the resources redeployed in other components of the National Highways programmes. To ensure that individual stretches of expressways taken up from time to time do not become standalone roads but form parts eventually of an expressways system on which the traffic moves seamlessly on arterial routes, a blueprint of an expressways network covering the major corridors (Golden Quadrilateral, North–South, East–West) should be prepared.

(iii) Upgradation of the full roadways network: The NHDP and the SARDP-NE will still leave a balance of 40,765 km of roads that would need to be taken up for development and maintenance. A minimum level of improvement needs to be carried out in the non-NHDP roads, such as improvement of riding quality, widening and strengthening to two-lane standard,

construction of missing links and bypasses, road overbridges (ROBs) / road underbridges (RUBs) / bridges, etc. There is also a need to prioritise the development of high density corridors in State Highways and Major District Roads, as is being done by some of the state governments through multilateral funding and also through public–private partnership (PPP). Logistics costs can be contained only if the full network is in good condition. The requirement of additional resources for the maintenance of the National Highways and high density corridors could be met by levying additional cess on petrol and diesel, the opportune moment for which will come at the time when price decontrol of petroleum products is eventually considered.

Maintaining Road Quality

3.23 There is a need to look comprehensively at the road infrastructure, which is under Central, state, and local bodies' responsibility. A system involving external agencies should be established in order to ensure that the construction of roads is being done as per the laid down standards. A monitoring system of the road infrastructure should be put in place and audit reports emanating from the system should be made public by displaying them on the websites of respective Ministries/Departments. Apart from ensuring the quality of construction of roads, it is necessary that the roads are maintained properly. This is possible only if the Central and state governments allocate funds for repairs according to the recommended specifications for periodic maintenance. Maintenance of roads should also be made subject to monitoring by an external agency, as in the case of the original construction of the roads.

3.24 Underpowered and overloaded trucks have been serious problems in the road transportation industry in the country, resulting in large numbers of accidents, increased turnaround times, loss of life, and loss of economic value. The regulatory authorities are not able to adequately implement the weight factor and penalise the defaulters. The shippers, transporters, vehicle manufacturers, and regulatory authorities are all keen that the issue must be resolved. Stringent laws and implementation with the involvement of all stakeholders is a must.

3.25 Erection of permanent weighbridges across the country would be important for curbing the problem of overloading. The customer must be made aware of the real cost as against the nominal costs while overloading. Transport and Truck-owners Associations should be involved in addressing this issue by promoting the practice of 'fair truck load' on Indian roads within the transport sector. The liability of overloading was earlier limited to the owner of the truck. However, with the notification of the Carriage by Road Bill on 1 October 2007, the liability for overloading has been extended to the common carrier also. This is discussed further in Chapter 5 on procedures and processes for logistics.

3.26 The existing Motor Vehicles Act provides adequate guidelines on the quality of transport vehicles. Meticulous implementation of the Motor Vehicles Act and ensuring the phase-out of unserviceable vehicles are important. Further, use of multi-axle vehicles and ownership and usage of such vehicles must be encouraged through incentives such as lower road transport taxes for multi-axle vehicles, etc.

Security Issues In Road Transport

3.27 In recent years, there has been a steady deterioration in the security environment on the Indian highways. At many important points of origin, trucks cannot load cargo for dispatch

to other states without payment of protection money. On several State Highways, trucks are subjected to holdup and goods are damaged or stolen, and it is not easy to obtain redress or compensation. It is important for the state governments to formulate an effective method for enforcing state-specific security measures, such as the introduction of mobile police squads, etc.

Promoting Consolidation In Road Transport Industry: Cooperative Societies

3.28 To address industry fragmentation through consolidation and consequently improve productivity of the industry and benefit through economies of scale, the formation of cooperative societies among truck operators is the way forward. This will result in the creation of larger entities without endangering single truck owners. Cooperatives can provide better and focused marketing services, which are currently not possible due to the predominance of small unorganised players who lack marketing ability and have to rely on brokers. Further, productivity of the industry can be enhanced through better fleet utilisation and maintenance practices promoted by these cooperatives. State governments can promote the formation of such cooperatives by providing them with preferential allocation of land to enable them to establish repair/parking infrastructure. State governments are already initiating the establishment of 'Transport Nagars' in order to divert traffic movement and decongest major cities. In these 'Transport Nagars' also, preferential treatment can be given to truckers' cooperatives in the allocation of space and other facilities. In Chapter 4, it is recommended that the Railways should invite bids from entrepreneurs for constructing and operating warehouses on Railway land available adjacent to sidings. Truckers' cooperatives could be given preference in considering the award of the concession if they are willing to match the bids of the highest bidder. Another incentive for consolidation through cooperatives could be for the nationalised insurance companies to consider granting fleet discount to the members of a truckers' cooperative.

3.29 The government should invite major corporate entities to join as promoters of cooperative societies and to provide guidance to them. Motor transport associations like the All India Motor Transport Association can also play an active participatory and facilitating role in this initiative.

RAILWAY FREIGHT: ISSUES

3.30 As noted in Chapter 2, the IR has made notable strides and achieved remarkable growth in freight transportation in recent years. However, there are capacity constraints and freight tariffs are still higher than in the developed and advanced developing countries. Moreover, freight transportation by rail lacks reliability and trackability and is deficient in terms of quality of operations, speed, and customer orientation. For many customers, whether manufacturers or end users, assured delivery of consignments, and the ability to verify periodically that the delivery schedule will indeed be met, is as important as the freight cost. Since the IR cannot provide assurance of delivery and arrangements for tracking consignments are not in position, the shippers prefer higher cost road transport, thus increasing the logistics cost. Absence of competition and lack of regulatory oversight further affect the quality of service and also keep the tariffs higher than the levels prevalent in the developed and advanced developing countries.

3.31 Currently, the per MT km cost of moving containers by rail between Delhi and Nhava Sheva is around Re 0.90 (equivalent to 1.8 cents) per MT km for an average container weight of 15 MT, which is the normal average for a 20 foot container. In reality, the freight all kinds (FAK) rates vary for weight slabs between Rs 0.67 and Rs 1.14 per tonne km, as illustrated in Table 3.1. However, the shippers have to bear additional costs of around Re 0.80, which raises the total transportation cost to around Rs 1.7 per MT km (equivalent to 3.4 cents per MT km), on account of associated elements like ICD terminal handling costs (THCs), rail/road costs of empty container repositioning (due to cargo dynamics), port THCs, and other logistics related costs of empty storage, cleaning/maintenance, and documentation charges. The need for empty container repositioning may reduce once the hinterland expands but other elements will still keep the costs in the country substantially above the logistics costs in other countries, as for example, China (2.6 cents) and Canada (2 cents).

RAILWAY FREIGHT: STRATEGIES

Capacity Augmentation

3.32 According to Study conducted by RITES for the Planning Commission, the share of rail in freight movement within the country is 37 per cent, which is less than in China (47 per cent) or the USA (46 per cent) but more than in Germany (18 per cent). Despite the lower cost of rail freight in India, the share is low in India mainly due to capacity constraint in the railway system. In the strategy to cut down the logistics costs in India, the highest priority should, therefore, be accorded to capacity augmentation of the IR. In the short run, the objective should be optimum utilisation of existing capacity. This may be achieved by following a two-pronged strategy. First, the Railways must achieve higher maintenance standard of existing assets and renewals and replacement must be carried out with a view to reducing frequent asset failure occurrences.

Table 3.1: CONCOR's Rail Tariffs (as on 1 April 2009)

Stream	Distance (km)	Maximum weight per TEU (tonnes)	Rail tariff of CONCOR per 20 foot container (Rs)	Cost per tonne km (Rs)
(1)	**(2)**	**(3)**	**(4)**	**{5=4/(3*2)}**
JNP–TKD	1449	12.0	19,800	1.14
(Imports)		20.0	21,900	0.76
		27.0	31,100	0.79
		30.0	34,700	0.80
TKD–JNP	1449	12.0	17,300	0.99
(Exports)		20.0	19,500	0.67
		27.0	27,200	0.70
		30.0	32,100	0.74

TKD: Tughlakabad; JNP: Jawaharlal Nehru Port
Source: CONCOR.

3.33 Second, route-wise planning aimed at enhancing the line capacity simultaneously through doubling, gauge conversion, and increase in terminal capacity would make a significant immediate impact on capacity at low cost. Investments are already planned for upgrading 6973 km of mineral routes and 4220 km of feeder routes to DFCs (see next section for details of DFC) for running 25 MT axle load trains. Investments are also planned in signalling improvements such as automatic signalling, introduction of intermediate block sections, block-proving axle counters, track circuiting, etc., which, together with the induction of high power locomotives, would create additional capacity in the short run at low cost. Further, the improved wagons with the higher payload to tare ratio of around 4, as against the extant 2.6, are on the anvil, which will not only obtain the much needed additional capacity, but also reduce the unit cost of operation, improving the competitiveness of the rail mode. Switching over to mechanised maintenance of track by investing in track machines would also free some of the capacity locked up in manual maintenance of the track. To utilise optimally the line capacity created, it is also envisaged to upgrade freight terminals and their approaches, since inadequate terminals often are the binding constraints affecting the seamlessness of train movement. Narrowing down the speed differential between the freight and passenger trains by inducting high-speed freight stock would speed up both freight and passenger trains, in addition to improving the line capacity utilisation. All these planned measures need to be implemented on priority.

Development Of Dedicated Freight Corridors

3.34 A quantum increase in capacity can be achieved only through the major initiative of developing DFCs. A special public sector unit called Dedicated Freight Corridor of India Ltd. was incorporated in October 2006, with the express objective of designing and executing this project that will have two corridors called the Western Corridor (1483 km) and the Eastern Corridor (1806 km). The former will be useful mainly for container traffic as it seeks to link the gateway ports from Jawaharlal Nehru Port on the west coast to Dadri in Western Uttar Pradesh in North India, with suitable arterial access links with existing rail corridors of Pipava/Mundra–Northern India hinterland. Implementation of the DFCs will considerably increase the capacity of trains to transport freight and, in addition, enhance the reliability of transportation of goods by rail in these stretches, in which freight traffic had reached saturation levels. Since DFCs will result in cutting down of logistics cost it is imperative that their implementation is put on the fast track and completed in the shortest period, which should not be more than five years. Four other corridors have been identified already (Kolkata–Mumbai, Delhi–Chennai, Kharagpur–Vijaywada, and Chennai–Goa) for the construction of DFCs, and the faster they are implemented the quicker will be the rise in the share of rail in freight movement and the consequent fall in logistics costs in the country.

Freight Operation Information System

3.35 Freight Operation Information System (FOIS) is a computer network based information system that has been designed to give strategic advantages to both IR and its customers. The network links various freight handling points, traffic control, and rolling stock maintenance depots with the Railway administration. FOIS will provide continuous cargo visibility and

enable freight customers to have instant access to information regarding the current status of their consignments in transit and the expected time of arrival at its destination, which would help the industrial customers to achieve just-in-time inventory levels. Once it is fully implemented, FOIS will facilitate acceptance of customers' orders for wagons and rakes (full length train formations), billing of freight charges by Railways and its payment by the customer electronically, and along with the introduction of e-commerce will make the entire business chain seamless. FOIS consists of two fully computerised modules, namely Rake Management System for handling the freight movement portion and Terminal Management System (TMS) for managing the commercial transactions with the customers. The Rake Management System portion has been commissioned and the TMS is partly commissioned. The balance portion of the FOIS is likely to be completed during the Eleventh Five Year Plan period. When both the modules are fully commissioned and interlinked, the FOIS would be in a position to deliver the intended benefits fully. It is important to ensure that FOIS is fully commissioned and interlinked as early as possible during the Eleventh Five Year Plan period.

Private Participation In Rail Movement Of Containers

3.36 A major initiative has been taken by IR in reorienting its policy of private participation in the carriage of containers by rail. Apart from CONCOR, the new policy has attracted as many as 14 new players in the inland transportation scene. The entry of these new players, some of whom are also the local arms of leading ocean carriers entities, will provide shippers with greater choice and flexibility in the selection of inland carriers. This is bound to stimulate the development of a matching and efficient freight transport environment and bring down the overall logistics costs.

3.37 The Railways already have a share of 60–70 per cent or more in originating cargo in respect of iron ore, coal, limestone and dolomite, and fertilisers. In food grains and containers, its share of freight traffic flows is in the vicinity of 30 per cent, and in cement around 50 per cent. In cement and food grains a beginning has been made in the movement by rail of commodities in bulk, without bagging. In containers, Roll-on–Roll-off (Ro–Ro) operations, which will bring down the logistics cost appreciably, has not taken off, except in the Konkan Railway. The Ro–Ro service enables the carrying of loaded trucks directly on a modified freight train. A common system in Europe, the service is currently available in India only on the Konkan Railway route. The Railways have to work in tandem with private operators in order to cut rail freight cost through investment in wagons designed for movement of cement and food grains in bulk and for use of Ro–Ro for the movement of containers. The private operators can not only help to move these bulk commodities in bulk but in parallel they can undertake other logistics functions, such as grading, cleaning, and packing food grains.

PORTS AND SHIPPING: ISSUES

3.38 The following shortcomings impact on the performance of Indian ports and lead to escalation of logistics cost:

- Ships have to wait long in the channel for berthing, and productivity in loading and unloading is low. The national average turnaround time of vessels for dry bulk and containers is estimated at 5.7 days and 1.9 days, respectively.

- The ports are labour-intensive and the mechanisation process is slow. Equipment used is outdated and obsolete, causing further reduction in efficiency and productivity.
- Restrictions in navigation channels do not allow bigger vessels to be berthed.
- The hinterland links to ports are insufficient and need to be improved.
- Delays in co-ordination between ports and the Customs authorities delay quicker dispensation of documentation and goods.
- Port-side constraints further contribute to increases in dwell time before both incoming and outgoing cargo is cleared.

Performance Indicators For Major Ports

3.39 Over the years, cargo handling capacity of major ports has steadily increased to cater to the growing volume of internal and external trade. The capacity of the ports was 172.59 million tonnes in 1993–94 and increased to a level of 574.77 million tonnes in 2008–09. However, as compared to 2007–08 the capacity utilisation has marginally gone down in 2008–09, giving greater cushion for dealing with future increases in traffic (see Figure 3.1).

3.40 The various port-wise performance indicators are shown in Figures 3.2(a), (b), and (c). The average Turn Round Time (TRT) has improved for Cochin, Kandla, Mormugao, and Mumbai during 2006–07. In 2008–09, the average TRT was the least in the case of container vessels (2.14 days) and the maximum for dry bulk (conventional) vessels (6.35 days). The TRT in 2008–09 is the best for the mainly container handling port of Visakhapatnam (0.73 days), followed by Tuticorin (1.20 days). All other ports recorded average TRT less than that of the average TRT for all ports (3.87 days).

3.41 As compared to 2007–08, the average output per ship berth day increased by 3.99

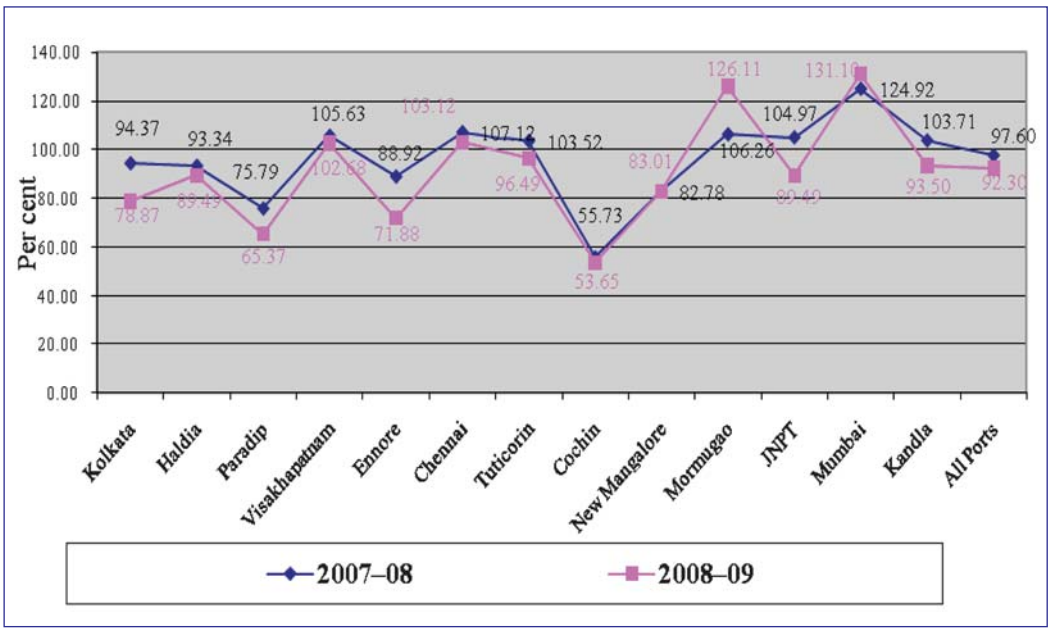


Figure 3.1: Major Port-wise Capacity Utilisation

Source: Department of Shipping, Ministry of Shipping, Road Transport and Highways.

per cent to 10,473 tonnes in 2008–09 for all ports. The highest output per ship berth day was in the case of Ennore port at 28,429 tonnes, followed by JNPT at 22,472 tonnes and Mormugao at 20,797 tonnes.

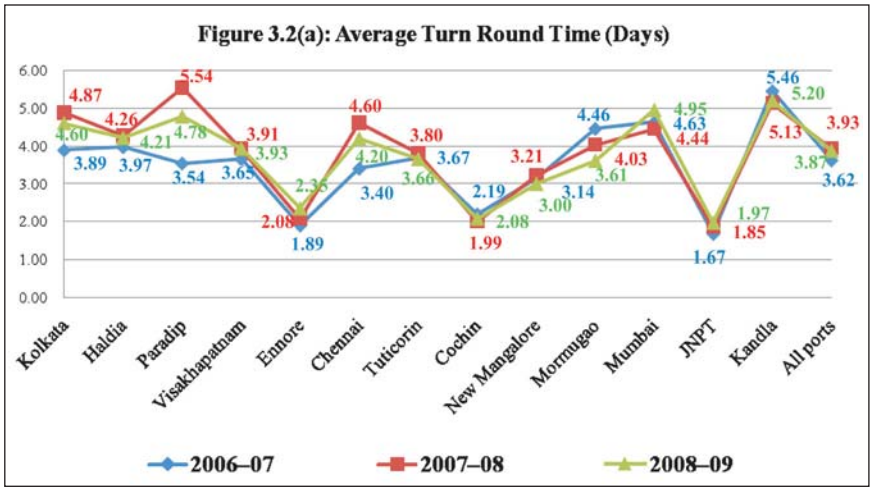
3.42 The average pre-berthing detention (PBD) for all ports increased from 37.66 hours in 2007–08 to 39.09 hours in 2008–09. All the ports except the ports at Kandla (62.64 hours), Mormugao (45.68 hours), Haldia (81.19 hours), and Paradip (55.62 hours) show PBD lower than the average for all ports (39.09 hours). The lowest PBD was 4.42 hours for Ennore, followed by 14.95 hours for Kolkata port. Further, in 2008–09, the average PBD was the least for container vessels (18.31 hours) followed by liquid bulk (34.58 hours) and break bulk (46.14 hours).

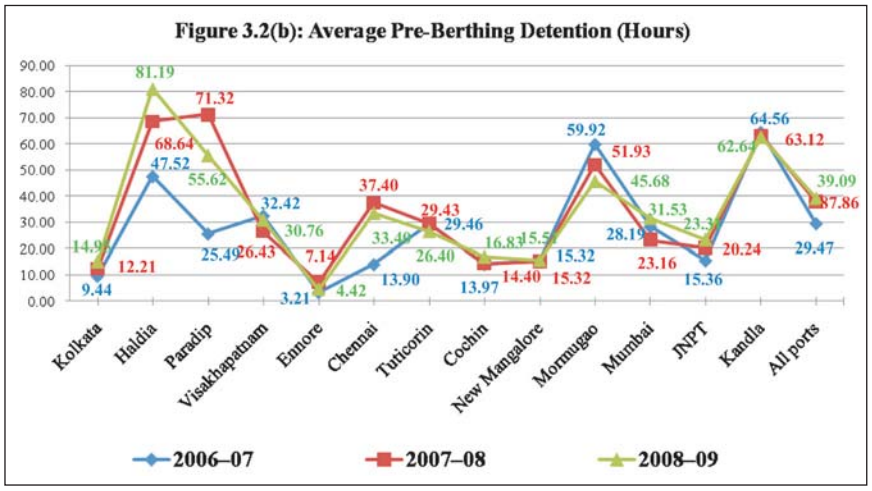
3.43 As yet, most of the ports in India are not able to attract bigger vessels. Neither are they able to ensure the optimum utilisation of their existing capacities. There is an urgent need to concentrate on port developments and functionalities, with the express objective of equipping them with capabilities to meet international standards for handling containers. Despite cheaper labour rates, Indian container handling costs are considerably higher than the other comparable ports in the region, and in order to remove this distortion the unit costs of operations will have to be brought down. The port costs at Dubai is almost 25 per cent and at Colombo and Singapore just 40 per cent that of JNPT.[4]

3.44 Another factor which makes Indian ports unattractive is the high dwell time on account of Customs and port-side constraints such as inadequate infrastructure, absence of seamless connectivity with other modes, and various IT related bottlenecks. For container handling, adequate electronic environment with ERP, which enables the efficient use of port resources, is yet to be established. The Electronic Data Interchange (EDI), which ensures flow of data electronically between ports, Customs, shipping lines, and users, is still to be commissioned on a common platform. At present, EDI is minimal and consists of the proprietary message exchange format formulated by Customs. The implementation of Risk Management System (RMS) by Customs is expected to bring about significant reduction in detention of cargo for assessment and examination at ports. Apart from the Customs procedures there are other port-side constraints, such as lack of round-the-clock (24x365) navigation, operation, and documentation, breaks in service during changeover of shifts, absence of e-environment and Port Community System (PCS), deficit in marine resource handling capabilities in ports, non-deployment by them of state-of-the-art equipment, and deficiencies in the equipment, including transport vehicles and gear used by stevedores, all of which result in increase in the dwell time.

3.45 Coastal shipping is hampered in the country by inadequate port- and land-side infrastructure, cumbersome custom procedures, and low port productivity. In addition, coastal shipping operators are finding it difficult to access credit for acquisition of vessels. Coastal shipping is a viable alternative to movement of freight by road and rail and has the additional advantage of being eco-friendly with a low socio-economic cost. It can serve to relieve congestion on overstretched road and rail routes. The coastal

4 Times Shipping Journal of the Mumbai and Nhava-Sheva Ship Agents Association (MANSAA).





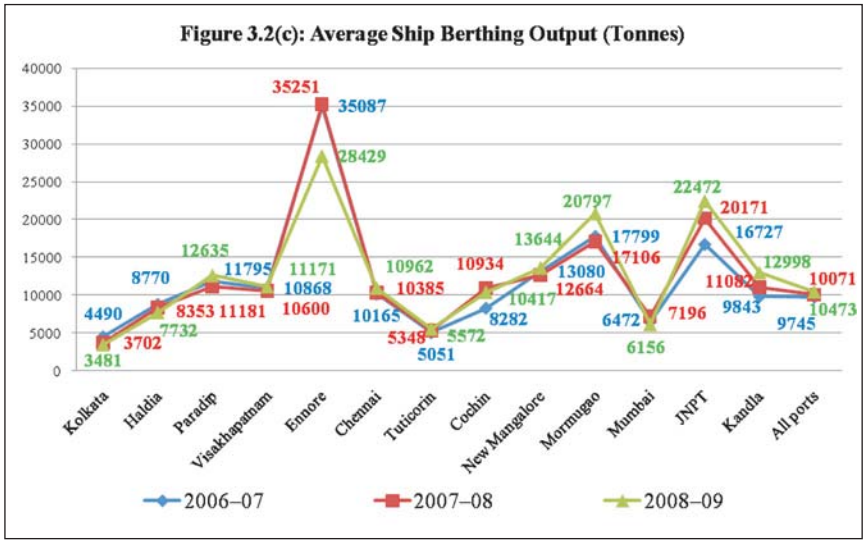


Figure 3.2: Port-wise Performance Indicators

Source: Indian Ports Association (2009).

traffic has been increasing at a rapid pace, yet its share in the total freight traffic in the country is very low. According to the data compiled in the Total Transport System Study conducted by Rail India Technical and Economic Services (RITES), in 2007–08 the share of coastal shipping inter-regional freight traffic flows was 6.2 per cent for iron ore, 3.67 for coal, 13.87 for POL products, 1.93 in cement, 2.04 for containers, and 1.40 for miscellaneous items.

PORTS AND SHIPPING: STRATEGIES

3.46 There is consensus on the need to enhance port capacities in terms of:

- Port infrastructure, by increasing available draughts, modifying channel depths, widening turning basins, lengthening/strengthening quays, and additional berth construction, including those dedicated to coastal shipping;
- Significantly augmenting the requisite superstructure, by expanding associated back-up container stack areas, transfer bays, rail transfer facilities for seamless rail evacuation (this requires special focus), gate terminals for proper road evacuations, operational buildings, state-of-the-art container handling equipment [quay side container handling gantry crane, yard rubber tyred gantry (RTG), reach stacker, terminal tractor, etc.] in the terminal areas;
- Augmenting associated back-up value-add complementary facilities like CFSs/ warehouses, assembly and packaging facilities, cargo consolidation areas, processing and distribution centres, etc. off-dock to decongest city based ports;
- Upgradation of hinterland connectivity of the ports both by road and rail to enable quicker flow of goods consignments both to and from the ports;
- Improving Customs procedures and alleviating the port-side constraints for reducing the dwell time.

3.47 We take up complementary facilities like warehouses and CFSs in Chapter 4 on 'Moving Towards An Integrated Transportation System' and Customs procedures and reduction of dwell time in Chapter 5 on 'Logistics Processes and Procedures'. In this chapter, we consider only the hard infrastructure issues on which cutting down of logistics costs in port and shipping is as critically dependent as in the case of road and rail freight movement. The capacity of the ports is dependent on the number of berths, equipments, and handling systems. To improve the capacity in the ports sector, the following steps need to be undertaken:

Berths: More Dedicated Facilities

3.48 The berth occupancy is higher than 65 per cent for berths and dedicated facilities to handle streams of traffic such as iron ore, fertilisers, and container. However, in these specific streams, the capacity to handle vessels should be seen in terms of both berth occupancy as well as pre-berthing detention of vessels. Considering these two factors, more dedicated berths for both bulk and containers need to be developed with respect to the cargo profile of the port. Furthermore, Single Point Moorings (SPM) are to be developed for catering to the traffic in crude oil to exploit the economies of scale as the government is encouraging shore based refineries. To improve the productivity at these SPMs and at oil berths, suitable superstructures for pumping at international norms are to be developed.

Equipment: Higher Capacity Superstructures At Berths

3.49 The level of penetration of mechanisation in the general cargo/break bulk cargo stream is very inadequate when compared to the international norms. Further, it varies from port to port and many ports are depending on the ships' gears to handle cargo. Equipments are also outdated and have notoriously poor levels of productivity and high downtime. Ports are not able to replace their equipment because of the Ministry of Shipping (MoS) advisory of a minimum of 20 years of life span for equipment. It is, therefore, necessary that every multipurpose cargo berth should have at least two back-up shore cranes (quay shore cranes) or harbour mobile cranes of minimum capacity of 30 tonnes and above per 35 tonnes of containers. Harbour mobile cranes are versatile in character, and hence, can be optimally utilised for multi-commodity handling. The codal life of all equipments should be only 10 years as against the existing 20 years.

Handling Systems: State-Of-The-Art Systems And Total Quality Management (Tqm) Implementation

3.50 Handling systems are relevant in bulk streams, which handle oil, iron ore, coal, etc. in large quantities. The dedicated handling systems in vogue are quite old in most ports. These need to be modernised with the state-of-the-art handling systems characterised by abilities to handle newly evolving heavy axle wagons (higher capacity hydraulic tippers), conveyor rate of at least 4000 tonnes per hour (international bench mark), and ship loading rate of 4000 tonnes per hour. Even in some ports where such state-of-the-art systems have been commissioned, the actual productivity achieved is lesser than the designed capacity due to improper maintenance practices and poor work ethics. Therefore, it is necessary that Total Quality Management (TQM) is enforced and shift charge overs are made seamless to reduce non-working time.

3.51 In most of the container terminals in India, the vessel rate is about 45–50 containers per hour, which is below the international benchmark of 75–100 containers per hour. This is mainly due to the deployment of lesser number of quay cranes per vessels and the nature of vessels calling at Indian ports. It is necessary that in the concession agreement for private terminals, it is mandated that a minimum of three quay cranes per ship be deployed at all times. This will ensure faster turnaround of container vessels and more windows available for berthing and also attract bigger vessels to the Indian ports.

Uniform National Policy For Creating Adequate Minimum Draught At All Major Ports

3.52 Restrictions of draught at various ports seriously impede the ability to handle vessels of a standardised international scale. Adequate minimum draught is required in major ports to give them the capability to handle post Panamax vessels for dry bulk and mainline mother vessels for containers. At international ports, the government funds the dredging and maintenance cost of channels. It is, therefore, necessary that, as a national policy, adequate minimum draught in all berths of the major ports may be developed. It is also necessary that the government fund the cost of maintaining the minimum draught.

Port Connectivity

3.53 With respect to port connectivity, the Committee of Secretaries on Road Rail Connectivity for major ports envisaged that each major port should have minimum four-

lane connectivity, which will be achieved through nine projects to be completed in 1–3 years involving 299.42 km. Further, each major port should have double line rail connectivity, through eight projects involving 961.56 km within 2 years. Details of the recommendations of the Committee of Secretaries on Road Rail Connectivity for major ports are provided in Annexure B.

3.54 The Road Port Connectivity Project envisages improvement of 380 km of National Highways connecting 10 major ports. Till date, the works of Kandla, Mormugao Phase-I, JNPT Phase-I, and Visakhapatnam Ports have been completed. 4-laning of about 203 km of roads of port connectivity has already been completed and improvement of about 171 km roads of port connectivity is under implementation.

3.55 Nine Rail Port Connectivity Projects (involving a length of 1105.56 kms), seven (Haldia Phase-I, New Mangalore, Kandla, JN Port, Paradip, Tuticorin, and Kandla) have already been completed and commissioned. The work at Paradip Port, involving link with mines and steel plants, is targeted for completion by 2010–11. The projects for providing connectivity to Mumbai and Haldia (Phase-II) have been sanctioned.

Development Of Inland Waterways And Coastal Shipping

3.56 Developing inland waterways as a mode of transport offers scope for evolving an intermodal approach. Inland waterways need to be linked with the minor and intermediate ports so that cargoes emanating from the hinterland can be transported directly to the ports through inland waterways without any diversion to roads. Such a programme will benefit both the shipping and inland water transport sector.

3.57 For improving the infrastructure facility for coastal shipping, it is important to provide rail and road connectivity to each port along with the development of the required infrastructure for facilitating the emergence of promising potential in the coastal shipping sector. Berthing capacity at Indian ports should be developed to meet the needs of coastal shipping, and berths at all terminals should be reserved for coastal shipping vessels, if so required. Considering the positive externalities of coastal shipping, there is also the need for considering setting up of a separate fund that may fulfil the credit requirements of coastal shipping operators. Provision of adequate draught in the various rivers where inland water transport is being operated would lead to the integration of coastal shipping and inland water transport and that will reduce substantially the overall cost of transportation.

Public–Private Partnership

3.58 A feature of the investment requirement for enhancing port capacity is that, with the sole exception of capital dredging as already mentioned above, much of it can come from private investors in public–private partnership (PPP) arrangements and from the internal resources and external borrowings of port trusts. The PPP initiatives began with the formulation of Comprehensive Guidelines (1996) and were subsequently strengthened with Joint Venture Guidelines (1998), and Model Bidding Documents (2000). More recently in 2007, a New Model Concession Agreement, based on tariffs, has been approved by the government. By the end of the Tenth Five Year Plan, 25 projects having aggregate investment of Rs 5613 crore had come up through private sector participation / captive users. These projects had created additional port capacity of 118 million tonnes. At present, seven projects, including four

taken up before the Eleventh Five Year Plan, are under implementation on PPP mode, creating additional capacity of 77.2 million tonnes per annum. In addition, five more capacity yielding schemes through internal resources are under implementation, which will create additional capacity of 14 million tonnes per annum. The MoS assessed that 49 million tonnes of capacity may also be achieved from mechanisation/ efficiency improvement during the Plan. Thus, a capacity of 210 million tonnes will get created in the Plan when these schemes get completed. In addition, nine PPP projects were to be taken up during 2008–09 and 17 during 2009–10. Of these 26 projects, seven projects have been awarded so far, and award for two more is expected shortly. Two projects are involved in litigation and may come up with delay. A new financing plan for ports has already been approved by the Committee on Infrastructure, which envisages an investment of Rs 57,452 crore for identified projects of berth development, container terminals, POL berths, other cargo berths, capital dredging, equipment, and port connectivity. All that is needed is implementation of identified projects.

AIR CARGO AND AIRPORTS: ISSUES

3.59 Although the air traffic growth in recent years has surpassed industry expectations and is in fact expected to rise further, air freight has remained neglected for many years. Certain issues have resulted in hindering the smooth movement of cargo and the expectations of the customers for timely and prompt delivery have remained unfulfilled. These include: the absence of integrated cargo infrastructure; inadequacies in gateway and hinterland connectivity through rail and road; need for streamlining of Customs procedures in air cargo; need of technological upgradation of cargo handling processes; and formulation of performance based service standards. The procedural aspects are dealt with in Chapter 5 but here it suffices to mention that what is required is to establish definite, measurable performance parameters at every stage in the flow of cargo, documents, and information. Round-the-clock operations on clearing of cargo are needed, and speed and reliability need to be imparted through just-in-time processes. Online connectivity needs to be provided among all stakeholders, and importers and exporters should be enabled to file all the documents at a single window. At present, the practices prevailing at each airport in terms of documentation, procedures, transshipment bonds, etc. differ. Standardised and streamlined facilities and procedures for transshipments, imports, and exports need to be ensured at every international airport. (Here we deal with only the provision of integrated cargo infrastructure.)

AIR CARGO AND AIRPORTS: STRATEGIES

Need To Set Up 'Cargo Villages' At International Airports

3.60 Growth in air freight traffic and the advent of inter-modalism has brought to the fore the necessity of developing air cargo complexes or air cargo villages. The concept of an air cargo village involves a cargo handling terminal complex that meets the basic logistical needs of shippers and carriers, and provides integrated facilities and services, in addition to cargo handling and transfers. These services may include package sorting, consolidation, warehousing, distribution, trade services, communications system, and other related services. This concept implies not simply one inter-modal terminal, but a complex or centre of cargo activity that provides various services for one or more cargo transfer terminals.

3.61 Depending on the volume of freight handled and markets served, air cargo villages can be categorised according to their global, national, regional, or state significance. Air cargo villages can also be distinguished by the scale and range of services provided. These could originate from the physical transfer of cargo between connecting modes. Other cargo related services provided could be storage; minor processing, packing and labelling; and repair and inspection not related to Customs. Air cargo villages also may be distinguished by the array of services provided for connecting transportation modes such as supply of fuel, maintenance, and equipment storage.

3.62 The concept of cargo village entails establishing an integrated cargo infrastructure comprising of airline terminals, forwarders bonded terminals, and specialty centres for special cargoes (such as perishables, valuable cargo, pharmaceuticals, restricted articles, etc.), along with rationalised, streamlined, and simplified procedures, documentation, and charges. A step in this direction is the proposed development of Amritsar as a hub for export of perishables from North India by setting up a Perishable Cargo Centre at the international airport at Amritsar.

3.63 Freight forwarders' bonded terminals are a reality at every major cargo airport in the world. There is critical need for them now at all the gateway and inland airports in India, in order to decentralise handling and processing, decongest the airports, maximise efficiencies in import–export processing, and enhance the throughput of each airport by the more effective use of installed resources and facilities.

3.64 Wherever land is available within the international airport, land should be demarcated for the creation and development of an air cargo village. Where land is not available within the airport premises, off-airport air cargo village facilities can be developed. The scale and facilities at different international airports may vary in accordance with the needs or special trading/manufacturing environment at that location. The air cargo village is similar in nature to ICD or CFS in respect of the roles played by these facilities. The Department of Commerce/ Customs must, therefore, issue standard guidelines, as they have done for ICD/CFS, to enable interested parties to make the application for air cargo village or air freight station. These parties may be the airport operators or licensees of such operators if the facility is to be set up within the airport. In the case of off-airport air cargo village, any logistics operator may set up the facilities. Each gateway airport and its cargo village can be effective only if it is seamlessly connected with road and/or rail, and onwards to the seaports. This would provide the greatest benefit to the hinterland for accessing the gateway.

Development Of International Air Cargo Hubs In India

3.65 International air cargo hubs have developed at many international airports in the world as centralised transit points in which the main task performed is the collection, sorting, and onward delivery of cargo for distribution. Such activity, when undertaken on a sufficiently large scale, can boost trade and economy and generate employment opportunities. Internationally, a significant proportion of the traffic at successful air cargo hubs (such as Dubai, Hong Kong, and Singapore) is constituted by imports and re-exports. As noted by the consultant of the Airports Authority of India, 'Many factors affect an airport's ability to attract transshipment cargo

traffic, including the airport's current location and traffic flow patterns, airport infrastructure capacity and activities, linkage with regional and intercontinental airport network, service quality and airport cost factors.' From these perspectives, Delhi is the first airport that comes to mind as suitable for being developed as an international cargo hub.

3.66 Establishment of air cargo hubs in international airports within India will necessitate enhancing the technology at work, including the handling equipment, the information management systems, and security screening equipment. A quantum jump into the higher end is required by providing for stacking, palletising, movement by conveyors, etc. For data capture and piece-level control, which is critical in supply chain management, bar coding and scanning systems, radio frequency identification tags, etc. are essential for feeding into the information and trace and track systems. It is also critical to establish definite, measurable performance parameters at every stage in the flow of cargo, documents, and information.

3.67 It is for the airport operator to decide whether the investment necessary for upgrading the infrastructure is justified for making the airport an international air cargo hub. However, a few facilitative actions by government agencies would be necessary for enhancing the chances of Indian airports to become international hubs. First and foremost would be the designation of an earmarked area as a Customs free zone where the payment of duties and taxes are suspended upon arrival of goods. Duties and taxes would be payable only if the goods move out for consumption in the Customs territory of the country. No duties have, however, to be paid if the goods move out of the country. This can be accomplished within the framework of the Special Economic Zone (SEZ) laws by establishing a warehousing zone within or adjacent to the airports. Second, the procedures for transshipment should be simplified and the need for obtaining transshipment permit replaced by granting approval through the EDI system. Third, the Customs should allow ramp transfer of containers from one aircraft to the other without having to go through the handling procedures at the air cargo terminal.

Aviation Security

3.68 Aviation security is a sensitive subject whose importance cannot be overstated. However, the attempt should be to ensure that commercial considerations are not completely overlooked in establishing security procedures. For improved security processing, especially in the context of forwarders' bonded terminals where cargo would be palletised or containerised, it is crucial that airports be equipped with security screening facilities based on the latest technology, capable of screening complete unit loads speedily and efficiently, thus facilitating on-time movements.

Chapter 4

Moving Towards An Integrated Transportation System

4.1 The Indian transport and logistics services industry is witnessing a major transformation, in line with the developments in the rest of the world. The increasing thrust towards containerisation, constant technological upgradation of production and distribution processes, and the phenomenon of globalisation have combined to boost the demand from users of logistics and transportation services for 'integrated transport solutions' in preference to individual 'transportation' and 'distribution' services.

4.2 This is evident on the supply side where the focus is rapidly shifting to providing '3PL Solutions' as the new strategic initiative. Figure 4.1 describes the various activities associated with logistics and the services offered by the service providers. Previously each one of the seven components shown in Figure 4.1 was operated by a discrete supplier, leaving the shipper and consignee to struggle for obtaining accurate information about the flow of the goods through the transport pipeline. At present, as is shown by the three upper bands in Figure 4.1—Integrated management, Integrated IT systems, and Integrated solutions and services—it is possible for a single service provider to integrate the management of the end-to-end movement.

INTERMEDIARIES AND LOGISTICS SERVICE PROVIDERS

4.3 Chapter 3 deals with transport service providers who constitute the most important single component in the logistics chain. A distinct component of the chain is that of freight forwarders who act as intermediaries and arrange for the transportation of freight in exchange for compensation. At the request of the shipper, the forwarder makes the actual shipping arrangements and provides the necessary services for transporting the cargo to its destination. Freight forwarders assume all responsibility for the transportation of the shipment from the point of receipt to the point of destination,

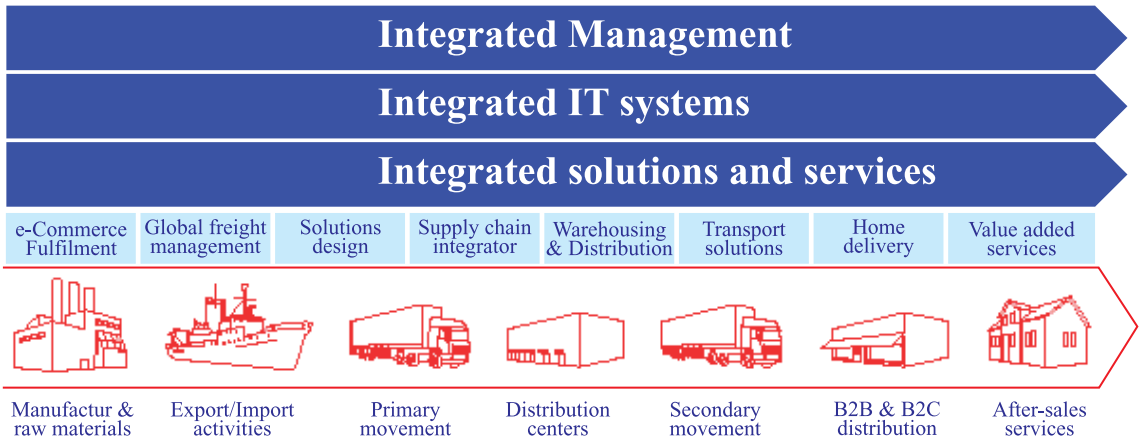


Figure 4.1: 3PL Logistics Integration Model

including preparing and executing the necessary documentation. The freight forwarder is paid a fee by the shipper and often receives an additional percentage of the freight charge from the carrier. In contrast, brokers arrange for the transportation of freight but do not assume responsibility for its movement from origin to destination. Non-vessel Operating Common Carrier (NVOCC) is a term commonly used to denote sea freight forwarders who provide forwarding services without operating their own vessels. Customs House Agents are also intermediaries who perform a specific function.

4.4 The Indian freight forwarders sector is largely unorganised, with the majority being small players. They face intense competition from international freight forwarders, who are preferred and specified by the foreign importers and also charge very high rates from Indian exporters. Further, there are no service level guidelines or other such regulatory provisions stipulated for Indian freight forwarders.

Third Party Logistics (3PL)

4.5 Most users of logistics services in India continue to use the services of logistics operators performing separate functions such as transportation, warehousing, brokerage, and freight forwarding and sometimes undertake some of the functions themselves. Where individual logistics service providers are engaged separately, a substantial amount of coordination work still has to be undertaken in-house. With increased competition resulting from globalisation, there is an increasing trend toward outsourcing of all, or a subset of all, logistics functions to individual players (3PL providers), who can take charge of these functions, thus leaving the users to concentrate on their core competence. A 3PL provider can take complete charge of handling inbound freight, including Customs and other border clearance, freight consolidation, public warehousing, and finally delivery to the client or distribution to the customers of the client. Similarly, it can undertake the management of outbound freight to the client's customers. The 3PL provider can also provide value added services such as repackaging or assembling.

4.6 The origin of the 3PL industry in India can be traced back to the mid 1990s. Though insignificant at that time, the Indian 3PL industry has experienced rapid growth after the year 2000, with the number of players increasing to a little more than 400 in year 2005. The Indian 3PL market, estimated at about US$ 890.3 million in 2005, is expected to grow at a CAGR of 21.9 per cent to reach US$ 3556.7 million in 2012 (Frost & Sullivan 2006).

4.7 According to Frost & Sullivan (2006), the largest end-user industry for 3PL services as of 2005 was the auto industry. A number of multinational automobile makers—such as Suzuki, Honda, and Ford—have set up manufacturing bases in India and have been major users of 3PL services. The expansion of manufacturing facilities by most of these companies indicates a huge potential for 3PL services in the auto industry. Other sectors that have shown substantial contribution to the 3PL market and significant growth potential include that of IT hardware and electronics, FMCG, garments and footwear, and retail.

4.8 The Indian 3PL industry can be divided into three distinct tiers—national major 3PL companies with nationwide presence, regional 3PL companies with strong presence in one or two regions, and small remote 3PL companies. Domestic major companies in leading industry sectors have also begun to follow the footsteps of their multinational counterparts, starting with outsourcing their basic logistics functions.

Realising that significant cost reduction and several other benefits have been gained by the major companies, large numbers of small to medium companies in various industries are also gearing up to use 3PL basic services in their logistics functions. Further, larger companies that are already using 3PL services in basic logistics functions are likely to graduate to outsourcing value-added advanced services, such as customer support, inbound logistics, and reverse logistics.

4.9 The Government of India's increased focus on improving logistics infrastructure, in terms of increasing levels of investments, is also expected to have a huge positive impact on the market for 3PL services. The entry of retail, consumer durables, and automobile giants, with extensive supply and distribution chains spread across the length and breadth of the country, is expected to contribute to good growth of 3PL usage in their respective industry sectors.

4.10 Further, the introduction of harmonised State VAT, and the Government of India's proposed GST, is expected to drive Indian industries towards using more 3PL services. Introduced partially in 2005, a full implementation of this regime is expected to necessitate having centralised large warehouses in regional hub cities, to achieve best efficiency in logistics. Since building such large warehouses requires huge investments, most Indian companies are likely to outsource the warehousing function, creating immense potential market for 3PL service providers.

4.11 In view of the emerging market potential for 3PL services in India, there is a need for ensuring quality and basic minimum standards for services offered by 3PL players. This would not only guarantee better services at affordable prices for the customers but would also facilitate the development of value added service providers.

Express Service Industry in India

4.12 The express service providers are also 3PL logistics providers with respect to letters, small parcels, and consignments. The size of India's express service industry was estimated at around Rs 7100 crore (approximately US$ 1.60 billion) in 2005–06 and is estimated to have grown at a CAGR of around 33 per cent over the 1990s. In the early 1980s, some of the global express services players set up their operations in India by taking the support of an Indian player. For example, TNT Express had tied up with Skypak Couriers, UPS with Elbee Couriers, FedEx with Blue Dart, DHL with AFL, etc. Amongst domestic players, Blue Dart, DTDC, First Flight, and Overnite Express are amongst some of the leading express service companies in India.

4.13 On the basis of size of operations, nature of value added services offered, and the scale of geographically diversified operations, the players of India's express services industry can be broadly classified into three segments: large mainly organised players who operate on a national and international level; medium regional players whose operations are concentrated within particular geographical areas; and small players who are unorganised.

4.14 In keeping with the structure of India's logistics industry in general, the Express Service industry in the country is also fragmented, with an estimated 2500 express services players, of which only around 30 players are classified as large players, with the rest falling in the medium and small segments. The share of organised players is estimated at 65 per cent, the Express Mail Service (Indian Postal Department) holds a

10 per cent share, and 25 per cent is held by the unorganised segment.

4.15 The Indian Postal Service, functioning under the brand name India Post, is a government operated postal system in India. The Indian Postal Service, with 155,035 post offices (as of 31 March 2008), is the most widely dispersed post office system in the world. The services on offer can be broadly classified into four categories: communication services (letters, post cards, etc.); transportation services (parcel, logistics post); financial services [savings bank, money order, international money transfer service, PPPs for extending financial service outreach through post office network, and Postal Life Insurance]; and premium value added services (speed post, business post, retail post, etc.). Considering the significant decline in mail traffic, increasing competition, and recurring operating losses, Indian Post faces pressures to reduce costs, increase revenue, and operate on a far more commercial basis, while fulfilling the rising expectations of the customers. These challenges can be faced only by improving services and adapting them to the needs of a rapidly evolving and increasingly technology driven world. Indian Post will also need to focus on non-core activities—financial and non-financial—and on IT-based services, provided mainly by leveraging its network and its last mile reach through partnerships with foreign and domestic private firms.

4.16 The Government of India has been considering significant changes in the laws governing the activities of express delivery service providers, including restricting FDI in the industry, granting the postal department an exclusive right to handle shipments up to 300 grams, annual renewal of players of the industry, and contribution of 10 per cent revenues towards the Universal Obligation Fund. If the above proposed amendments to the Indian Postal Act are enacted, it will limit competition, impact adversely on efficiency in the Indian express service industry, and increase logistics cost.

CONTAINER FREIGHT STATIONS, INLAND CONTAINER DEPOTS, WAREHOUSES, AND LOGISTICS PARKS

Container Freight Stations And Inland Container Depots

4.17 The developments in the logistics industry place great emphasis on integrated transport and delivery systems, generating a need for multi-modal transport, which is the primary focus areas in logistics as companies seek to get an edge in today's intensely competitive world. Apart from the transportation system the logistics industry needs arrangements for handling, sorting, stuffing and destuffing (with respect to containers), and temporary storage of goods. In India, these ancillary activities relating to containerised import and export cargo are carried out in CFSs and ICDs, which are referred to as dry ports. Facilities for Customs and related clearances are also provided at the ICDs and CFSs.

4.18 According to the website of the Department of Commerce, Ministry of Commerce and Industry, an ICD/CFS may be defined as 'A common user facility with public authority status equipped with fixed installations and offering services for handling and temporary storage of import/export laden and empty containers carried under Customs control and with Customs and other agencies competent to clear goods for home use, warehousing, temporary admissions, re-export, temporary storage for onward transit, and outright export. Transshipment of cargo can also take place from such stations.[5]

[5] http://commerce.nic.in/.

4.19 Functionally there is no distinction between an ICD and a CFS as both are transit facilities that offer services for containerisation of break bulk cargo and vice-versa. These could be served by rail and/or road transport. An ICD is generally located in the interiors (outside the port towns) of the country, away from the servicing ports. CFS, on the other hand, is an off-dock facility located near the servicing ports, which helps in decongesting the port by shifting cargo and Customs related activities outside the port area. CFSs are largely expected to deal with break-bulk cargo originating/terminating in the immediate hinterland of a port and may also deal with rail-borne traffic to and from inland locations.

4.20 The primary functions of ICD/CFS are receipt and dispatch/delivery of cargo; stuffing and stripping of containers, transit operations by rail/road to and from serving ports, Customs clearance, consolidation and desegregation of less than container load (LCL) cargo, temporary storage of cargo and containers, reworking of containers, and maintenance and repair of container units.

4.21 At present, there are 133 functioning ICDs/CFSs against 230 letters of intent issued since 1991 by the Department of Commerce. Out of these, 61 are privately owned, 15 are owned by the state governments, 30 by CWC, and 27 by CONCOR. In view of the growth in container traffic expected in India, the number of dry ports (ICDs and CFSs) currently in the country is inadequate. Further, many of the existing ICDs/CFSs are insufficiently sized to handle the traffic that is expected in the future. For the ICD/CFS to be successful, reduction in total transport cost is a prime criterion, as there is a possibility of a marginal increase in the total handling cost per box on origin to destination basis. The facility must have a certain minimum amount of traffic to be economically viable for the management and, at the same time, to be attractive to users like the railways (for full train load movements), other transport operators, seaports, shipping lines, freight forwarders, etc.

4.22 In the backdrop of growing international trade, the infrastructure facilities may have to precede the actual generation of demand. This is particularly important for those facilities that have a long gestation period. Keeping in mind the growth in container traffic envisaged for India, the number of dry ports may need to be more than doubled by 2010–11. Further, in order to improve efficiencies and reap the benefits of economies to scale, larger ICDs and CFSs need to be set up and for this, there is a need for strengthening the existing guidelines for setting up ICDs and CFSs so that the minimum traffic and land space requirements are enhanced. The Ministry of Commerce is reconsidering the existing guidelines for setting up of ICDs/CFSs.

4.23 The ICD/CFS should also become more technologically advanced and capable of attending to the traffic needs by selecting the most modern handling equipment for loading/unloading of containers from rail flats, chassis, their stacking, movement, cargo handling, stuffing/destuffing, etc.

Warehouses And Logistics Parks

4.24 Just as CFSs and ICDs have been developed in the country for facilitating the provision of logistics services for EXIM cargo, standalone warehouses and logistics parks have been developed in the country for domestic cargo. An initiative was taken by the IR for establishing rail-side warehousing and a pilot project was initiated in 2002 with

CWC to develop warehousing facilities at a goods terminal. CWC has built a state-of-the-art warehouse with a capacity of 15,000 tonnes and provided ancillary facilities in the integrated goods shed complex of the White Field Satellite Goods Terminal in Bangalore. Encouraged by the response to this initiative, IR and CWC have entered into a Memorandum of Understanding (MoU) to develop 22 other locations on the same lines. So far, the facilities have become operational at 12 of these locations, including Shakurbasti (Delhi), Ghaziabad, Lucknow (Alam Nagar), Agra (Yamuna Bridge), Bhopal (Nishad Pura), Secunderabad (Sanath Nagar), Nasik Road, Badnera (Amaravati), Udal Nagar (Madurai), Roza (Shahjahanpur), and Kandla, and Whitefield (Bangalore), which is operational since 2002. In addition, another 19 such rail sides are under development. At all these locations, a full-length rail line is provided by the Railways and the CWC has constructed a godown/warehouse all along the rail side, which has a parallel road connectivity provided on the offside. As a result, minimum time is taken for handling the consignment once the rake (train) is placed on the rail line. The godown has the capacity to store 5–6 train consignments at a time. In addition, CWC provides total logistics solutions to the customer in delivering the consignment at his premises.

4.25 Recently, the Ministry of Railways (MoR) has also decided to set up 17 Logistics Parks at key locations where the road network connects to the planned DFC network. These Logistics Parks are expected to be one-stop shops for customers who use the DFC. The MoR intends to invite private participation for the development of Multimodal Logistics Parks (MLPs) that would anchor an integrated logistics solution for more efficient and greater use of rail transport to service the growing organised retail sector. The Railways would provide either vacant land near the stations or would assist the selected private partner to acquire land for the development of such parks. Railways will also provide a range of rail-based transport solutions to suit varying transport volumes and needs. Further, for transporting the goods to the hinterland, road transportation for short hauls would be necessary. While designing the MLPs, connectivity with the road network would also be factored in. The selected partner would be required to develop the requisite infrastructure facilities such as rail sidings, warehouses, cold storages, sorting/grading facilities, loading/unloading facilities, including container-handling equipment, and a host of other procurement and distribution-related facilities. The locations of the proposed MLPs would be strategic in terms of catering to the surplus demand of the hinterland along the DFC.

4.26 In addition to the Railways and the CWC, the country is witnessing considerable private sector activity for establishing warehouses and logistics parks. The rapid growth of auto and auto components industry and IT hardware and telecommunications industry, the swift rise in retail trade by the organised sector, and more generally the economic boom of the period 2004–08 has provided the stimulus to private sector investment in warehousing and logistics parks. The Special Economic Zone (SEZ) programme has also provided the fillip for investment in this area. Adani Logistics Limited, SMG Logistics &Warehousing, DRS Group, Safexpress Pvt. Ltd., Uniworld Logistics Pvt. Ltd., Gateway Distriparks, Tata Realty, and a number of other companies have substantial investment plans in the country in warehousing and logistics parks. Some of the proposed warehouses and logistics parks are dedicated to specific products or groups

of products such as auto components or electronic products or agricultural products, while others are for all containerised cargo. A new development has been that of Free Trade Warehousing Zones (FTWZs) under the SEZ laws. Two FTWZs have already been notified at Sriperambudur in Tamil Nadu and Panvel in Maharashtra and 17 more are in the pipeline, including a port based SEZ (at Dighi in Maharashtra) and one linked to an industrial unit for manufacturing semi-conductors (at Hyderabad).

4.27 Warehouses and logistics parks are essential links in the logistics chain and the availability of adequate warehousing capacity is crucial for efficient logistics operations. The Central and state governments should, therefore, take steps as listed below to ensure that an environment that facilitates the establishment of warehouses and logistics parks and, at the same time, promotes their efficient operation is created.

4.28 While the Indian Customs Act, 1962 governs the appointment and control of ICD and CFS operators as well as warehouse operators (when they operate as Customs / Central Excise Bonded Warehouse), there are no prescribed standards of service and standard trading conditions for operators in other warehouses. Customs House Agents are appointed under the provisions of the Indian Customs Act, 1962 and are regulated by the provisions of Customs House Agents Licensing Regulations 2004. Other warehouse operators operate within the local laws (which stipulate the conditions for storage of dangerous goods etc). There is, therefore, a need to evolve regulations involving uniform service standards, standard trading conditions, and liability regime for warehouse, ICD, and CFS operators. The Warehousing (Development and Regulation) Act, 2007 that has been enacted regulates only those warehouses that propose to issue negotiable warehousing receipts. Regulation of all warehouses is necessary for the standardisation of warehouses and their adoption of good practices. Modern facilities for safe storage, material handling, transport, and communication and adherence to structural standards in construction to deal with natural calamities such as fire, earthquake, etc. should be made a prerequisite in every warehouse.

4.29 In a modern economy, a structured warehousing facility is necessary for the growth of trade and commerce because finished and intermediate manufactured goods need to be warehoused for storage and just-in-time supply, processing, etc. Adequate warehousing facilities are a critical requirement for enabling the industry to cut down on logistical costs. Availability of land at reasonable cost is the most important requirement for the development of warehousing.

4.30 At present, land is classified on the basis of its usage such as Agriculture, Residential, Commercial, Industrial, and Green Belt / Forest. In states where permission for conversion of agricultural land for non-agricultural uses is required, the process is unduly cumbersome and involves great uncertainty. The land values have been increasing all over the country, and the charges levied by states for conversion of agricultural land further increases the cost of land. Furthermore, in the absence of a specific category of land for the purpose of warehouse, warehousing is classified as 'commercial', escalating the land cost even further. To keep the cost of land within reasonable limits it is important that the states reduce the fee for conversion of agricultural land for warehousing purposes.

4.31 To make land available for the construction of warehouses it is important that adequate provision is also made in the Master and Area Development Plans in urban areas for land use for warehousing purposes, taking into account all relevant factors such as population, per capita income, and industrial/agricultural growth. With the modernisation of warehouses and increase in rentals, there will be a growing need to use vertical space. Modern storage and handling equipment, such as Automatic Storage and Retrieval Systems and Very Narrow Aisle Storage Systems, are feasible with heights of 17 metres and above. For this reason it is necessary that building height restriction and maximum permissible Floor Area Ratio (FAR) are relaxed for the construction of warehouses.

4.32 Availability of land for construction of warehouses can be enhanced considerably by the IR, which owns large parcels of land at a number of sidings. The Railways could identify the sites suitable for warehouses and invite expression of interest from entrepreneurs for construction of warehouses. The identified sites could then be bid out for the construction and operation of warehouses on the basis of BOT (revenue sharing). Such an arrangement could create a large warehousing capacity at a reasonable cost, and at the same time the Railways could get substantial revenue without having to alienate the land.

4.33 One of the factors constraining investment activity in warehousing is that, like many other infrastructure projects, it involves a long gestation period and yields a relatively lower return on capital. For these reasons commercial banks and other financial institutions are generally averse to lending for infrastructure projects. In view of the critical importance of the infrastructure projects and the high priority attached by the Government of India to such projects, the Reserve Bank of India (RBI) has issued guidelines to facilitate infrastructure financing, including the grant of term loans. These guidelines apply to credit facilities provided to borrower companies engaged in (i) developing, (ii) operating and maintaining, or (iii) developing, operating, and maintaining infrastructure facilities. However, the list of infrastructure projects does not mention logistical parks, although industrial parks and SEZs are included. Similarly, while construction for the purpose of preservation and storage of processed agro-products are mentioned, general purpose warehouses are not. It is important that warehouses and logistical parks are also brought on par with other infrastructure projects for the purpose of financing by the commercial banks and other financial institutions.

CONTAINERISATION: THE KEY TO LOGISTICS EFFICIENCY

4.34 Containerisation of cargo over the recent decades has led to the development of the multimodal transport system and made possible rendering of end-to-end service by 3PL players. Increase in the proportion of containerised movement of cargo can contribute greatly towards reducing overall logistics costs in the country and improving the cost competitiveness of its enterprises. Containerisation in India has made modest progress with respect to EXIM trade during the last decade but still lags far behind the containerisation in developed and more advanced developing countries. Containerised tonnage aggregated about 105.11 million MT and constituted 14.32 per cent of the total traffic handled (732.76 million MT) in 2008–09 by the Indian ports. For the major ports, this ratio is higher at around 13 per cent. The share of container traffic in general cargo (excluding bulk cargo) at major ports was 34 per

cent in that year. The relative low proportion of containerised freight traffic can be attributed to the costly and inadequate delivery systems in the country, which has prevented Indian shippers from reaping the gains of well structured and efficient logistics value chains.

4.35 In domestic freight movement, the share of containerised freight movement is even lower. As regards movement of containers by rail, it is estimated that domestic container traffic constitutes about 20 per cent of the total container traffic. Some of the private container operators to whom the Railway container operation has been opened up are either wholly or primarily in the domestic container business.

4.36 It is estimated that in future, container traffic will rise in the country under the impact of rapid economic growth and increasing trade intensity. The Eleventh Five Year Plan Working Group estimated that Indian ports would start handling around 14 million TEUs of containers by the end of the Eleventh Five Year Plan, growing at approximately 18 per cent from the level of 5 million TEUs handled in 2005–06. This would entail a very large growth in transport capabilities, with almost 100 per cent international cargo needing to be evacuated out of port areas through the country's trunk transport network before they reach the hinterland. The demand for strengthened transport network could be much higher once the planned hubs for manufacturing such as SEZs, Textile Parks, and Petrochemical Product Investment Regions (PCPIRs) become fully functional, further accelerating the demand for multi-modal transport in country. On the domestic side also, the expectation is that the container traffic will grow once more terminals get developed by the private operators across the country, connecting points of origin and destination of traffic amenable to container movement.

4.37 The above would necessitate the following:

- The development of substantial capacities at gateway ports and gateway airports to enable seamless handling of vessels/ aircrafts with a view to optimising vessel handling and other terminal handling/ transfer related costs, and facilitating faster evacuation so that these terminals are able to operate at very high efficiency levels;
- The creation of matching transport capabilities and capacity for evacuation of consignments, including containers, by rail and road, the two dominant modes of transport. In addition, it would be necessary to revive/strengthen coastal carriage of cargoes in some sectors as part of the total inter-modal package;
- Strengthening and developing of suitable inter-modal terminals as integrated transport hubs in the hinterland, which will ultimately emerge as the 'logistics hubs' and facilitate transfer of containers from one mode to another mode for final connectivity with the actual points of origin/destination of cargo.

4.38 Once enough capacities are created, the share of containerised cargo in India's total general cargo trade (excluding bulk cargo) is likely to increase to around 70 per cent.

GATEWAY TERMINALS: CARRIAGE CAPACITIES AND CAPABILITIES

4.39 At present, over 90 per cent of the container handling remains confined to the gateway ports located on the west coast of India, with Nhava Sheva (Jawaharlal Nehru Port) handling almost 56 per cent of country's

container traffic in 2005–06. Cargo traffic is concentrated on the west coast ports, with even Far East cargo finding better exit/entry through the ports located on the west coast. A majority of the country's container traffic gets routed through the Jawaharlal Nehru Port, causing tremendous pressures on the heavily strained infrastructure of the existing container terminals at the port. The only other port with reasonably adequate rail connectivity is Chennai. The last three years have seen growth in rail movements over corridors linking Pipavav and Mundra with North India also. Apart from these four ports, the inland penetration levels, facilitating movement of cargo to the ports, is poor on account of no or inadequate rail connectivity. Furthermore, on account of deficiencies in navigation channels and capacity constraints in ports, the international container traffic in the ports on the eastern seaboard apart from Chennai has been very limited. This may change in the future as a result of the initiatives taken to extend PPP in the Port sector. There are expansion plans on the anvil for ports such as Visakhapatnam, Haldia, Kolkata, Tuticorin, and Cochin. The capacity constraints in these ports as well as rail connectivity with the hinterland will need to be addressed in order to increase containerisation of internationally traded goods.

4.40 A substantial proportion of the containers handled at the gateway ports are moved by rail/road vehicles and only a very small percentage is moved through coastal shipping. The first major mode of carriage between gateway terminals and the CFSs located in port towns is road trailers, where the cargo is transferred from containers to open body / closed body trucks and vice versa. Nearly 72 per cent of containers handled at the gateway ports (around 60 per cent in the case of Jawaharlal Nehru Port) are handled in these CFSs. The major part of the movements between these CFSs and the shipper's premises are in cargo trucks, traditionally 9 MT trucks. A very small proportion of the cargo moves in containers between these CFSs and the shipper's premises, mainly within catchment areas of up to 400 kms.

4.41 The second main mode of carriage is railways, carrying around 24 per cent of the containers in the aggregate (the Jawaharlal Nehru Port share is higher). CONCOR is the country's established rail player that connects the ports to various rail and road linked ICDs of CONCOR and other players. Most of these hinterland ICDs also have direct road connectivity with the gateway ports, facilitating direct movement through roads. Such traffic movement from ICDs to gateway ports accounts for around 4 per cent of the total container handling at gateway ports. Overall, the hinterland ICDs handle around 28 per cent of total cargo, with port CFSs handling the rest. Even out of 28 per cent total cargo handled in ICDs, only around 70 per cent moves directly from/to shipper's premises in containers. The remaining 30 per cent gets stuffed or stripped into general cargo again, hence defeating the concept of truly multi-modal for 'Door to Door' deliveries.

Reach Of Hinterland Terminals

4.42 As mentioned earlier, the number of dry ports and hinterland terminals currently existing in India is inadequate for coping with the rapidly increasing cargo traffic. One success story in the hinterland terminal scenario is the establishment of CONCOR and the timely initiatives taken by IR and the Ministry of Commerce in the late 1980s. CONCOR has transformed the Indian hinterland by establishing as many as 58 terminals all over India, including seven terminals located in port towns. CONCOR's terminal in Tughlakabad (New Delhi) is the largest hinterland terminal

in the country today, handling a little over 0.4 million TEUs in the fiscal year 2007–08. CONCOR has also developed a terminal at Dadri with the capacity of handling 1 million TEUs.

4.43 Similar large hinterland terminals are needed elsewhere too. Besides CONCOR, there are other bodies, both public and private, which operate almost 30 other terminals in the country. Most of these terminals are linked to CONCOR's rail terminals, which serve as the primary hubs for rail-road transfer. These bodies have constructed godowns/warehouses all along the rail side, with parallel road connectivity provided on the off-side. In a recent development, licensed Rail players have either established or are planning to set up similar rail-road terminals of their own.

PLANNING FOR INTEGRATED LOGISTICS HUBS

4.44 A logistics hub is envisaged as a mega logistics park where all activities relating to logistics—both for national and international transit—can be carried out on a commercial basis by independent operators. The operators may be either owners or tenants of the buildings or facilities (warehouses, distribution centres, storage areas, offices, truck services, railway container operators, etc.) located in the hub. A logistics hub has to be freely accessible to all companies and must also be equipped with all the public facilities necessary to carry out the above-mentioned operations. In order to facilitate inter-modal transport for goods handling, a logistics hub should preferably be served by a variety of transport methods (roads, rail, sea, air, or inland waterways). It should have one window facility for catering to all customers, be they related with export–import or with domestic trading. The design of these hubs should be guided by international best practices.

4.45 The Working Group recommends that while CFSs, ICDs, warehouses, and logistics parks are being developed at various places in the country by private and public sector undertakings, initiative should be taken for establishing 15–20 mega logistics parks as logistics hubs in the country in a planned manner. These hubs should be located at major transportation hubs, including the origin and destination points of the proposed DFCs, or near consumption centres or industrial complexes, to be identified with a national perspective. Some locations may qualify against more than one criterion identified above. Such an initiative would give a big boost to 3PL activities and would be instrumental in bringing down logistics costs. The availability of larger space within the hubs will enable the 3PL operators to provide the full range of services, including value added services. Industrial undertakings as well as retail chains will find it useful to have their needed inputs and finished goods stored in the warehouses in the logistics hubs until required by them.

4.46 The identification of locations of these logistics hubs should be done by assigning a study to a consulting company such as RITES, in collaboration with industry associations such as the Association of Container Train Operators (ACTO) and the Association of Multimodal Transport Operators (AMTO). The study should map out the existing gateway terminals, the overlapping footprints of the rail–road networks, and the hinterland addressed by the terminals and then identify key exchange points where goods can be transferred for carriage on the 'last mile'. A view should be taken on whether these hubs should be created as new infrastructure or alternatively be built upon certain existing ICDs, which can be converted into logistics hubs by expanding the area and providing additional facilities. As large areas of land will

be required for setting up these logistics hubs, the participation of the state governments in the exercise for identification of suitable locations will be important.

4.47 An illustrative list of possible locations that may be used to identify these hubs is presented in Annexure C. As and when individual locations for logistics hubs are identified, a consortia of companies engaged in the logistics field could be invited to undertake the establishment of hubs with the understanding that the Central government would provide the road and rail connectivity and the state government would facilitate the acquisition of land as well as supply of electricity and water.

4.48 The spread of logistics parks across the country and adoption of hub and spoke structure would make it essential to create an interface between various modes of transport so that the movement to and from these parks is not constrained. In tandem with rail/road integration, air freight should be more closely integrated into the transport planning process.

4.49 The progression towards an integrated transport system will also necessitate the creation of a central body whose charter will be the development of the logistics industry, with a view to decreasing logistics costs through integration of transport services. This central body would address several issues relating to reorganisation of the industry and undertake streamlining of the industry, while at the same time provide critical inputs to the policy makers and address other issues raised in the preceding chapters.

CENTRAL LOGISTICS DEVELOPMENT COUNCIL

4.50 The Working Group recommended that a Central Logistics Development Council (CLDC) be created as an advisory and recommendatory body for the development of the logistics industry in India. The Council would consist of representatives of the following: logistics services providers, including ACTO; Ministry of Railways; Ministry of Shipping, Road Transport & Highways; Ministry of Civil Aviation; Ministry of Commerce; four state governments (North, East, South, West) on rotational basis; Confederation of Indian Industry (CII); major shippers from the steel, cement, FMCG, and consumer durable segment; and financial institutions, insurance companies, and academic institutions.

4.51 The CLDC would advise the government on regulatory and policy issues, based on information and analysis, to facilitate the development of an optimum, efficient, resilient, environment friendly, and safe logistics system in the country. A Ministry should be designated as a nodal Ministry to the CLDC for the purpose of addressing the requirements of an integrated transport and logistics system in India. To facilitate these tasks, the CLDC would be authorised to collect the requisite information pertaining to the players and the logistics industry, which would serve as the foundation for analysis, resulting in advice on policy issues, as well as the creation of a data bank for the industry, through the creation of a portal. The Council would be funded by the logistics industry.

4.52 The CLDC would hold consultations with experts from the logistics industry as well as government Ministries and Departments, agencies and institutions concerned with logistics in India, such as the Department of Road Transport and Highways, Department of Shipping, Ministry of Civil Aviation, Department of Expenditure, Department of Revenue, Ministry of Commerce, Ministry of Railways, CII, Motor Transport Congress or

other associations, major shipping and transport companies, financial institutions and insurance companies, academic institutions, and transport sector workers. The CLDC would also create guidelines for self-regulation by the industry.

4.53 The CLDC would facilitate the process of registration of entities wanting to operate in the Indian logistics industry, by recommending the necessary provision in the concerned legislation. Any entity concerned with logistics operations—such as the owner of trucks, association of drivers, transport companies (all modes of mechanised transportation, i.e. rail, road, air, inland water, sea), common carriers, logistics companies, warehouse operators, CHAs, freight forwarders, NVOCCs, 3PL and 4PL providers, and multi-modal operators—would be benefited by registering themselves with the CLDC as such registration will improve their visibility and business prospects. All details of registered entities would be disseminated amongst the industry players and displayed at the CLDC's portal.

4.54 The setting of tariffs and pricing would not fall under the purview of the CLDC. However, in order to establish standard trading documents for financial transactions and bill discounting, the regulations governing the relationship between the consigner and the logistics provider with respect to the contract, terms of conditions, etc. between the two would be determined by the CLDC. With the objective of moving towards an efficient and transparent logistics sector, the Council would also recommend minimum service standards for operation of the logistics services and eventually move towards rating of each entity in its category.

4.55 Due to poorly qualified and trained manpower, especially in the road transport industry, the level of productivity for entry level workers is very low. Training and certification of logistics manpower would also be taken up by the CLDC in order to complement the training initiatives undertaken by the government.

Portal Solution For Logistics Industry

4.56 The CLDC would also take up the creation of an integrated logistics portal. To start with, this would be limited to road transport, but possibility should be kept open to expand to rail and maritime modes by suitably interfacing with the FOIS of Railways, information system of container operators, including CONCOR, and EDI–PCS of ports. The freight exchange would have several key features, such as: (i) information services regarding vehicle availability, rates and schedules, route maps, legal and statutory information, fuel prices, logistics services e-Directory; (ii) Contracting services such as transporter profiling, short listing, and contract finalisation services; (iii) tracking systems for vehicles and consignments; (iv) posting of users' transport enquiries and receipt of offers/quotes; (v) online negotiations; (vi) return load planning and fulfilment; (vii) online payment solutions; (viii) logistics operations software and information system solution for transport operation; (ix) offline contracting; (x) transit insurance; and (xi) logistics and transport related jobs. In effect, the portal would function as a freight exchange. This portal should be operated by the CLDC along with the participation and support of state governments, insurance companies, banks and financial institutions, petroleum companies, shippers, consignees, and toll collection agencies.

4.57 The portal would initially work as an information exchange platform on rates, and would progressively move towards online operations and transactions in a phased manner. For online transactions, all commercial documents used in

domestic trade and inter-state movement, as also for EXIM trade, may need to be standardised and made available for online perusal through this portal. The entire transaction from the booking by the shipper to the payment of insurance to the final delivery of goods (damage-free, full in quantity) can ultimately be tracked and carried out online. The portal would also enable online payment for services contracted and used. The freight charges can be apportioned pro rata, and credited to a logistics service provider for overall logistics management, to an insurance company for insurance costs, to the transport company for transportation costs, and the warehouse for transit storage costs.

4.58 The state governments would provide an interface with the register of driving licences and database of commercial vehicle registry certificates online to this portal. It has already been envisaged to issue smart cards for drivers for the truck drivers for their identification while they are on the move, by the Ministry of Road Transport and Highways. Any other entity involved, such as consignee, warehouses, logistics service provider, etc., would be able to keep track of their consignments through this portal.

4.59 The CLDC would determine the location of the terminals with the interfaces of this portal initially, and ultimately this portal would have its terminals at weighbridges, toll plazas, state borders check posts, shippers/consignees offices, and all freight booking and delivery points of different modes of transportation. The weight checkpoints/state border checkpoints would also have other data readers such as Range Finder / magnetic swipe/smart card readers, so that such vehicles that do not operate with Global Positioning System (GPS) could be tracked in transit and their data made available at these points well in advance for smooth and seamless movement of vehicles. This would require a comprehensive solution of GPS based vehicle tracking/communication equipments, up-to-date Geographic Information System (GIS) maps, call centres, portals, and service providers.

4.60 A central authority has been successfully created with private sector participation in Hong Kong, as described in Box 4.1.

NATIONAL ROAD SAFETY AND TRAFFIC MANAGEMENT BOARD

4.61 The Department of Road Transport and Highways has constituted a committee to deliberate and make recommendations on the creation of a dedicated body of the National Road Safety and Traffic Management Board, through an Act of Parliament. The proposed Act also has enabling provision for setting up state level Boards. Extracts of the functions of the Board as recommended in the report of the Committee are provided in Annexure D. Although the creation of the National Road Safety and Traffic Management Board is crucial from the perspective of road safety, it is suggested that more specific initiatives may also be undertaken by district level organisations for providing transport

TRANSPORT EMERGENCY SERVICES

4.62 India ranks as the country with the highest number of road accidents in the world. Today, when there is an accident, the responsibility devolves on the logistics operators to coordinate between all different agencies to address issues arising from the accident. However, the logistics operator does not maintain constant contact with the movement of *trucks en route,* nor does he have local presence to enable him to take action immediately after the occurrence of an accident.

Box 4.1: 'Logistics Hong Kong': Public–Private Consortia

The objective for the 'Logistics Hong Kong' initiative by the Government of Hong Kong is to develop Hong Kong as the preferred international and regional logistics hub and a supply-chain base. To support the 'Logistics Hong Kong' initiative, two new institutions were set up, these being the Steering Committee on Logistics Development (LOGSCOM) and the Hong Kong Logistics Development Council (LOGSCOUNCIL).

Chaired by the Financial Secretary, the LOGSCOM was formed to provide policy inputs for logistics development. The LOGSCOUNCIL is a committee appointed by the Financial Secretary, with 40 members from the public and private sectors and chaired by the Secretary for Economic Development and Labour. It implements the policies set by LOGSCOM. It also provides a forum for the public and private sectors to discuss and co-ordinate matters concerning 'Logistics Hong Kong' and to carry out joint projects. The work of the LOGSCOUNCIL is supported by five project groups:

- E-logistics Project Group (cyber and IT infrastructure),
- H-logistics Project Group (human resources),
- M-logistics Project Group (marketing and promotion),
- P-logistics Project Group (physical and regulatory infrastructure)
- S-logistics Project Group (support for small- and medium-sized enterprises).

What is required is the development of state and district level machinery to address health, safety, and environment impacts of accidents locally. A framework for action during emergency response situations can be developed, along with an accountability and authority matrix for decision making. The Highway Rescue Project, promoted by the Baroda-based Lifeline Foundation, provides emergency medical services along highways in Gujarat and Maharashtra. Efforts to replicate this are being made by the Save Life Foundation of Kolkata, in order to take initiatives to establish emergency medical services in West Bengal. Such initiatives taken by non-governmental organisations (NGOs) require to be strengthened through participation by state authorities. At present, the Central Sector Scheme, namely National Highway Relief Service Scheme, a component of the broader Road Safety Scheme, is under implementation. Under this scheme, cranes and ambulances are provided to the state governments and hospitals identified by the Ministry of Health &Family Welfare and to NGOs to provide medical care to the road accident victims within a reasonable time frame. This scheme needs to be publicised and its scope enlarged once such road safety schemes come under the aegis of the National Safety and Traffic Management Board, which is presently under consideration of the Central government.

INTEGRATED TRANSPORT PLAN AND POLICY

4.63 Various modes of transport differ significantly from one another in terms of capital

intensity as well as technical and operations capabilities. This has necessitated setting up of organisations and agencies manned by experts specialising in a particular mode of transport. But this development has been, to a large extent, responsible for undermining the significance of multi-modal integrity of the transport sector as also that of inter-modal articulations within the transport sector.

4.64 The reasons that have led to specialisation also make it desirable to organise transport planning in an integrated way. Another reason which necessitates integrated transport planning is that transport bears a direct, though complex, relationship with various sectors of the economy. As a matter of fact, the central objective of any transport planning or policy is to enable the creation of a transport system—a system in which each mode of transport plays its role and this role should be determined on the basis of its comparative resources cost advantage.

4.65 Keeping in view the above objective, the Planning Commission has commissioned RITES to carry out Total Transport System Study. The main objective of this study is to determine the desirable share of each mode of transport on the basis of resource cost and formulate the policy measure required to achieve the desired inter-modal mix.

4.66 The formulation of an integrated transport plan and policy on the basis of such a study would help in reducing the overall transport cost and provide the country with an efficient transport system. The Working Group, therefore, recommends that such Study should be carried out periodically by the Planning Commission.

Chapter 5

Logistics Processes and Procedures

5.1 This chapter examines the different procedures, processes, regulations, and rules related to Customs, road transportation, and warehousing that impact on the logistics environment.

REDUCING TIME TAKEN IN CUSTOMS PROCEDURES

5.2 In accordance with international practice, goods imported into or exported out of the country by sea, air, land, or rail routes are governed by the provisions of the Customs and other laws of the country related to entry into/ exit from the country. Customs ensures that the import and export of goods are in compliance with the Indian Customs Act, 1962 and other laws in force. Accordingly, Customs authorities are expected to provide clear and predictable procedures by which the goods can enter the country and get cleared on payment of applicable import duties, fulfilling the requirements of the law of the land.

5.3 To regulate and to exercise effective control over import and export activities, goods are allowed for import/export at notified places under Section 7 of the Indian Customs Act, 1962. Custodians are appointed under Section 45 of the Indian Customs Act, 1962 for safe storage of goods until they are cleared for home consumption or warehoused. Clearance of goods involves classification, assessment, examination, and payment of customs duty on imported cargo on the basis of the Bill of Entry presented by the importer or his authorised agent. The Central Board of Excise and Customs (CBEC) have prescribed the procedures through notifications, rules, regulations and circulars that are implemented by field formations. These are updated and modified from time to time in the light of experience in order to improve the efficiency of the system.

5.4 Two Inter Ministerial Groups (IMGs) were set up to study the Customs procedures in detail, one dealing with Ports and CFSs and the other with Airports and Air cargo. The IMG, which had members from the Department of Commerce, Department of Shipping, Planning Commission, and the Ministry of Civil Aviation, examined the issues in consultation with the stakeholders. The IMGs were able to identify and address Customs related issues that need to be resolved for securing the expeditious clearance of goods. A summary of specific recommendations made by the IMG-Port and CFS and IMG-Airport and Air cargo is contained in Annexures A and E, respectively.

5.5 The important issues regarding which the IMG-Port and CFS made recommendations relate to Risk Management based Customs clearance, expeditious clearance of goods from port area, EDI based Customs control, integration of Customs EDI with other agencies, transshipment, amendment to Import General Manifest, bank guarantee and 'multiple bond' issue, consolidation of LCL cargo, conversion of 'foreign going vessel' for coastal run, and e-payment of customs duty. The Group also considered policy issues such as expeditious clearance of uncleared/unclaimed cargo and 24X7 operations of customs at ports and made

suggestions in some areas, for example in temporary importation of containers, import of sludge oil, bunkering for coastal vessels, and spares used in ship repairs for coastal vessels for considering tax exemption.

5.6 The recommendations of the IMG-Airport and Air cargo covered broadly similar issues, viz. Risk Management based Customs clearance, expeditious clearance of goods from air cargo complex, EDI based Customs control, integration of Customs EDI with other agencies, transshipment – uniform and simple procedure, amendment to Import General Manifest, bank guarantee waiver, etc. The Group also considered policy issues that were equally applicable to ports and airports/ air cargo uniformly and suggested adoption of certain trade facilitation measures.

5.7 A consultant appointed by the Airports Authority of India to report on measures to reduce the dwell time in the clearance of air cargo has pointed out that the scope of the RMS for import clearances is restricted and the e-payment facility for duty payment has low penetration. Further, the consultant has also pointed out that the scope of RMS should be progressively increased and the number of authorised banks for customs duty e-payment should be increased. The EDI has been implemented partially and there are reliability issues with regard to IT infrastructure and Indian Customs and Central Excise Electronic Commerce/ Electronic Data Interchange (EC/EDI) Gateway (ICEGATE) application. EDI between Customs and custodians is low in general across air cargo complexes at the major airports. The Customs IT infrastructure needs to be upgraded. Concurrent audit of appraisal of Customs value of import goods and assessment of duty is time consuming and needs to be replaced by post-clearance audit function for reduction of dwell time.

REDUCING DWELL TIME IN RESPECT OF NON-CUSTOMS RELATED PROCEDURES

5.8 Another IMG has made a number of recommendations relating to aspects other than Customs to reduce the dwell time at ports, of which the following are important:

(i) Acquire more sophisticated and modern equipments to enhance efficiency in cargo handling as per the list drawn up in the Working Group's Report for the Eleventh Five Year Plan. This has already been discussed earlier in Chapter 3.

(ii) Synchronise landside operations with seaside operations by efficient management of traffic flow; for this purpose, acquire more dumpers and pay loaders as necessary.

(iii) Draw up and adhere to proper maintenance schedule of cargo handling equipment to ensure zero breakdown of equipment during operations.

(iv) Introduce round the clock (24x365) working of navigation, operations, and documentation to eliminate delays. Implement hot seat exchange system to eliminate time lost in shift changeovers and recess hours. Deploy Vessel Tracking Management System (VTMS) and Automatic Identification System (AIS) in the ports where necessary. Each port should undertake a study of the navigational infrastructure requirements and implement the optimum design to ensure round the clock navigation.

(v) The marine resources of ports such as floating crafts, tugs, and crews need to be augmented to enable them to deal with

higher volumes of vessel traffic. Higher bollard capacity tugs should be acquired to improve the operational capacity in pilotage and towage. Pilot cadres need to be strengthened. Alternatively, the entire pilotage services should be outsourced.

(vi) Mandate ports to invest in four-lane reinforced cement concrete (RCC) roads within the port area. Unidirectional traffic flow should be introduced to eliminate crisscrossing and traffic congestion. The approach roads to ports should be of six-lanes with no surface crossing.

(vii) Increase the number of hoppers used for handling bulk, especially food grains and fertiliser, in ports handling dry bulk by conventional methods.

(viii) Introduce e-environment to eliminate physical interface in filing of port documents, assessment and payment of charges, and flow through gates.

(ix) Standardise processes in the ports after identifying the best practices for various activities. Implement ERP system to enable the ports to utilise their resources efficiently.

(x) Implement PCS. In the port of Singapore, a single window environment is provided to enable the user to access all the statutory bodies. The user files a single document online and the same is communicated to various statutory bodies for approval online. The system provides a one-stop-shop solution for traders, enabling them to fulfil all export, import, and transit related regulatory requirements at a single entry point and cuts down the turnaround and labour cost, thereby reducing logistics costs.

(xi) While granting stevedoring licences a minimum set of equipment and gear and transport vehicles should be made mandatory to ensure transfer of large volumes of cargo in a shorter time.

5.9 A consultant appointed by the Airports Authority of India has made recommendations on the issue. The following are the key recommendations:

(i) Electronic data exchange between Customs and the custodians should be increased for reducing manual interface. Similarly, information on all export–import promotion licences/schemes (and not only Duty Entitlement Pass Book (DEPB) Scheme as at present) should be exchanged in electronic format between the Directorate General of Foreign Trade (DGFT) and Customs for assessment of import declaration through Risk Management System.

(ii) Increased provision should be made for e-payment facility for custodian charges.

(iii) A community based system for air cargo clearance should be established to enable single window filing of all trade declarations. After the filing of the documents these should be forwarded to the concerned department for processing and communication back to the user. The system should be on the same lines as recommended at serial number (x) for ports above.

(iv) There should be increased automation for cargo handling and modern technologies such as hand-held terminals and barcodes should be deployed. The use of such technologies can yield significant

benefits by reducing manpower and cutting logistics costs.

(v) A vehicle/truck control system should be introduced to improve efficiency on the land side of air cargo complexes and reduce congestion. Such systems should provide for agents to request and receive slot times for their cargo delivering vehicles.

(vi) Airport operators should build in provisions for receiving and handing over unitised cargo (i.e. containers and pallets) at the terminals to improve cargo handling infrastructure at the air cargo complexes.

(vii) The operators of major airports should be mandated to set up facilities for perishable centres of adequate size and design to cater to the requirement of handling perishable cargo, including pharmaceuticals and imported cargo. Each such centre should have the necessary facilities such as hermetically sealed truck doors, X-ray machines, forced or vacuum cooling facility, and adequate number of storage units at different temperature ranges.

(viii) Air cargo is included in the purview of regulation by Airport Economic Regulatory Authority (AERA). In order to ensure adequacy of facilities at air cargo complexes, AERA could monitor the adequacy of cargo related infrastructure at the airports. It could also set down appropriate performance standards in terms of provision of requisite facilities with respect to air cargo.

5.10 The Working Group recommends acceptance by the government of these key recommendations. In respect of both Customs related procedures and the recommendations made for reducing the dwell time on aspects not related to Customs, the Working Group also recommends that a High Level Review should be conducted immediately on the progress made in simplifying Customs procedures according to the recommendations of the IMG, which have been accepted by government.

ELECTRONIC DATA INTERCHANGE FOR DOCUMENTATION

5.11 The government has taken a bold step in allowing the widespread usage of electronic documentation for transactional purposes. However, for a number of reasons the EDI usage is low and manual interface is still widespread in both ports and airports.

5.12 The Working Group recommends that a single window environment should be provided to enable the user to access all the statutory bodies. The user should need to file a single document online and the same should be communicated to various statutory bodies for approval online. The system would provide a one-stop-shop solution for traders, enabling them to fulfil all export, import, and transit related regulatory requirements at a single portal. This would imply a replication of the single window environment adopted in Singapore, which has been recommended by the IMG on reducing the dwell time for clearance of seaborne cargo. To make a single window feasible and the EDI operational for all stakeholders, the forms would need to be standardised and IT framework strengthened.

ROAD TRANSPORT PROCEDURES

5.13 Road Transport is primarily a state subject (Entry 13 of State List). Taxation of goods and

passengers as well as motor vehicles also falls within the purview of state government as per the constitutional framework of distribution of power between Union and states (Entry 56 and 57 of State List). The administration of these matters needs to be understood in this perspective.

Barriers To Road Transport

5.14 Barrier free movement of passenger and freight by road across the country is vital for efficient trade practices, economic development and growth, and reduction of logistics costs. In India, goods carriers are required to stop at state borders, to ensure verification/ checking of payment of taxes/ levies on the goods carried and for compliance of various provisions of the Motor Vehicles Act (MV Act), 1988. Internationally, goods carriers are not stopped when crossing borders between the provinces of federal countries, as in Canada, Australia, and the United States, and even within the EU.

5.15 Multiple laws and agencies governing inter-state movement of goods and vehicles are major impediments in the flow of goods across the country as they contribute significantly toward increasing the logistics cost in the country. The applicable laws governing movement of vehicles and freight across the country, details of which are given in Annexure F, are as follows:

1. Laws governing access control to National Highways:
   - National Highways Act, 1956;
   - National Highways Rules, 1957;
   - The National Highways Authority of India Act, 1988;
   - National Highways (Land and Traffic) Act, 2002;
   - Highways Administration Rules, 2003.
2. Laws governing inter-state movement of goods:
   - Central Sales Tax Act, 1956;
   - Various State Sales Tax /State VAT Acts;
   - Various Local/Municipal Acts governing Octroi and Entry Tax.
3. Laws governing inter-state movement of vehicles:
   - The Motor Vehicles Act, 1988;
   - The Central Motor Vehicles Rules (CMVR), 1989 (Amended in 1994, 2000, and 2002)
   - Various State Motor Vehicles Acts.

5.16 A typical goods carrier operator has to normally face seven different agencies for obtaining clearances for carrying goods or paying charges at the check post. These agencies are mainly the Sales Tax Department, Regional Transport Office (RTO), State Excise Department, State Forest Department, Regulated Market Committee, Civil Supplies Department (for check on the movement of essential commodities, black marketing, weights and measures, food adulteration), and Geology and Mining Department.

5.17 These checks are generally conducted by the respective agencies at separate points, resulting in more than one detention. Detention of vehicles results in lower speed, loss of time, high fuel consumption, and idling of vehicles, leading to under-utilisation of transport capacity and adversely affecting their operational

viability. The advantage of greater speed gained by building better roads is offset to a large extent by inter-state check posts (ICPs). Complexity in paper work gets translated into costs and leads to an increase in the operational/transaction cost indirectly.

5.18 Further, the road transport sector is subject to myriad levies and taxes (both Centre and state) with no provision for set-offs, leading to cost and price escalation, which erodes competitiveness of domestic manufactures. Taxes and non-tax charges on the road transport sector can be broadly classified into taxes on vehicle purchase; taxes on inputs for motor vehicles, such as fuel taxes, motor parts, tyres and tubes, etc; Sales Tax levied by the states, registration and transfer fees, and licence/permit fees; periodical vehicle tax (also called road tax); tolls, parking fees; octroi/entry tax; lease tax, and passenger and goods tax. The existing systems of sales tax administration, vehicle registration, vehicle registration plates, issuance of Driving Licence and its records system are predominantly manual and vary from state to state. The regulatory and inspection functions are still fully carried out by government agencies.

5.19 Activities at borders involve verification of compliance related to vehicle and its driver, including various certificates and licences (including road permit) and checking of origin, destination, value, weight, tax paid, and type of cargo. Non-compliance related to weight and taxation can lead to detentions and imposition of penalties. The process of checking is time consuming and also necessitates earmarking of space for safe parking at the state borders.

Cost Of Check Posts On Inter-State Trade

5.20 Check posts have economic costs related to surveillance and enforcement costs (operational cost), cost of compliance (time related value and cargo holding costs), and cost of negative externalities (congestion at check posts imposes costs on other vehicular traffic leading to loss of time). The enormous economic cost imposed by the check post system has been vividly brought out in the Grand Trunk Road Improvement Project (GTRIP 2006), which shows that the present check post system leads to considerable delays in road freight movement. The total economic cost of such delay is estimated to be in the range of Rs 3200 crore to Rs 4300 crore for the year 2004 and is expected to go up progressively to Rs 60,168 crore by 2017. With one billion people in India, the annual economic loss on account of the check post system is estimated at Rs 32 per capita in 2004.

5.21 Savings in compliance cost and time at the check posts could improve the profit margin of truck operations without any additional investment. According to the GTRIP Report, faster turnaround of trucks alone, in the absence of check posts, will improve the operational efficiency of the road transport sector by at least 5 per cent. According to the study, the loss due to delays at the check post is estimated at 119 hours per truck per annum, which is equivalent to 5 per cent of the 2370 hours that a truck, on an average, operates in a year. This is equivalent to a total loss of 181 million truck hours for the inter-state trucking industry alone, without considering intra-state checking. Savings on this account alone would have benefited the trucking industry to the tune of Rs 2360 crore in 2004, which is about 74 per cent of the economic cost imposed. Inter-state trade would benefit directly in terms of savings in cargo holding cost, i.e. inventory cost, estimated to be at a minimum of Rs 550 crore or 17 per cent of the total economic cost in 2004.

5.22 The economic cost imposed due to the present check post system constitutes as much as 0.2 per cent of India's GDP at constant prices in 2004. As a percentage of total revenue receipts of the Government of India in 2004–05, it is estimated to be in the range of 1.0 per cent to 1.4 per cent.

5.23 A sample survey of en-route expenses (Mumbai–Delhi route) (Debroy and Kaushik 2002) shows that a major share (around 52 per cent) of the total en-route expenses is spent on fuel and oil. Other expenses were as high as around 33 per cent, of which 73 per cent was accounted by unofficial payments (about 24 per cent of the total en-route expenses) for the Mumbai–Delhi route. The percentage of actual moving time to the total trip time was about 69 per cent, 54 per cent, and 38 per cent for the Mumbai–Delhi, Delhi–Kolkota, and Kolkota–Chennai routes, respectively.

Green Channel At Check Posts

5.24 With the proposed phase-out of the Central Sales Tax, it is possible that the state commercial taxes departments may consider strengthening rather than relaxing inter-state border checks. Their concern is not so much with incoming but outgoing cargo because of the possibility of tax evasion by showing goods as having left the state without the transportation of the outgoing cargo actually taking place. Any intensification of the system of check posts will be a retrograde movement as far as logistics costs in the country are concerned. It has, therefore, become imperative to use IT in order to ensure compliance with various legal requirements prior to the movement of goods and before the vehicle crosses the border check posts so as to enable 'green channel' treatment for unhindered movement of goods vehicles.

5.25 The establishment of a technology based computerised system, viz. Tax Information Exchange System (TINXSYS), at the initiative of the Empowered Committee of State Finance Ministers with the objective of tracking of inter-state transfer of goods and tracing them to a valid registered selling or purchasing dealer, could possibly provide the way out for alleviating the problems of road transporters. The TINXSYS now provides inter alia a dedicated network providing connectivity between the Empowered Committee office and the Headquarters of the Commissioner, Trade Tax Departments of 30 states/ Union Territories (UTs). The TINXSYS website has the facility for verification of dealer information. Dealer data migration has been completed by most of the states and IT and non-IT equipment has been installed in most states/ UTs. The portal and the application can be accessed through the website www.tinxsys.com.

5.26 A system could be devised whereby both the consignor and the consignee, who should both have a valid Tax Identification Number (TIN), could upload, on the TINXSYS website, details of the transaction along with the registration no. of the vehicle transporting the good. If the check posts are informed in advance of the movement of the vehicle the check posts concerned, having checked the details of the transaction from the TINXSYS website, could allow the vehicles to pass through the Green Channel. For such a system to be operated it would be necessary to equip the check posts with the necessary hardware and link them up with the countrywide network. The Working Group recommends that the Government of India should launch a Central Scheme to fund the computerisation of check posts on some key inter-state routes, such as the Golden Quadrilateral, to start with to deal with the problem. On the present indications the GST

is likely to be introduced in the country soon. Once this has come about it should be possible to develop a new system for tracking inter-state movement of goods in the GST regime, which could ensure that there is no loophole left for a trader to show intra-state sales as inter-state sales. This would minimise or eliminate the need to have check posts at the border. The Working Group recommends that an all-out effort should be made by the Central and state governments for developing such a system.

Motor Vehicle Taxation

5.27 In the Indian context, taxes on vehicles include import and excise duty (CENVAT) levied by the Central government, sales tax or State VAT levied by the state government, and octroi and entry tax levied by the local authorities (where leviable). Taxation of road transport has two purposes: one is to charge users for the costs they impose on the road system by their usage of the roads, and the second is to raise revenues for the government (pure taxation). The avowed purpose of motor vehicle tax is to defray the costs of road maintenance out of revenue realised from user charges. Further, motor vehicle taxation can also fulfil other objectives such as the reduction of congestion and pollution. However, multiple taxation objectives result in higher rates of taxation and complex tax structure, cross-classifications, and unintended economic and welfare effects.

5.28 Taxation on commercial vehicles needs to be related to the potential damage of the road by vehicular movement. The MV tax presently is levied on the basis of gross vehicle weight rather than on potential axle loads. This results in under-taxation of 2-axle trucks compared to multi-axle vehicles (MAVs). Since the former is a major source of revenue to states, there is a need for rationalisation of the tax structure in favour of MAVs to encourage their usage. Alternative measures such as Truck Equivalent Units can be taken into account for assessing the road damage caused by each type of commercial vehicle, and prescribing equivalent standard axle for the purpose of MV tax.

5.29 The rate schedules for motor vehicle taxation across states are not uniform and are often complicated primarily due to the large number of categories created. The bulk of the motor vehicle tax revenue is raised from stage carriages, contract carriages, and heavy as well as light commercial vehicles. The rate schedules are often complicated, primarily due to a large number of categories created. One of the states having a less complicated motor vehicle tax structure is Delhi, where all buses are taxed according to seating capacity and all trucks are taxed according to Registered Laden Weight (RLW). This system makes the tax structure quite simple and needs be adopted by other states too.

5.30 Further, the lack of uniformity in motor vehicle taxation across states also causes diversion of vehicle registrations to low tax rate states and thereby causes wide variations in the tax burden across states. At a minimum, it is suggested that efforts should be made to bring about parity in tax rates in the neighbouring states in regions with heavy inter-state vehicular traffic through periodical reviews and joint discussions on bilateral or regional basis among them.

5.31 It would also be desirable that the states amalgamate various taxes like road tax and goods tax on the vehicle and levy one single tax in view of the inherent advantages of reducing the cost of collection and saving in time for the vehicle owners. The experience of amalgamated taxes in Rajasthan and Andhra Pradesh shows that the magnitude of tax revenues realised does

not suffer due to such amalgamation. Some states are also collecting one-time motor vehicle tax on vehicles, which also reduces costs and time for compliance. Further, states should also consider entrusting a single agency with the task of collecting the MV tax, the passenger/ goods tax, and even fees for the national and international state permits, thereby making this process simpler and faster.

5.32 The procedure for issuing permits also needs to be simplified. The payments procedure for the National Permit fees causes inconvenience and time lags for the transporters due to the delays in forwarding the drafts of the fees by the home states and receipt of these drafts at the headquarters of the concerned states. The payment with respect to the composite fee for national permits should be allowed to be made in authorised banks in favour of the states concerned and the bank should be allowed to transfer the payment to the account of the concerned state. The detailed procedure in this regard could be worked out by the states and the select banks. Better still would be the introduction of a system of National Permit to be issued by the Central government on payment of a flat amount (say Rs 15,000 per annum) and the distribution of the annual proceeds among states according to the shares prevailing in the base year, which may be the year preceding the date on which the new system is introduced. In such a system, there would not be any requirement of endorsement by individual states.

5.33 In order to enhance inter-state road transport efficiency, it is also necessary to amend Section 158 the Motor Vehicles Act, 1988, so as to limit police powers for checking vehicle documents without the preliminary requirement of commission of an offence.

Carriage By Road Act, 2007

5.34 Earlier the law relating to the rights and liabilities of the common carrier was contained in the Carriers Act, 1865. Most of the provisions of this Act had become obsolete as the road transportation trade had undergone massive changes since its enactment. A class of intermediaries such as booking agents, brokers, etc. had emerged who play a vital role in the field of transportation and trade by road. That Act did not cover these intermediaries. The Carriage by Road Act, 2007 now covers the intermediaries by including them in the definition of common carrier. The common carrier has been defined in the Act as 'a person engaged in the business of collecting, storing, forwarding or distributing goods to be carried by goods carriages under a goods receipt or transporting for hire of goods from place to place by motorised transport on road, for all persons indiscriminatingly and includes a goods booking company, contractor, agent, broker and courier agency engaged in the door-to-door transportation of documents, goods or articles utilizing the services of a person, either directly or indirectly, to carry or accompany such documents, goods or articles, but does not include the government.' The main objective of the 2007 Act is to provide impetus to the transportation and trade by road by defining/ determining the liabilities of common carriers for the loss of or damage to the consignments under their charge on account of their or their servant's/ agent's negligence or criminal acts. The implications of this Act for the Logistics industry are as follows:

- Mandatory and single registration of the common carrier.
- Liability on the part of the common carrier in case of damage or loss of goods undertaken for transportation.

- Liability on the part of the common carrier for the offence of overloading in terms of Section 194 of the Motor Vehicles Act, 1988.

Electronic Collection Of Toll / In-Transit Charges

5.35 Electronic Toll Collection (ETC) is a fairly mature technology that facilitates electronic payment of highway tolls. ETC systems take advantage of vehicle-to-roadside communication technologies, traditionally via microwave or infrared communication, more recently via global positioning system (GPS) technology, to perform an electronic monetary transaction between a vehicle passing through a toll station and the toll agency. ETC systems require On Board Units (OBU), vehicle detection and classification, as well as enforcement of technologies. The benefits of ETC are increase in toll lane capacity, reduction in motorist waiting time, convenience for toll payers, fuel savings and decrease in automobile emissions by reducing or eliminating waiting times, and reduction in toll collection costs, and enhancement of audit control by centralising user accounts.

5.36 A policy framework that addresses the objectives, usage, standard technologies and inter-operability of payment systems needs to be developed. Also, vehicles using GPS equipment should be entitled to get a discount in the insurance cost. Further, the current Central, state, and PPP guidelines will need to incorporate compliance of the above framework for approvals, funding, etc. An initiative for developing the standard technology framework for inter-operability between different toll collection locations and payment gateways, e.g. banks, credit cards, etc., also needs to be made.

Need For Electronic Connectivity In Different Transport Departments

5.37 The current RTO databases in most states are not interlinked with each other. Due to the absence of data sharing amongst RTOs the authentication of drivers and vehicles is not possible prior to hiring of the vehicle. In such a scenario, the security of the cargo is at risk, especially for high value cargo such as FMCG, pharmaceuticals, food, etc. Computerisation of RTO records and interlinking of all RTO data, as is already being taken up by the Ministry of Shipping, Road Transport and Highways (MoSRTH), will greatly help to verify electronically the authenticity of vehicles and drivers. MoSRTH has developed standard software named 'SAARTHI' and 'VAHAN' for driving licences and registration certificates, respectively, which can be used by various states to bring about uniformity in the databases. Inter-office connectivity of the State Transport Department should also be made an integral part of various IT related projects so that the system can be used for efficient administration of the MV Act. Inter-office connectivity will subsequently be helpful during the integration of the data at the national level.

Chapter 6

Manpower Issues Related To Logistics

6.1 Logistics involves a complex exercise, involving operational, supervisory and strategic levels and spanning across various activities within the organisation, including customer service, demand forecasting and planning, inventory management, logistics communications, material handling, order processing, packaging, part and service support, plant and warehouse site selection, procurement, return goods handling, reverse logistics, traffic and transportation management, warehousing and storage, commercial and legal aspects, and tax administration.

6.2 Since logistics decisions involve a great deal of interaction within the organisation the personnel dealing with logistics need to be equipped with not only technical and functional skills but also behavioural skills. It is, therefore, important that manpower planning in logistics is based on a full understanding of the need to develop cross-functional, multi-skill based capabilities.

6.3 There is currently no universally agreed classification of logistics services. According to one available classification, the logistics services in India may be broadly classified into the categories shown in Table 6.1. For the purpose of training and skill development strategy, four hierarchical levels can be identified:

(i) Entry level;

(ii) Supervisory level;

(iii) Managerial level;

(iv) Owner/entrepreneurial level.

6.4 While there is no reliable data on employment in the logistics industry, the available data on the logistics industry in the country provides some guidance.

- There are 4.735 million commercial goods vehicles on the roads (as per 2007 figures) with an addition of approximately 10 per cent every year.
- Indian Ports handled 530.53 million tonnes of cargo in 2008–09 and the

Table 6.1: Typical Categories of Operations in Logistics Activities

Sl. No.	Category
1.	Cargo Agent
2.	Clearing and Forwarding Agent
3.	Container/Storage Services
4.	Courier Services
5.	Customs House Agent
6.	Freight Forwarder
7.	Inspection/Survey Services
8.	Marine Equipment
9.	Marine Surveyor
10.	Packers and Movers
11.	Ship Breakers
12.	Ship Builder and Repair Services
13.	Ship Owners
14.	Ship Registration Services
15.	Shipping Agent
16.	Shipping Handlers
17.	Transport Agent
18.	Warehousing
19.	Third Party Logistics Providers

general cargo loading is increasing at the rate of 12 per cent. Container traffic accounted for 17.55 per cent of the total cargo handled by Indian ports in the same year.

- Railways handled 833 million tonnes of cargo in 2008–09 and employed around 14 lakh people.
- Employment is also assessed to be substantial in the warehousing sector, with the emergence of many micro and small enterprises, as a result of the increased focus on outsourcing, and in-house warehouses of manufacturing and distribution companies.
- Substantial employment potential is seen in shipping and air cargo associated services, which is also projecting high growth.

6.5 Figure 6.1 provides a diagrammatic representation of the structure of the industry. From the manpower perspective there is a big divide between enterprises in the organised sector and those in the unorganised sector of the

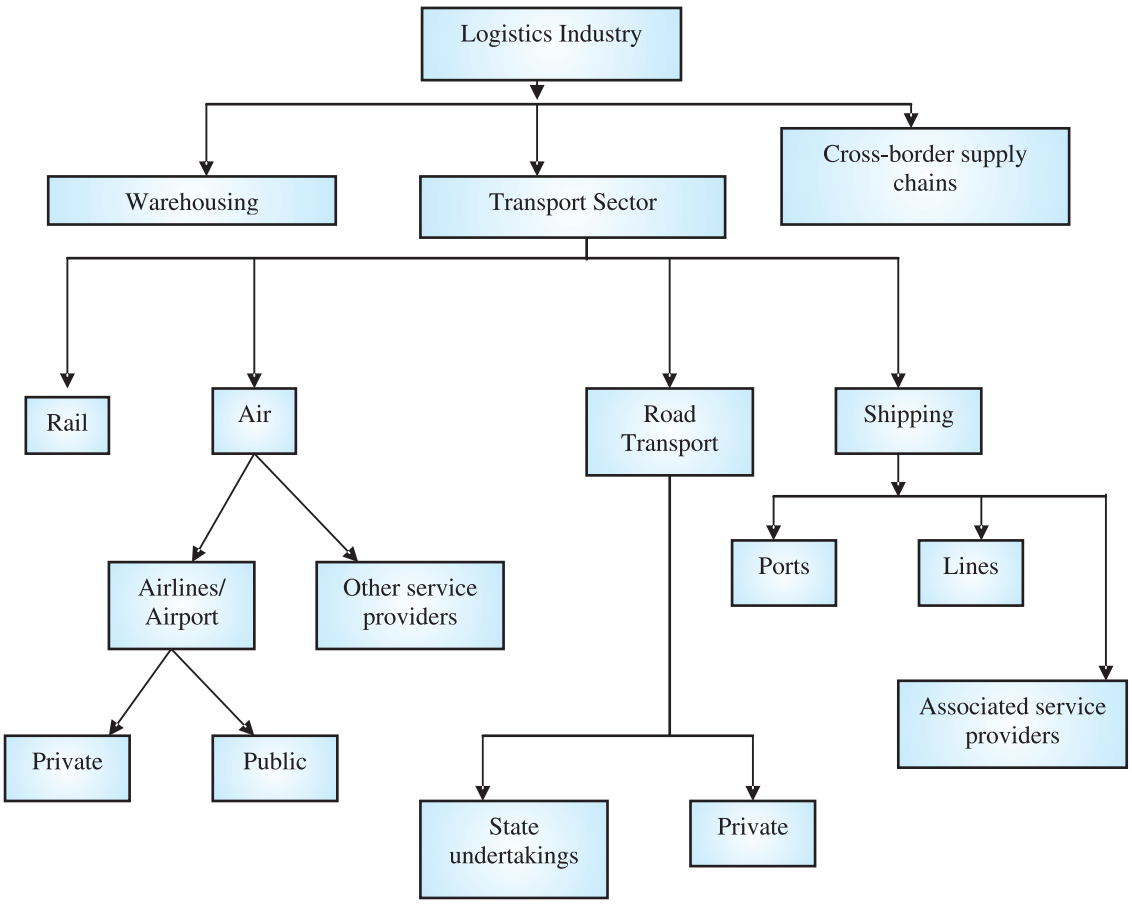


Figure 6.1: Structure of Indian Logistics Industry

industry. While the former have their systems of recruitment based on the minimum educational qualification and years of experience and scheduled training programmes, it is the training and skill development requirement of the enterprises in the unorganised segment which needs greater attention as these enterprises employ the majority of the logistics workforce.

EDUCATIONAL AND TRAINING REQUIREMENTS

6.6 Lack of skills and training in the logistics industry costs the economy in terms of transaction costs, damages, consequential losses, and supply chain inefficiencies. Amongst the four hierarchical categories the most crucial training requirements are at the entry and supervisory levels.

Drivers Of Transport Vehicles

6.7 Road Transport accounts for the bulk of the employment in the logistics sector. Drivers who form the backbone of this industry also constitute a group whose skill levels are very rudimentary. The poor skill set amongst drivers and the lackadaisical licensing systems of the State Road Transport Departments combine to escalate the commercial and social costs of goods transit by road transport. The commercial costs include high third party insurance charges, high price of carriage due to short supply of drivers, and high vehicle maintenance cost. The social costs are incurred due to: high rates of road accidents; damage to property, goods and life; pollution by vehicles; and damage to road infrastructure entailing a high road maintenance cost due to overloaded and underpowered vehicles.

6.8 There are acute problems with regard to training and licensing of drivers of Heavy Commercial Vehicles (HCVs). Licensing by state RTOs is done on the basis of a cursory test of driving ability and a minor written test on traffic rules and many times there is no test worth the name. To make matters worse, there exist a large number of fraudulent licences. There are no stringent standards for granting a commercial goods' driving licence. Further, the training of these drivers is almost absent. Cleaners who are illegally allowed to drive trucks graduate to become drivers in due course. There are very few schools for training on driving commercial vehicles established by enterprises, whether in the public or private sectors. There are only two model drivers training institutions for commercial vehicles in the country—one run in collaboration with Ashok Leyland in Namakkal and another run by the Delhi Government at Delhi.

6.9 This state of affairs with regard to training and licensing of drivers of HCVs despite the fact that the Motor Vehicles Act, 1988 has stringent provisions in this regard is deplorable. Section 9 of the Act requires that the applicant for a licence to drive a transport vehicle should not only pass a test of competence but should also possess minimum educational qualification as may be prescribed by the Central government and additionally have a driving certificate issued by a licensed school for imparting instruction in driving of motor vehicles. The Act provides powers to the Central government to make rules for the purpose of licensing and regulating such training establishments by the state governments. Rule 8 of the Central Motor Vehicles Rules prescribes the minimum educational qualification of pass in 8th class for grant of driving licence for transport vehicles. Rule 24 of the Central Motor Vehicles Rules lays down the detailed requirements for the running of training schools, including the minimum infrastructure and educational aids as well as the

syllabi for training of different classes of motor vehicles. The impression given to the Working Group was that in general the state government authorities are not maintaining sufficient control and supervision on the training institutions, as a result of which sufficient skills are not being imparted to the applicants before the licence is granted. In many cases, the training schools have become no more than an intermediary between the applicants and the licensing authority.

6.10 The poor working conditions and inadequate compensation of these drivers and attendants is another cause for the alarmingly low levels of productivity and efficiency. Due to the fact that drivers are constantly on the move, they become victims of social evils like health hazards, lack of hygiene and sanitation, as well as crimes and corruption.

6.11 A recent study conducted by the Indian Foundation of Transport Research and Training (IFTRT) on HCV drivers, made the following observations:

1. Overloading of trucks: On an average, 70 per cent of heavy trucks operating on inter-state / national permit operate cargo in excess of their prescribed weight limit. The failure of the enforcement authorities to regulate the operation of goods carriages and check overloading has an adverse impact on the physical road infrastructure and also the health and efficiency of truck drivers.

2. National Permit endorsement: A large percentage of trucks are operating in various states without payment of composite fee by fudging endorsements of additional states. Illegal truck operations and tax avoidance are widely prevalent in the unorganised sector in the country.

3. HCV drivers on National Permit vehicles: Heavy trucks operating on a National Permit are sometimes driven by a single driver notwithstanding the mandatory requirement of two drivers, as laid down in the Motor Vehicles Act.

4. Compensation and working conditions of truck drivers: The monthly salary of HCV drivers is in the range of Rs 2500 to Rs 3000, and Rs 1000 to Rs 1200 for the helper/conductor. Truck owners and transport companies do not implement the provisions of the Motor Transport Workers Act, 1961, which covers any motor transport unit/firm employing five or more motor transport workers and defines the process of registration of the motor transport firm, prescribes the hours and conditions of employment, welfare and health rules, and wage and leave laws. The appalling working conditions in the unorganised segment have further restricted the entry of quality and skilled workforce.

6.12 It has been estimated that about 0.5 million commercial vehicles are being added every year to the existing fleet of 4.735 million, resulting in an annual requirement of the same number of commercial vehicle drivers. Assuming that one training establishment can turn out 25 trainees every month there is a need for more than 1660 drivers' training schools for commercial vehicles alone. Given these numbers, meeting this requirement will be quite difficult. The existence of weaknesses in the current regulatory regime will make the task even more challenging. In view of the experience of inadequate supervision and control of the training institutions by the state governments, measures are needed to improve the regulation

of training institutions. One alternative for this could be to establish a centralised accreditation and quality assurance system for the training institutions. It is recommended that, while the licensing of training institutions for driving may continue to be with the state governments, the law may be amended to require them compulsorily to adhere to an accreditation and quality assurance system. The Central Motor Vehicles Rules, 1989 will need to be amended for this and, if necessary, the Motor Vehicles Act, 1988 will also need an amendment. The Central Institute of Road Transport (CIRT) at Pune will be a suitable body for being entrusted with the task of establishing and running such an accreditation system. In order to raise the standard of manpower in the road transport sector, it would be the CIRT's task to ensure that the training institutions are properly equipped with training modules and staffed with qualified trainers who themselves have received training in CIRT or other institutions of a comparable level. It is not enough for the Central government to specify the syllabus on a skeletal basis in the Central Motor Vehicles Rules, and the CIRT should be charged with the task of development of the course material in detail and updating it from time to time. It can draw upon the courses offered by the International Road Union (IRU), which imparts training in the area of road haulage both for national and international transportation, and design courses in line with the IRU curriculum to equip the drivers with the necessary knowledge to contribute to the efficiency of the logistics functions.

6.13 An important element in the strengthened regulation of training institutions for transport vehicle drivers will be to ensure that these institutions have adequately trained staff. For this purpose adequate facilities need to exist for training of trainers. The MoSRTH is in the process of formulating a Central Scheme for establishing one training institute on driving and research in each state (two in the larger states) for addressing the training needs of driving motor vehicles. The central task of these institutes should be to produce training instructors. It may also be necessary for the CIRT to oversee the establishment of courses for training of instructors in the model schools besides undertaking training activities itself for the production of training instructors on a larger scale. In due course it should be made compulsory for the licensed driving schools to engage instructors who have passed out from these institutions.

6.14 The regulator in the insurance industry, namely the Insurance Regulatory Development Authority (IRDA), has made it compulsory that a candidate seeking an Insurance Associate license complete a course and take an exam. Another example is the mining sector where safety is a primary consideration. Licensing of mine labourers, supervisors, and foremen requires the taking of examinations conducted by the Director General of Mine Safety. Parallels also exist in the shipping and air transportation industries where such qualifications are deemed necessary. Similarly, it should be necessary for drivers and mechanics to take courses in the classroom as well as on site. When the accreditation and quality assurance programme suggested above becomes operational the CIRT could conduct the written tests for the trainees before they are declared to have successfully completed the training programme.

6.15 It is also necessary to provide for the training needs of the existing stock of drivers who have already obtained a driver's licence for transport vehicles. An amendment in the Motor Vehicles Act, 1988 would be necessary,

making it possible to impose a requirement for undertaking compulsory short-term orientation courses before the drivers' licence is renewed. The CIRT could be asked to develop the content of such courses so as to include training on such matters as observance of traffic rules, good driving practices, and conservation of fuel. Vehicle manufacturers and dealers in commercial vehicles should be encouraged, and if necessary compelled by an appropriate amendment in the Motor Vehicles Act, 1988, to run such orientation courses.

6.16 In order to provide a check against fraudulent driving licences all state transport authorities should be required to issue licences with a micro-chip in which all personal details of the holder of the licence have been entered.

6.17 As mentioned above, the Central Motor Vehicles Rules, 1989 have laid down the minimum educational qualification of a driver of a transport vehicle for obtaining a driving licence as Class 8th pass. The Working Group recommends that the minimum qualification for transport vehicle drivers, who are responsible for haulage of goods, should be raised to passing of Class 10.

6.18 The compensation and working conditions of this community should be in accordance with the guidelines prescribed by the Motor Transport Workers Act, 1961. A general health check-up and particularly eye test of the drivers should be a mandatory exercise on an annual basis. The drivers' services to the industry and society should be duly recognised by instituting Best Commercial Vehicle Drivers awards at the district, state, and national levels by the transporters' associations in cooperation with private sector companies.

6.19 Provision of wayside amenities on all the main trunk routes of National Highways, on which initiative has already been taken by the NHAI, will improve the welfare of the drivers of transport vehicles. In addition, the vehicle manufacturers should be advised to consider facilities in the driver's cabin in HCVs in order to provide drivers with a modicum of comfort.

Other Logistics Personnel

6.20 The next level of personnel in the transportation and warehousing sectors, namely transport supervisors and warehouse assistants, are semi technical positions. While licensing may not be applicable for these positions there is a need for prescribing compulsory qualification and formal training for creating a resource base for the ever expanding industry.

6.21 The skill levels required for this category are as follows: basic computer and IT training and inventory management and store keeping skills for a warehousing assistant; customer service, leadership qualities, and scheduling skills for an operations supervisor; and technical and engineering knowledge and skills for a technical supervisor. Vocational training in IT and computer skills need to be imparted to the majority of the personnel employed in these sectors.

6.22 Training initiatives in the above-mentioned areas can also include their integration in the curriculum of Industrial Training Institutes (ITIs) or polytechnics. Since ITIs and polytechnics are overloaded with the huge economy-wide training requirements, the proposed CLDC could also take initiatives for setting up of new institutes and training courses in identified areas in logistics over the next few years. The training course structure and material should be formulated keeping in mind the

current requirements of the industry and should be devised after consulting the public and private sector on their needs.

6.23 The training requirements for supervisory levels in international logistics for Indian companies, mainly relating to companies operating as CHAs, NVOCCs, freight forwarders, CFS operators, liner agents, air cargo agents, International Air Transport Association (IATA) agents and sub agents, General Services Administration (GSA), etc., also need to be addressed. Barring CHA employees and IATA agents who have to qualify through exams for dealing with Customs, none of the others need to undergo any training compulsorily. The training takes place on the job in both large and small companies, with periodic refresher courses also being organised. The Customs department which provides the certification for CHA agents should consider taking up the charge of conducting training courses, especially on the new EDI technologies for these agents prior to the certification.

6.24 A licensing requirement of IATA agents is to have certain staff trained by IATA accredited agencies in Basic Cargo Dangerous Goods Regulations at each location. Air India is one of the accredited trainers in India for the entire trade. This training is made use of by agents only for licence purposes and not for formal training, which leads to the following disadvantages:

- Front offices of these companies have neither the soft skills nor the domain knowledge required, and the efficiency of the Indian importers, exporters, or supply chain companies suffer.
- The personnel in one area get typecast and multi-tasking or multi-level skill handling, which makes supply chain management productive and efficient, does not take place.
- Lack of domain knowledge also leads to exploitation by unscrupulous elements in the system and further to corrupt practices.
- Alignment to e-governance and global e-enablement is also a casualty.

6.25 For this supervisory level, it is imperative to have diploma courses of an adequate duration in a polytechnic. One option could be to take up the training under All India Council for Technical Education (AICTE), under the following courses:

(i) Diploma in Freight Forwarding;

(ii) Diploma in Air and Sea Freight;

(iii) Diploma in Logistics and Supply Chain Services.

Detailed modalities regarding these could be left to the CLDC.

6.26 Regarding the higher levels, i.e. managerial and entrepreneurial, these are best handled by the business schools under AICTE and universities under their supply chain management specialisation programmes.

6.27 From the framework given in Table 6.2, it can be seen that there is a wide spectrum of training requirements across various elements of the logistics function. In order to make the logistics processes efficient, the training needs to be taken care of.

E-Learning For Workforce

6.28 In recent years there have been significant developments in e-learning which is being applied in schools, institutions of

higher education, and corporate bodies. Similar learnings can be applied in the logistics sector for the vast workforce of drivers and other workers who are always on the move. Learning kiosks can be established at fuel stations, dhabas/ hotels, and Subscriber Trunk Dialling (STD) booths on the highways that are frequently used by these workers. This will help in not only educating this huge workforce but also reducing the incidence of AIDS (which is rampant in this population). E-learning kiosks can also deliver wholesome entertainment through technologies such as Very Small Aperture Terminal (VSAT) and General Packet Radio Service (GPRS).

Table 6.2: A Framework of Estimation of Training Needs

Road transport	Driver	Driving skill,traffic rules, permit rules	Fire fighting, First Aid, tracking system, IT, ethics, basic sanitation and hygiene, AIDS awareness	CLDC, CIRT, private sector
	Equipment operators/ Handling assistant	Mechanical maintenance of machinery	Safety, IT	ITIs
	Supervisors, Operational Technical	Documentation, mechanical, tax laws	HRM, interpersonal skills	ITIs, CLDC
	Manager	Integration of various aspects of logistics, performance measurement	HRM, Operations management, IT, Economics	Universities, MBA institutes
	Entrepreneurs	Extensive knowledge of logistics function	Marketing, Finance, Operation, HRM, etc.	Universities, MBA institutes
Warehousing	Operation Assistant Data Input and Output	Space utilisation, Warehouse management system, Inventory management	Cleanliness	ITIs
	Supervisor/ Manager	Efficient working, costing, operations	Interpersonal skills	CLDC

	Entrepreneur	Managing and owning warehouses	Interpersonal skills	CLDC
International freight forwarding	CHA Operator/ Assistant	EXIM policy and procedures, Customs rules and documentation	Basic transportation modes	Customs
	NVOCC	Costing, market intelligence, comparative cost structures	Relationship management	-
	Line	Cost of operations	Other modes of transportation	-
	Air cargo operators	Cost of operations	Other modes of transportation	Air India

Chapter 7

Conclusions and Recommendations

This chapter lists the main conclusions and recommendations of the Working Group. The numbers of the paragraphs in the preceding chapters from which these conclusions and recommendations have been drawn are indicated in parentheses.

LOGISTICS INDUSTRY STRUCTURE IN INDIA: ISSUES AND STRATEGIES IN THE TRANSPORTATION SEGMENT

Road Transport

7.1 The following strategies are recommended with respect to road transportation:

(i) For the establishment and maintenance of an efficient roadways network in the country the following lines of action can be envisaged:

a. Completion of NHDP and the SARDP-NE. Particular mention needs to be made of the need to upgrade connectivity in the approach to the cities, and it should not be the case that the time saved from movement on better inter-city roads is lost due to the congestion in the last miles before entering the city. NHDP VII envisages inter alia the construction of ring roads in the cities, and much needs to be done in the stretches of the National Highways near the cities.

b. Construction of access controlled expressways. Inter-state barriers to traffic movement can be minimised by requiring (through statutory enactment if necessary) that the checks by state authorities be carried out only at the time of entry into or exit from the expressway network. In the immediate future, there must be swift implementation of not only 1000 km of expressways envisaged in NHDP VI, but also include those segments in which traffic levels in the next 5–7 years are assessed to be justifying a six-lane facility (considering both local and long distance inter-city traffic). Opting for six-laning of existing National Highways, even when justified by the traffic intensity (as envisaged in NHDP V), will be suboptimal because most of the deficiencies in the roads on existing alignments would be perpetuated. The traffic needs in the interim period should be met by the provision of paved shoulders along existing roads. Work on other stretches of NHDP V in which the traffic density is less than that required for a six-lane facility should be deferred and the resources redeployed in other components of the National Highways programmes. To ensure that individual stretches of expressways taken up from time

to time do not become standalone roads but form parts eventually of an expressways system on which the traffic moves seamlessly on arterial routes, a blueprint of an expressways network covering the major corridors (Golden Quadrilateral, North–South, and East–West) should be prepared.

c. Upgrading up to minimum serviceable standard the full NH network by taking up the balance of 40,675 km left out of the purview of NHDP and SARDP-NE. A minimum level of improvement needs to be carried out in the non-NHDP roads, such as improvement of riding quality, widening and strengthening to two-lane standard, construction of missing links and bypasses, ROBs/RUBs/bridges, etc. There is also a need to prioritise the development of high density corridors in State Highways and Major District Roads. Logistics costs can be contained only if the full network is in good condition. The requirement of additional resources for the maintenance of the National Highways and high density corridors could be met by levying additional cess on petrol and diesel. [3.22]

(ii) To maintain road quality, the following strategies are recommended:

a. There is a need to look comprehensively at the road infrastructure, which is under Central, state, and local bodies' responsibility. A system involving external agencies should be established in order to ensure that the construction of roads is being done as per the laid down standards. A monitoring system of the road infrastructure should be put in place and audit reports emanating from the system should be made public by displaying them on the websites of respective Ministries/ Departments. Apart from ensuring the quality of construction of roads, it is necessary that the roads are maintained properly. This is possible only if the Central and state governments allocate funds for repairs according to the recommended specifications for periodic maintenance. Maintenance of roads should also be made subject to monitoring by an external agency, as in the case of the original construction of the roads. [3.23]

b. Underpowered and overloaded trucks have been serious problems in the road transportation industry in the country, resulting in large numbers of accidents, increased turnaround times, loss of life, and loss of economic value. The regulatory authorities are not able to adequately implement the weight factor and penalise the defaulters. The shippers, transporters, vehicle manufacturers, and regulatory authorities are all keen that the issue must be resolved. Stringent

laws and implementation with the involvement of all stakeholders is a must. [3.24]

c. Erection of permanent weighbridges across the country would be important for curbing the problem of overloading. The customer must be made aware of the real cost as against the nominal costs while overloading. Transport and Truck-owners Associations should be involved in addressing this issue by promoting the practice of 'fair truck load' on Indian roads within the transport sector. [3.25]

d. Meticulous implementation of the Motor Vehicles Act and ensuring the phase-out of unserviceable vehicles are important. Further, use of multi-axle vehicles and ownership and usage of such vehicles must be encouraged through incentives such as lower road transport taxes for multi-axle vehicles, etc. [3.26]

(iii) In recent years, there has been a steady deterioration in the security environment on the Indian highways. It is important for the state governments to formulate an effective method for enforcing state-specific security measures, such as the introduction of mobile police squads, etc. [3.27]

(iv) To address industry fragmentation through consolidation and consequently improve productivity of the industry and benefit through economies of scale, the formation of cooperative societies among truck operators is the way forward. State governments can promote the formation of such cooperatives by providing them with preferential allocation of land to enable them to establish repair/parking infrastructure. In the 'Transport Nagars' that are being established by the state governments also, preferential treatment can be given to truckers' cooperatives in the allocation of space and other facilities. It is recommended that the Railways should invite bids from entrepreneurs for constructing and operating warehouses on Railway land available adjacent to sidings. Truckers' cooperatives could be given preference in considering the award of the concession if they are willing to match the bids of the highest bidder. Another incentive for consolidation through cooperatives could be for the nationalised insurance companies to consider granting fleet discount to the members of a truckers' cooperative. The government should invite major corporate entities to join as promoters of cooperative societies and to provide guidance to them. Motor transport associations like the All India Motor Transport Association can also play an active participatory and facilitating role in this initiative. [3.28, 3.29]

Railways

7.2 The following strategies are recommended with respect to the Railways:

(i) Capacity augmentation: Capacity augmentation of the IR should be accorded the highest priority. In the short run, the objective should be optimum utilisation of existing capacity. This

may be achieved by following a two-pronged strategy. First, the Railways must achieve higher maintenance standard of existing assets and renewals and replacement must be carried out with a view to reducing frequent asset failure occurrences. Second, route-wise planning aimed at enhancing the line capacity simultaneously through doubling, gauge conversion, and increase in terminal capacity would make a significant immediate impact on capacity at low cost. Investments are already planned for upgrading 6973 km of mineral routes and 4220 km of feeder routes to DFCs for running 25 MT axle load trains. Investments are also planned in signalling improvements such as automatic signalling, introduction of intermediate block sections, block-proving axle counters, track circuiting, etc., which, together with the induction of high power locomotives, would create additional capacity in the short run at low cost. Further, the improved wagons with the higher payload to tare ratio of around 4, as against the extant 2.6, are on the anvil, which will not only obtain the much needed additional capacity, but also reduce the unit cost of operation, improving the competitiveness of the rail mode. Switching over to mechanised maintenance of track by investing in track machines would also free some of the capacity locked up in manual maintenance of the track. To utilise optimally the line capacity created, it is also envisaged to upgrade freight terminals and their approaches, since inadequate terminals often are the binding constraints affecting the seamlessness of train movement. Narrowing down the speed differential between the freight and passenger trains by inducting high-speed freight stock would speed up both freight and passenger trains, in addition to improving the line capacity utilisation. All these planned measures need to be implemented on priority. [3.32, 3.33]

(ii) Development of DFCs: A quantum increase in capacity can be achieved only through the major initiative of developing DFCs. A special public sector unit called Dedicated Freight Corridor of India Ltd. was incorporated in October 2006, with the express objective of designing and executing this project that will have two corridors called the Western Corridor (1483 km) and the Eastern Corridor (1806 km). It is imperative that their implementation is put on the fast track and completed in the shortest period, which should not be more than five years. Four other corridors have been identified already (Kolkata–Mumbai, Delhi–Chennai, Kharagpur–Vijaywada, and Chennai–Goa) for the construction of DFCs, and the faster they are implemented the quicker will be the rise in the share of rail in freight movement and the consequent fall in logistics costs in the country. [3.34]

(iii) FOIS: FOIS consists of two fully computerised modules, namely Rake Management System for handling the freight movement portion and TMS for managing the commercial transactions with the customers. The Rake Management System portion has been commissioned and the TMS is partly commissioned. The balance portion of

the FOIS is likely to be completed during the Eleventh Five Year Plan period. It is important to ensure that FOIS is fully commissioned and interlinked as early as possible during the Eleventh Five Year Plan period. [3.35]

(iv) The Railways have to work in tandem with private operators in order to cut rail freight cost through investment in wagons designed for movement of cement and food grains in bulk and for use of Ro–Ro for the movement of containers. The private operators can not only help to move these bulk commodities in bulk but in parallel they can undertake other logistics functions, such as grading, cleaning, and packing food grains. [3.37]

PORTS AND SHIPPING

7.3 The following shortcomings impact on the performance of Indian ports and lead to escalation of logistics cost:

- Ships have to wait long in the channel for berthing, and productivity in loading and unloading is low. The national average turnaround time of vessels for dry bulk and containers is estimated at 5.7 days and 1.9 days, respectively.
- The ports are labour-intensive and the mechanisation process is slow. Equipment used is outdated and obsolete, causing further reduction in efficiency and productivity.
- Restrictions in navigation channels do not allow bigger vessels to be berthed.
- The hinterland links to ports are insufficient and need to be improved.
- Delays in co-ordination between ports and the Customs authorities delay quicker dispensation of documentation and goods.
- Port-side constraints further contribute to increases in dwell time before both incoming and outgoing cargo is cleared. [3.38]

7.4 There is an urgent need to concentrate on port developments and functionalities, with the express objective of equipping them with capabilities to meet international standards for handling containers. Despite cheaper labour rates, Indian container handling costs are considerably higher than the other comparable ports in the region, and in order to remove this distortion the unit costs of operations will have to be brought down. [3.43]

7.5 There is consensus on the need to enhance port capacities in terms of:

- Port infrastructure, by increasing available draughts, modifying channel depths, widening turning basins, lengthening/strengthening quays, and additional berth construction, including those dedicated to coastal shipping;
- Significantly augmenting the requisite superstructure, by expanding associated back-up container stack areas, transfer bays, rail transfer facilities for seamless rail evacuation (this requires special focus), gate terminals for proper road evacuations, operational buildings, state-of-the-art container handling equipment (quay side container handling gantry crane, yard RTG, reach stacker, terminal tractor, etc.) in the terminal areas;

- Augmenting associated back-up value-add complementary facilities like CFSs/ warehouses, assembly and packaging facilities, cargo consolidation areas, processing and distribution centres, etc. off-dock to decongest city based ports;
- Upgradation of hinterland connectivity of the ports both by road and rail to enable quicker flow of goods consignments both to and from the ports;
- Improving Customs procedures and alleviating the port-side constraints for reducing the dwell time. [3.46]

7.6 To improve the capacity in the ports sector, the following steps need to be undertaken:

(i) More dedicated berths for both bulk and containers need to be developed with respect to the cargo profile of the port. Furthermore, SPMs are to be developed for catering to the traffic in crude oil to exploit the economies of scale as the government is encouraging shore based refineries. To improve the productivity at these SPMs and at oil berths, suitable superstructures for pumping at international norms are to be developed. [3.48]

(ii) Every multipurpose cargo berth should have at least two back-up shore cranes (quay shore cranes) or harbour mobile cranes of minimum capacity of 30 tonnes and above per 35 tonnes of containers. The codal life of all equipments should be only 10 years as against the existing 20 years. [3.49]

(iii) The dedicated handling systems in vogue in most ports are quite old and need to be modernised with the state-of-the-art handling systems, characterised by abilities to handle newly evolving heavy axle wagons (higher capacity hydraulic tippers), conveyor rate of at least 4000 tonnes per hour (international bench mark), and ship loading rate of 4000 tonnes per hour. It is necessary that TQM be enforced and shift changeovers made seamless to reduce non-working time. It is also necessary that in the concession agreement for private terminals, it is mandated that a minimum of three quay cranes per ship be deployed at all times. This will ensure faster turnaround of container vessels and more windows available for berthing and also attract bigger vessels to the Indian ports. [3.50, 3.51]

(iv) Adequate minimum draught is required in major ports to give them the capability to handle post Panamax vessels for dry bulk and mainline mother vessels for containers. It is, therefore, necessary that, as a national policy, adequate minimum draught in all berths of the major ports may be developed. It is also necessary that the government fund the cost of maintaining the minimum draught. [3.52]

Development Of Inland Waterways And Coastal Shipping

7.7 Inland waterways need to be linked with the minor and intermediate ports so that cargoes emanating from the hinterland can be transported directly to the ports through inland waterways without any diversion to roads. Such a programme will benefit both the shipping and inland water transport sector. [3.56]

7.8 For improving the infrastructure facility for coastal shipping, it is important to provide rail

and road connectivity to each port along with the development of the required infrastructure for facilitating the emergence of promising potential in the coastal shipping sector. Berthing capacity at Indian ports should be developed to meet the needs of coastal shipping, and berths at all terminals should be reserved for coastal shipping vessels, if so required. Considering the positive externalities of coastal shipping, there is also the need for considering setting up of a separate fund that may fulfil the credit requirements of coastal shipping operators. Provision of adequate draught in the various rivers where inland water transport is being operated would lead to the integration of coastal shipping and inland water transport and that will reduce substantially the overall cost of transportation. [3.57]

7.9 A feature of the investment requirement for enhancing port capacity is that, with the sole exception of capital dredging, much of it can come from private investors in PPP arrangements and from the internal resources and external borrowings of port trusts. At present, seven projects, including four taken up before the Eleventh Five Year Plan, are under implementation on PPP mode. In addition, five more capacity yielding schemes through internal resources are under implementation. Additional capacity may also be achieved from mechanisation/ efficiency improvement during the Plan. In addition, 9 PPP projects were to be taken up during 2008–09 and 17 during 2009–10. Of these 26 projects, seven projects have been awarded so far, and award for two more is expected shortly. Two projects are involved in litigation and may come up with delay. A new financing plan for ports has already been approved by the Committee on Infrastructure, which envisages an investment of Rs 57,452 crore for identified projects of berth development, container terminals, POL berths, other cargo berths, capital dredging, equipment, and port connectivity. All that is needed is implementation of identified projects. [3.58]

Air Cargo And Airports

7.10 Definite, measurable performance parameters need to be established at every stage in the flow of cargo, documents, and information. Round-the-clock operations on clearing of cargo are needed, and speed and reliability need to be imparted through just-in-time processes. Online connectivity needs to be provided among all stakeholders, and importers and exporters should be enabled to file all the documents at a single window. At present, the practices prevailing at each airport in terms of documentation, procedures, transshipment bonds, etc. differ. Standardised and streamlined facilities and procedures for transshipments, imports, and exports need to be ensured at every international airport. [3.59]

7.11 The following strategies are recommended for the provision of integrated cargo infrastructure:

(i) Setting up air cargo villages: The concept of an air cargo village involves a cargo handling terminal complex that meets the basic logistical needs of shippers and carriers, and provides integrated facilities and services, in addition to cargo handling and transfers. These services may include package sorting, consolidation, warehousing, distribution, trade services, communications system, and other related services. The concept of air cargo village entails establishing an integrated cargo infrastructure comprising of airline terminals, forwarders bonded terminals, and specialty centres for special cargoes

(such as perishables, valuable cargo, pharmaceuticals, restricted articles, etc.), along with rationalised, streamlined, and simplified procedures, documentation, and charges. Wherever land is available within the international airport, land should be demarcated for the creation and development of an air cargo village. Where land is not available within the airport premises, off-airport air cargo village facilities can be developed. The air cargo village is similar in nature to ICD or CFS in respect of the roles played by these facilities. The Department of Commerce/ Customs must, therefore, issue standard guidelines, as they have done for ICD/CFS, to enable interested parties to make the application for air cargo village or air freight station. These parties may be the airport operators or licensees of such operators if the facility is to be set up within the airport. In the case of off-airport air cargo village, any logistics operator may set up the facilities. Each gateway airport and its cargo village can be effective only if it is seamlessly connected with road and/ or rail, and onwards to the seaports. This would provide the greatest benefit to the hinterland for accessing the gateway. Freight forwarders' bonded terminals are a reality at every major cargo airport in the world. There is critical need for them now at all the gateway and inland airports in India, in order to decentralise handling and processing, decongest the airports, maximise efficiencies in import–export processing, and enhance the throughput of each airport by the more effective use of installed resources and facilities. [3.60, 3.62, 3.63, 3.64]

(ii) Development of international air cargo hubs in India: International air cargo hubs have developed at many international airports in the world as centralised transit points in which the main task performed is the collection, sorting, and onward delivery of cargo for distribution. Such activity, when undertaken on a sufficiently large scale, can boost trade and economy and generate employment opportunities. Considering the relevant factors that affect an airport's ability to attract transshipment cargo traffic, Delhi is the first airport that comes to mind as suitable for being developed as an international cargo hub. Establishment of air cargo hubs in international airports within India will necessitate enhancing the technology at work, including the handling equipment, the information management systems, and security screening equipment. A quantum jump into the higher end is required by providing for stacking, palletising, movement by conveyors, etc. For data capture and piece-level control, which is critical in supply chain management, bar coding and scanning systems, radio frequency identification tags, etc. are essential for feeding into the information and trace and track systems. It is also critical to establish definite, measurable performance parameters at every stage in the flow of cargo, documents, and information. It is for the airport operator to decide whether the investment necessary for upgrading the infrastructure is justified for making the airport an international air cargo hub. However, a few facilitative actions by government agencies would be necessary for

enhancing the chances of Indian airports to become international hubs. First and foremost would be the designation of an earmarked area as a Customs free zone where the payment of duties and taxes are suspended upon arrival of goods. Duties and taxes would be payable only if the goods move out for consumption in the Customs territory of the country. No duties have, however, to be paid if the goods move out of the country. This can be accomplished within the framework of the SEZ laws by establishing a warehousing zone within or adjacent to the airports. Second, the procedures for transshipment should be simplified and the need for obtaining transshipment permit replaced by granting approval through the EDI system. Third, the Customs should allow ramp transfer of containers from one aircraft to the other without having to go through the handling procedures at the air cargo terminal. [3.65, 3.66, 3.67]

(iii) Aviation security: For improved security processing, especially in the context of forwarders' bonded terminals where cargo would be palletised or containerised, it is crucial that airports be equipped with security screening facilities based on the latest technology, capable of screening complete unit loads speedily and efficiently, thus facilitating on-time movements. [3.68]

MOVING TOWARDS AN INTEGRATED TRANSPORTATION SYSTEM

Third Party Logistics (3PL)

7.12 In view of the emerging market potential for 3PL services in India, there is a need for ensuring quality and basic minimum standards for services offered by 3PL players. This would not only guarantee better services at affordable prices for the customers but would also facilitate the development of value added service providers. [4.11]

Express Service Industry in India

7.13 Considering the significant decline in mail traffic, increasing competition, and recurring operating losses, Indian Post faces pressures to reduce costs, increase revenue, and operate on a far more commercial basis, while fulfilling the rising expectations of the customers. These challenges can be faced only by improving services and adapting them to the needs of a rapidly evolving and increasingly technology driven world. Indian Post will also need to focus on non-core activities—financial and non-financial—and on IT-based services, provided mainly by leveraging its network and its last mile reach through partnerships with foreign and domestic private firms. [4.15]

7.14 The Government of India has been considering significant changes in the laws governing the activities of express delivery service providers, including restricting FDI in the industry, granting the postal department an exclusive right to handle shipments up to 300 grams, annual renewal of players of the industry, and contribution of 10 per cent revenues towards the Universal Obligation Fund. If the above proposed amendments to the Indian Postal Act are enacted, it will limit competition, impact adversely on efficiency in the Indian express service industry, and increase logistics cost. [4.16]

Container Freight Stations And Inland Container Depots

7.15 Keeping in mind the growth in container traffic envisaged for India, the number of dry

ports may need to be more than doubled by 2010–11. Further, in order to improve efficiencies and reap the benefits of economies to scale, larger ICDs and CFSs need to be set up and for this, there is a need for strengthening the existing guidelines for setting up ICDs and CFSs so that the minimum traffic and land space requirements are enhanced. [4.22]

7.16 The ICD/CFS should also become more technologically advanced and capable of attending to the traffic needs by selecting the most modern handling equipment for loading/unloading of containers from rail flats, chassis, their stacking, movement, cargo handling, stuffing/destuffing, etc. [4.23]

Warehouses And Logistics Parks

7.17 The Central and state governments should take steps as listed below to ensure that an environment that facilitates the establishment of warehouses and logistics parks and, at the same time, promotes their efficient operation is created:

(i) There is a need to evolve regulations involving uniform service standards, standard trading conditions, and liability regime for warehouse, ICD, and CFS operators. The Warehousing (Development and Regulation) Act, 2007 that has been enacted regulates only those warehouses that propose to issue negotiable warehousing receipts. Regulation of all warehouses is necessary for the standardisation of warehouses and their adoption of good practices. Modern facilities for safe storage, material handling, transport, and communication and adherence to structural standards in construction to deal with natural calamities such as fire, earthquake, etc. should be made a prerequisite in every warehouse. [4.28]

(ii) To keep the cost of land within reasonable limits, which is the most important requirement for the development of warehousing, the states should reduce the fee for conversion of agricultural land for warehousing purposes. [4.29, 4.30]

(iii) To make land available for the construction of warehouses it is important that adequate provision is made in the Master and Area Development Plans in urban areas for land use for warehousing purposes. With the modernisation of warehouses and increase in rentals, there will be a growing need to use vertical space. Modern storage and handling equipment, such as Automatic Storage and Retrieval Systems and Very Narrow Aisle Storage Systems, are feasible with heights of 17 metres and above. For this reason it is necessary that building height restriction and maximum permissible FAR are relaxed for the construction of warehouses. [4.31]

(iv) Availability of land for construction of warehouses can be enhanced considerably by the IR, which owns large parcels of land at a number of sidings. The Railways could identify the sites suitable for warehouses and invite expression of interest from entrepreneurs for construction of warehouses. The identified sites could then be bid out for the construction and operation of warehouses on the basis of BOT (revenue sharing). Such an arrangement could create a large warehousing capacity at a reasonable cost, and at the same time the

Railways could get substantial revenue without having to alienate the land. [4.32]

(v) In the RBI guidelines for facilitating infrastructure financing, it is important that warehouses and logistical parks are also brought on par with other infrastructure projects for the purpose of financing by the commercial banks and other financial institutions. [4.33]

Containerisation: The Key To Logistics Efficiency

7.18 It is estimated that in future, container traffic will rise in the country under the impact of rapid economic growth and increasing trade intensity. This would entail a very large growth in transport capabilities, with almost 100 per cent international cargo needing to be evacuated out of port areas through the country's trunk transport network before they reach the hinterland. The demand for strengthened transport network could be much higher once the planned hubs for manufacturing such as SEZs, Textile Parks, and PCPIRs become fully functional, further accelerating the demand for multi-modal transport in country. On the domestic side also, the expectation is that the container traffic will grow once more terminals get developed by the private operators across the country, connecting points of origin and destination of traffic amenable to container movement. [4.36]

7.19 The above would necessitate the following:

- The development of substantial capacities at gateway ports and gateway airports to enable seamless handling of vessels/ aircrafts with a view to optimising vessel handling and other terminal handling/ transfer related costs, and facilitating faster evacuation so that these terminals are able to operate at very high efficiency levels;
- The creation of matching transport capabilities and capacity for evacuation of consignments, including containers, by rail and road, the two dominant modes of transport. In addition, it would be necessary to revive/strengthen coastal carriage of cargoes in some sectors as part of the total inter-modal package;
- Strengthening and developing of suitable inter-modal terminals as integrated transport hubs in the hinterland, which will ultimately emerge as the 'logistics hubs' and facilitate transfer of containers from one mode to another mode for final connectivity with the actual points of origin/destination of cargo. [4.37]

Gateway Terminals: Carriage Capacities And Capabilities

7.20 A substantial proportion of the containers handled at the gateway ports are moved by rail/ road vehicles and only a very small percentage is moved through coastal shipping. There are expansion plans on the anvil for ports such as Visakhapatnam, Haldia, Kolkata, Tuticorin, and Cochin. The capacity constraints in these ports as well as rail connectivity with the hinterland will need to be addressed in order to increase containerisation of internationally traded goods. [4.40]

Reach of Hinterland Terminals

7.21 The number of dry ports and hinterland terminals currently existing in India is inadequate for coping with the rapidly increasing cargo traffic. One success story in the hinterland terminal scenario is the establishment of

CONCOR and the timely initiatives taken by IR and the Ministry of Commerce in the late 1980s. CONCOR has transformed the Indian hinterland by establishing as many as 58 terminals all over India, including seven terminals located in port towns. Similar large hinterland terminals are needed elsewhere too. [4.42, 4.43]

Planning For Integrated Logistics Hubs

7.22 The Working Group recommends that while CFSs, ICDs, warehouses, and logistics parks are being developed at various places in the country by private and public sector undertakings, initiative should be taken for establishing 15–20 mega logistics parks as logistics hubs in the country in a planned manner. These hubs should be located at major transportation hubs, including the origin and destination points of the proposed DFCs, or near consumption centres or industrial complexes, to be identified with a national perspective. Some locations may qualify against more than one criterion identified above. Such an initiative would give a big boost to 3PL activities and would be instrumental in bringing down logistics costs. The availability of larger space within the hubs will enable the 3PL operators to provide the full range of services, including value added services. [4.45]

7.23 The identification of locations of these logistics hubs should be done by assigning a study to a consulting company such as RITES, in collaboration with industry associations such as ACTO and AMTO. The study should map out the existing gateway terminals, the overlapping footprints of the rail–road networks, and the hinterland addressed by the terminals and then identify key exchange points where goods can be transferred for carriage on the 'last mile'. A view should be taken on whether these hubs should be created as new infrastructure or alternatively be built upon certain existing ICDs, which can be converted into logistics hubs by expanding the area and providing additional facilities. As large areas of land will be required for setting up these logistics hubs, the participation of the state governments in the exercise for identification of suitable locations will be important. [4.46]

7.24 As and when individual locations for logistics hubs are identified, a consortia of companies engaged in the logistics field could be invited to undertake the establishment of Hubs with the understanding that the Central government would provide the road and rail connectivity and the state government would facilitate the acquisition of land as well as supply of electricity and water. [4.47]

7.25 The spread of logistics parks across the country and adoption of hub and spoke structure would make it essential to create an interface between various modes of transport so that the movement to and from these parks is not constrained. In tandem with rail/road integration, air freight should be more closely integrated into the transport planning process. [4.48]

7.26 The progression towards an integrated transport system will also necessitate the creation of a central body whose charter will be the development of the logistics industry, with a view to decreasing logistics costs through integration of transport services. This central body would address several issues relating to reorganisation of the industry and undertake streamlining of the industry, and provide critical inputs to the policy makers. [4.49]

Central Logistics Development Council

7.27 The Working Group recommended that a CLDC be created as an advisory and recommendatory body for the development of the logistics industry in India. The Council

would consist of representatives of the following: logistics services providers, including ACTO; MoR; MoSRTH; Ministry of Civil Aviation; Ministry of Commerce; four state governments (North, East, South, West) on rotational basis; CII; major shippers from the steel, cement, FMCG, and consumer durable segment; and financial institutions, insurance companies, and academic institutions. [4.50]

7.28 The CLDC would advise the government on regulatory and policy issues, based on information and analysis, to facilitate the development of an optimum, efficient, resilient, environment friendly, and safe logistics system in the country. A Ministry should be designated as a nodal Ministry to the CLDC for the purpose of addressing the requirements of an integrated transport and logistics system in India. To facilitate these tasks, the CLDC would be authorised to collect the requisite information pertaining to the players and the logistics industry, which would serve as the foundation for analysis, resulting in advice on policy issues, as well as the creation of a data bank for the industry, through the creation of a portal. The Council would be funded by the logistics industry. [4.51]

7.29 The CLDC would hold consultations with experts from the logistics industry as well as government Ministries and Departments, agencies and institutions concerned with logistics in India. The CLDC would also create guidelines for self-regulation by the industry. The CLDC would facilitate the process of registration of entities wanting to operate in the Indian logistics industry, by recommending the necessary provision in the concerned legislation. Any entity concerned with logistics operations would be benefited by registering themselves with the CLDC as such registration will improve their visibility and business prospects. All details of registered entities would be disseminated amongst the industry players and displayed at the CLDC's portal. [4.52, 4.53]

7.30 The setting of tariffs and pricing would not fall under the purview of the CLDC. However, in order to establish standard trading documents for financial transactions and bill discounting, the regulations governing the relationship between the consigner and the logistics provider with respect to the contract, terms of conditions, etc. between the two would be determined by the CLDC. With the objective of moving towards an efficient and transparent logistics sector, the Council would also recommend minimum service standards for operation of the logistics services and eventually move towards rating of each entity in its category. [4.54]

7.31 Training and certification of logistics manpower would also be taken up by the CLDC in order to complement the training initiatives undertaken by the government. [4.55]

Portal Solution for Logistics Industry

7.32 The CLDC would also take up the creation of an integrated logistics portal. To start with, this would be limited to road transport, but possibility should be kept open to expand to rail and maritime modes by suitably interfacing with the FOIS of Railways, information system of container operators, including CONCOR, and EDI–PCS of ports. The freight exchange would have several key features, such as: (i) information services regarding vehicle availability, rates and schedules, route maps, legal and statutory information, fuel prices, logistics services e-Directory; (ii) Contracting services such as transporter profiling, short listing, and contract finalisation services; (iii) tracking systems for vehicles and consignments; (iv) posting of users' transport enquiries and receipt of offers/

quotes; (v) online negotiations; (vi) return load planning and fulfilment; (vii) online payment solutions; (viii) logistics operations software and information system solution for transport operation; (ix) offline contracting; (x) transit insurance; and (xi) logistics and transport related jobs. In effect, the portal would function as a freight exchange. This portal should be operated by the CLDC along with the participation and support of state governments, insurance companies, banks and financial institutions, petroleum companies, shippers, consignees, and toll collection agencies. [4.56]

7.33 The portal would initially work as an information exchange platform on rates, and would progressively move towards online operations and transactions in a phased manner. For online transactions, all commercial documents used in domestic trade and inter-state movement, as also for EXIM trade, may need to be standardised and made available for online perusal through this portal. The portal would also enable online payment for services contracted and used. [4.57]

7.34 The state governments would provide an interface with the register of driving licences and database of commercial vehicle registry certificates online to this portal. It has already been envisaged to issue smart cards for drivers for the truck drivers for their identification while they are on the move, by the Ministry of Road Transport and Highways. Any other entity involved, such as consignee, warehouses, logistics service provider, etc., would be able to keep track of their consignments through this portal. [4.58]

7.35 The CLDC would determine the location of the terminals with the interfaces of this portal initially, and ultimately this portal would have its terminals at weighbridges, toll plazas, state borders check posts, shippers/consignees offices, and all freight booking and delivery points of different modes of transportation. The weight checkpoints/state border checkpoints would also have other data readers such as Range Finder / magnetic swipe/smart card readers, so that such vehicles that do not operate with GPS could be tracked in transit and their data made available at these points well in advance for smooth and seamless movement of vehicles. This would require a comprehensive solution of GPS based vehicle tracking/communication equipments, up-to-date GIS maps, call centres, portals, and service providers. [4.59]

National Road Safety And Traffic Management Board

7.36 The Department of Road Transport and Highways has constituted a committee to deliberate and make recommendations on the creation of a dedicated body of the National Road Safety and Traffic Management Board, through an Act of Parliament. The proposed Act also has enabling provision for setting up state level Boards. Although the creation of the National Road Safety and Traffic Management Board is crucial from the perspective of road safety, it is suggested that more specific initiatives may also be undertaken by district level organisations for providing transport. [4.61]

Transport Emergency Services

7.37 State and district level machinery should be developed to address health, safety, and environment impacts of accidents locally. A framework for action during emergency response situations can be developed, along with an accountability and authority matrix for decision making. The Highway Rescue Project, promoted by the Baroda-based Lifeline Foundation, provides emergency medical services along

highways in Gujarat and Maharashtra. Efforts to replicate this are being made by the Save Life Foundation of Kolkata, in order to take initiatives to establish emergency medical services in West Bengal. Such initiatives taken by NGOs require to be strengthened through participation by state authorities. The Central Sector Scheme, namely National Highway Relief Service Scheme, needs to be publicised and its scope enlarged once such road safety schemes come under the aegis of the National Safety and Traffic Management Board, which is presently under consideration of the Central government. [4.62]

Integrated Transport Plan And Policy

7.38 In order to organise transport planning in an integrated way, the Planning Commission has commissioned RITES to carry out Total Transport System Study. The main objective of this study is to determine the desirable share of each mode of transport on the basis of resource cost and formulate the policy measure required to achieve the desired inter-modal mix. The formulation of an integrated transport plan and policy on the basis of such a study would help in reducing the overall transport cost and provide the country with an efficient transport system. The Working Group, therefore, recommends that such study should be carried out periodically by the Planning Commission. [4.65, 4.66]

LOGISTICS PROCESSES AND PROCEDURES

Reducing Time Taken In Customs Procedures

7.39 Two IMGs were set up to study the Customs procedures in detail, one dealing with Ports and CFSs and the other with Airports and Air cargo. The recommendations of the IMG-Airport and Air cargo covered broadly similar issues, viz. Risk Management based Customs clearance, expeditious clearance of goods from air cargo complex, EDI based Customs control, integration of Customs EDI with other agencies, transshipment – uniform and simple procedure, amendment to Import General Manifest, bank guarantee waiver, etc. The Group also considered policy issues that were equally applicable to ports and airports/ air cargo uniformly and suggested adoption of certain trade facilitation measures. [5.4, 5.6]

7.40 A consultant appointed by the Airports Authority of India to report on measures to reduce the dwell time in the clearance of air cargo has pointed out that the scope of the RMS for import clearances is restricted and the e-payment facility for duty payment has low penetration. Further, the consultant has also pointed out that the scope of RMS should be progressively increased and the number of authorised banks for Customs duty e-payment should be increased. The EDI has been implemented partially and there are reliability issues with regard to IT infrastructure and ICEGATE application. EDI between Customs and custodians is low in general across air cargo complexes at the major airports. The Customs IT infrastructure needs to be upgraded. Concurrent audit of appraisal of Customs value of import goods and assessment of duty is time consuming and needs to be replaced by post-clearance audit function for reduction of dwell time. [5.7]

Reducing Dwell Time In Respect Of Non-Customs Related Procedures

7.41 Another IMG has made a number of recommendations relating to aspects other than Customs to reduce the dwell time at ports, of which the following are important:

(i) Acquire more sophisticated and modern equipments to enhance efficiency in

cargo handling as per the list drawn up in the Working Group's Report for the Eleventh Five Year Plan.

(ii) Synchronise land-side operations with sea-side operations by efficient management of traffic flow; for this purpose, acquire more dumpers and pay loaders as necessary.

(iii) Draw up and adhere to proper maintenance schedule of cargo handling equipment to ensure zero breakdown of equipment during operations.

(iv) Introduce round the clock (24x365) working of navigation, operations, and documentation to eliminate delays. Implement hot seat exchange system to eliminate time lost in shift changeovers and recess hours. Deploy VTMS and AIS in the ports where necessary. Each port should undertake a study of the navigational infrastructure requirements and implement the optimum design to ensure round the clock navigation.

(v) The marine resources of ports such as floating crafts, tugs, and crews need to be augmented to enable them to deal with higher volumes of vessel traffic. Higher bollard capacity tugs should be acquired to improve the operational capacity in pilotage and towage. Pilot cadres need to be strengthened. Alternatively, the entire pilotage services should be outsourced.

(vi) Mandate ports to invest in four-lane RCC roads within the port area. Unidirectional traffic flow should be introduced to eliminate crisscrossing and traffic congestion. The approach roads to ports should be of six-lanes with no surface crossing.

(vii) Increase the number of hoppers used for handling bulk, especially food grains and fertiliser, in ports handling dry bulk by conventional methods.

(viii) Introduce e-environment to eliminate physical interface in filing of port documents, assessment and payment of charges, and flow through gates.

(ix) Standardise processes in the ports after identifying the best practices for various activities. Implement ERP system to enable the ports to utilise their resources efficiently.

(x) Implement PCS. In the port of Singapore, a single window environment is provided to enable the user to access all the statutory bodies. The user files a single document online and the same is communicated to various statutory bodies for approval online. The system provides a one-stop-shop solution for traders, enabling them to fulfil all export, import, and transit related regulatory requirements at a single entry point and cuts down the turnaround and labour cost, thereby reducing logistics costs.

(xi) While granting stevedoring licences a minimum set of equipment and gear and transport vehicles should be made mandatory to ensure transfer of large volumes of cargo in a shorter time. [5.8]

7.42 A consultant appointed by the Airports Authority of India has made recommendations on the issue. The following are the key recommendations:

(i) Electronic data exchange between Customs and the custodians should be increased for reducing manual interface.

Similarly, information on all export–import promotion licences/schemes (and not only DEPB Scheme as at present) should be exchanged in electronic format between the DGFT and Customs for assessment of import declaration through Risk Management System.

(ii) Increased provision should be made for e-payment facility for custodian charges.

(iii) A community based system for air cargo clearance should be established to enable single window filing of all trade declarations. After the filing of the documents these should be forwarded to the concerned department for processing and communication back to the user.

(iv) There should be increased automation for cargo handling and modern technologies such as hand-held terminals and barcodes should be deployed. The use of such technologies can yield significant benefits by reducing manpower and cutting logistics costs.

(v) A vehicle/truck control system should be introduced to improve efficiency on the land side of air cargo complexes and reduce congestion. Such systems should provide for agents to request and receive slot times for their cargo delivering vehicles.

(vi) Airport operators should build in provisions for receiving and handing over unitised cargo (i.e. containers and pallets) at the terminals to improve cargo handling infrastructure at the air cargo complexes.

(vii) The operators of major airports should be mandated to set up facilities for perishable centres of adequate size and design to cater to the requirement of handling perishable cargo, including pharmaceuticals and imported cargo. Each such centre should have the necessary facilities such as hermetically sealed truck doors, X-ray machines, forced or vacuum cooling facility, and adequate number of storage units at different temperature ranges.

(viii) Air cargo is included in the purview of regulation by AERA. In order to ensure adequacy of facilities at air cargo complexes, AERA could monitor the adequacy of cargo related infrastructure at the airports. It could also set down appropriate performance standards in terms of provision of requisite facilities with respect to air cargo. [5.9]

7.43 The Working Group recommends acceptance by the government of these key recommendations. In respect of both Customs related procedures and the recommendations made for reducing the dwell time on aspects not related to Customs, the Working Group also recommends that a High Level Review should be conducted immediately on the progress made in simplifying Customs procedures according to the recommendations of the IMG, which have been accepted by government. [5.10]

Electronic Data Interchange For Documentation

7.44 The Working Group recommends that a single window environment should be provided to enable the user to access all the statutory bodies. The user should need to file a single document online and the same should be

communicated to various statutory bodies for approval online. The system would provide a one-stop-shop solution for traders, enabling them to fulfil all export, import, and transit related regulatory requirements at a single portal. This would imply a replication of the single window environment adopted in Singapore, which has been recommended by the IMG on reducing the dwell time for clearance of seaborne cargo. To make a single window feasible and the EDI operational for all stakeholders, the forms would need to be standardised and IT framework strengthened. [5.12]

Road Transport Procedures

Cost of Check Posts on Inter-state Trade

7.45 Savings in compliance cost and time at the check posts could improve the profit margin of truck operations without any additional investment. According to the GTRIP Report (2006), faster turnaround of trucks alone, in the absence of check posts, will improve the operational efficiency of the road transport sector by at least 5 per cent. [5.21]

Green Channel at Check Posts

7.46 With the proposed phase-out of the Central Sales Tax, it is possible that the state commercial taxes departments may consider strengthening rather than relaxing inter-state border checks. Their concern is not so much with incoming but outgoing cargo because of the possibility of tax evasion by showing goods as having left the state without the transportation of the outgoing cargo actually taking place. Any intensification of the system of check posts will be a retrograde movement as far as logistics costs in the country are concerned. It has, therefore, become imperative to use IT in order to ensure compliance with various legal requirements prior to the movement of goods and before the vehicle crosses the border check posts so as to enable 'green channel' treatment for unhindered movement of goods vehicles. [5.24]

7.47 The establishment of a technology based computerised system, viz. TINXSYS, with the objective of tracking of inter-state transfer of goods and tracing them to a valid registered selling or purchasing dealer, could possibly provide the way out for alleviating the problems of road transporters. The TINXSYS now provides inter alia a dedicated network providing connectivity between the Empowered Committee office and the Headquarters of the Commissioner, Trade Tax Departments of 30 states/UTs. The TINXSYS website has the facility for verification of dealer information. [5.25]

7.48 A system could be devised whereby both the consignor and the consignee, who should both have a valid TIN, could upload, on the TINXSYS website, details of the transaction along with the registration no. of the vehicle transporting the good. If the check posts are informed in advance of the movement of the vehicle the check posts concerned, having checked the details of the transaction from the TINXSYS website, could allow the vehicles to pass through the Green Channel. For such a system to be operated it would be necessary to equip the check posts with the necessary hardware and link them up with the countrywide network. The Working Group recommends that the Government of India should launch a Central Scheme to fund the computerisation of check posts on some key inter-state routes, such as the Golden Quadrilateral, to start with to deal with the problem. On the present indications the GST is likely to be introduced in the country soon. Once this has come about it should be possible

to develop a new system for tracking inter-state movement of goods in the GST regime, which could ensure that there is no loophole left for a trader to show intra-state sales as inter-state sales. This would minimise or eliminate the need to have check posts at the border. The Working Group recommends that an all-out effort should be made by the Central and state governments for developing such a system. [5.26]

Motor Vehicle Taxation

7.49 Taxation on commercial vehicles needs to be related to the potential damage of the road by vehicular movement. The MV tax presently is levied on the basis of gross vehicle weight rather than on potential axle loads. This results in under-taxation of 2-axle trucks compared to MAVs. Since the former is a major source of revenue to states, there is a need for rationalisation of the tax structure in favour of MAVs to encourage their usage. Alternative measures such as Truck Equivalent Units can be taken into account for assessing the road damage caused by each type of commercial vehicle, and prescribing equivalent standard axle for the purpose of MV tax. [5.28]

7.50 The rate schedules for motor vehicle taxation across states are not uniform and are often complicated primarily due to the large number of categories created. The rate schedules are often complicated, primarily due to a large number of categories created. One of the states having a less complicated motor vehicle tax structure is Delhi, where all buses are taxed according to seating capacity and all trucks are taxed according to RLW. This system makes the tax structure quite simple and needs be adopted by other states too. [5.29]

7.51 Further, the lack of uniformity in motor vehicle taxation across states also causes diversion of vehicle registrations to low tax rate states and thereby causes wide variations in the tax burden across states. At a minimum, it is suggested that efforts should be made to bring about parity in tax rates in the neighbouring states in regions with heavy inter-state vehicular traffic through periodical reviews and joint discussions on bilateral or regional basis among them. [5.30]

7.52 It would also be desirable that the states amalgamate various taxes like road tax and goods tax on the vehicle and levy one single tax in view of the inherent advantages of reducing the cost of collection and saving in time for the vehicle owners. States should also consider entrusting a single agency with the task of collecting the MV tax, the passenger/goods tax, and even fees for the national and international state permits, thereby making this process simpler and faster. [5.31]

7.53 The procedure for issuing permits also needs to be simplified. The payment with respect to the composite fee for national permits should be allowed to be made in authorised banks in favour of the states concerned and the bank should be allowed to transfer the payment to the account of the concerned state. The detailed procedure in this regard could be worked out by the states and the select banks. Better still would be the introduction of a system of National Permit to be issued by the Central government on payment of a flat amount (say Rs 15,000 per annum) and the distribution of the annual proceeds among states according to the shares prevailing in the base year, which may be the year preceding the date on which the new system is introduced. In such a system, there would not be any requirement of endorsement by individual states. [5.32]

7.54 In order to enhance inter-state road transport efficiency, it is also necessary to amend Section 158 the Motor Vehicles Act, 1988, so

as to limit police powers for checking vehicle documents without the preliminary requirement of commission of an offence. [5.33]

Electronic Collection of Toll / In-Transit Charges

7.55 A policy framework that addresses the objectives, usage, standard technologies and inter-operability of payment systems needs to be developed. Also, vehicles using GPS equipment should be entitled to get a discount in the insurance cost. Further, the current Central, state, and PPP guidelines will need to incorporate compliance of the above framework for approvals, funding, etc. An initiative for developing the standard technology framework for inter-operability between different toll collection locations and payment gateways, e.g. banks, credit cards, etc., also needs to be made. [5.36]

Need for Electronic Connectivity in Different Transport Departments

7.56 Computerisation of RTO records and interlinking of all RTO data, as is already being taken up by the MoSRTH, will greatly help to verify electronically the authenticity of vehicles and drivers. Inter-office connectivity of the State Transport Department should also be made an integral part of various IT related projects so that the system can be used for efficient administration of the MV Act. Inter-office connectivity will subsequently be helpful during the integration of the data at the national level. [5.37]

MANPOWER ISSUES RELATED TO LOGISTICS

7.57 Since logistics decisions involve a great deal of interaction within the organisation the personnel dealing with logistics need to be equipped with not only technical and functional skills but also behavioural skills. It is, therefore, important that manpower planning in logistics is based on a full understanding of the need to develop cross-functional, multi-skill based capabilities. [6.2]

7.58 From the manpower perspective there is a big divide between enterprises in the organised sector and those in the unorganised sector of the industry. While the former have their systems of recruitment based on the minimum educational qualification and years of experience and scheduled training programmes, it is the training and skill development requirement of the enterprises in the unorganised segment which needs greater attention as these enterprises employ the majority of the logistics workforce. [6.5]

Educational And Training Requirements

Drivers of Transport Vehicles

7.59 It has been estimated that about 0.5 million commercial vehicles are being added every year to the existing fleet of 4.735 million, resulting in an annual requirement of the same number of commercial vehicle drivers. Assuming that one training establishment can turn out 25 trainees every month there is a need for more than 1660 drivers' training schools for commercial vehicles alone. Given these numbers, meeting this requirement will be quite difficult. The existence of weaknesses in the current regulatory regime will make the task even more challenging. In view of the experience of inadequate supervision and control of the training institutions by the state governments, measures are needed to improve the regulation of training institutions. One alternative for this could be to establish a centralised accreditation and quality assurance system for the training institutions. It is recommended that, while the licensing of training institutions for driving may continue to be with

the state governments, the law may be amended to require them compulsorily to adhere to an accreditation and quality assurance system. The Central Motor Vehicles Rules, 1989 will need to be amended for this and, if necessary, the Motor Vehicles Act, 1988 will also need an amendment. The CIRT at Pune will be a suitable body for being entrusted with the task of establishing and running such an accreditation system. In order to raise the standard of manpower in the road transport sector, it would be the CIRT's task to ensure that the training institutions are properly equipped with training modules and staffed with qualified trainers who themselves have received training in CIRT or other institutions of a comparable level. It is not enough for the Central government to specify the syllabus on a skeletal basis in the Central Motor Vehicles Rules, and the CIRT should be charged with the task of development of the course material in detail and updating it from time to time. It can draw upon the courses offered by the IRU, which imparts training in the area of road haulage both for national and international transportation, and design courses in line with the IRU curriculum to equip the drivers with the necessary knowledge to contribute to the efficiency of the logistics functions. [6.12]

7.60 An important element in the strengthened regulation of training institutions for transport vehicle drivers will be to ensure that these institutions have adequately trained staff. For this purpose adequate facilities need to exist for training of trainers. The MoSRTH is in the process of formulating a Central Scheme for establishing one training institute on driving and research in each state (two in the larger states) for addressing the training needs of driving motor vehicles. The central task of these institutes should be to produce training instructors. It may also be necessary for the CIRT to oversee the establishment of courses for training of instructors in the model schools besides undertaking training activities itself for the production of training instructors on a larger scale. In due course it should be made compulsory for the licensed driving schools to engage instructors who have passed out from these institutions. [6.13]

7.61 It should be necessary for drivers and mechanics to take courses in the classroom as well as on site. When the accreditation and quality assurance programme suggested above becomes operational the CIRT could conduct the written tests for the trainees before they are declared to have successfully completed the training programme. [6.14]

7.62 It is also necessary to provide for the training needs of the existing stock of drivers who have already obtained a driver's licence for transport vehicles. An amendment in the Motor Vehicles Act, 1988 would be necessary, making it possible to impose a requirement for undertaking compulsory short-term orientation courses before the drivers' licence is renewed. The CIRT could be asked to develop the content of such courses so as to include training on such matters as observance of traffic rules, good driving practices, and conservation of fuel. Vehicle manufacturers and dealers in commercial vehicles should be encouraged, and if necessary compelled by an appropriate amendment in the Motor Vehicles Act, 1988, to run such orientation courses. [6.15]

7.63 In order to provide a check against fraudulent driving licences all state transport authorities should be required to issue licences with a micro-chip in which all personal details of the holder of the licence have been entered. [6.16]

7.64 The Working Group recommends that the minimum qualification for transport vehicle drivers, who are responsible for haulage of goods, should be raised to passing of Class 10. [6.17]

7.65 The compensation and working conditions of this community should be in accordance with the guidelines prescribed by the Motor Transport Workers Act, 1961. A general health check-up and particularly eye test of the drivers should be a mandatory exercise on an annual basis. The drivers' services to the industry and society should be duly recognised by instituting Best Commercial Vehicle Drivers awards at the district, state, and national levels by the transporters' associations in cooperation with private sector companies. [6.18]

7.66 Provision of wayside amenities on all the main trunk routes of National Highways, on which initiative has already been taken by the NHAI, will improve the welfare of the drivers of transport vehicles. In addition, the vehicle manufacturers should be advised to consider facilities in the driver's cabin in HCVs in order to provide drivers with a modicum of comfort. [6.19]

Other Logistics Personnel

7.67 For the semi technical personnel positions in the transportation and warehousing sectors, namely transport supervisors and warehouse assistants, while licensing may not be applicable for these positions there is a need for prescribing compulsory qualification and formal training for creating a resource base for the ever expanding industry. [6.20]

7.68 The skill levels required for this category are as follows: basic computer and IT training and inventory management and store keeping skills for a warehousing assistant; customer service, leadership qualities, and scheduling skills for an operations supervisor; and technical and engineering knowledge and skills for a technical supervisor. Vocational training in IT and computer skills need to be imparted to the majority of the personnel employed in these sectors. [6.21]

7.69 Training initiatives in the above-mentioned areas can also include their integration in the curriculum of ITIs or polytechnics. Since ITIs and polytechnics are overloaded with the huge economy-wide training requirements, the proposed CLDC could also take initiatives for setting up of new institutes and training courses in identified areas in logistics over the next few years. The training course structure and material should be formulated keeping in mind the current requirements of the industry and should be devised after consulting the public and private sector on their needs. [6.22]

7.70 The training requirements for supervisory levels in international logistics for Indian companies, mainly relating to companies operating as CHAs, NVOCCs, freight forwarders, CFS operators, liner agents, air cargo agents, IATA agents and sub agents, GSA, etc., also need to be addressed. The Customs department which provides the certification for CHA agents should consider taking up the charge of conducting training courses, especially on the new EDI technologies for these agents prior to the certification. [6.23]

7.71 For this supervisory level, it is imperative to have diploma courses of an adequate duration in a polytechnic. One option could be to take up the training under AICTE, under the following courses: (i) Diploma in Freight Forwarding; (ii) Diploma in Air and Sea Freight; (iii) Diploma in Logistics and Supply Chain Services. Detailed modalities regarding these could be left to the CLDC. [6.25]

7.72 Regarding the higher levels, i.e. managerial and entrepreneurial, these are best handled by the business schools under AICTE and universities under their supply chain management specialisation programmes. [6.26]

E-learning for Workforce

7.73 In recent years there have been significant developments in e-learning which is being applied in schools, institutions of higher education, and corporate bodies. Similar learnings can be applied in the logistics sector for the vast workforce of drivers and other workers who are always on the move. Learning kiosks can be established at fuel stations, dhabas/hotels, and STD booths on the highways that are frequently used by these workers. This will help in not only educating this huge workforce but also reducing the incidence of AIDS (which is rampant in this population). E-learning kiosks can also deliver wholesome entertainment through technologies such as VSAT and GPRS. [6.28]

PART - B

Appendix A

COMPOSITION AND TERMS OF REFERENCE OF WORKING GROUP TO CONSIDER ISSUES RELATING TO LOGISTICS

I. Composition

1.	Anwarul Hoda, Member, Planning Commission	Chairman
2.	Chairman, Railway Board: Shri Sriprakash, Adviser (Infrastructure)	Member (nominated)
3.	Secretary, Department of Road Transport & Highways	Member
4.	Secretary, Department of Shipping	Member
5.	Secretary, Department of Civil Aviation	Member
6.	Representative from Department of Expenditure Smt. Anuradha Balaram, Director	Member
7.	Representative from Department of Revenue : Shri A. P. Sudhir, Member (Customs)	Member
8.	Representative from Ministry of Commerce : Shri Jayant Das Gupta, Joint Secretary (Infrastructure)	Member
9.	Representative from Government of West Bengal : Shri Sumantra Choudhury, Principal Secretary, Transport Department	Member
10.	Representative from Government of Maharashtra : Shri J. T. Nashikkar, Chief Engineer, Maharashtra Road Development Corporation	Member
11.	Representative from Government of Punjab	Member
12.	Representative from CII : Shri H. R. Srinivasan	Member
13.	Representative from CWC : Shri Ajay Khera, Executive Director, Commercial	Member
14.	Representative from CONCOR : Shri Anil Gupta, Director, Domestic Division	Member
15.	Representative from Motor Transport Congress : Sardar Gurinder Pal Singh, President	Member
16.	Shri Cyrus Guzder, Chairman and Managing Director AFL Private Ltd.	Member
17.	Shri S. K. Acharya, Managing Director & Chief Executive Officer, VI eTrans Pvt. Ltd.	Member
18.	Shri Vinod Chowdhry, Director, Jaypee Agents Pvt. Ltd.	Member
19.	Shri B.N. Puri, Principle Adviser (Transport), Planning Commission	Convenor

II. Terms of Reference

1. To define the role of logistics services particularly in the context of improvement in the competence of other sectors and in facilitating FDI.

2. Keeping in view, the changing requirement of users' in transportation from 'discrete services' to 'integrated solutions', critically review the developments in the logistics sector which includes *inter alia,* warehousing, transportation, freight forwarding and related regulations, procedures and supporting facilities.

3. To identify the bottlenecks in the development of efficient logistics system in the country.

4. To study the initiative taken in the field of improvement in logistics taken by other countries and analyse their experience with a view to draw lessons for the development of Indian logistics industry.

5. To suggest policy framework for the development of optimum, efficient, resilient, environment friendly and safe logistics system in the country keeping in view various issues including the following:-

    - Inter modal coordination
    - Inter State barriers in the free flow of traffic
    - Rapid growth of multi modal transport and containers
    - Existing legislations and regulations and their enforcement
    - Existing entry barriers for logistics providers
    - Role of Government in public sector
    - Need to optimize utilization of existing infrastructure
    - Upgradation of existing skills and standards

6. To review the management information system and suggest measures for improvement. In this context, study the impact of various IT tools including electronic networking to increase efficiency in communication system;

7. To suggest measures for facilitating setting up of logistics hubs/ parks

8. To suggest measures for maximizing gains and minimizing threats from outsourcing logistics. In this context, also look at the involvement of the public sector in the management of logistics network;

9. To assess the quantum of annual investment required along with its prioritization in order to develop an optimum and efficient logistics network.

10. To examine any other matter considered important by the Working Group.

Appendix B

COMPOSITION OF SUB-GROUPS SET UP BY THE WORKING GROUP ON ISSUES RELATING TO LOGISTICS

I. Sub-Group on Capacity issues:

Chair: Shri Cyrus Guzder, Chairman and Managing Director, AFL Private Ltd.

Co-Chair: Shri Anil Gupta, Director, CONCOR

Co-Chair: Shri Adikesavulu Reddy, Managing Director, Continental Warehousing

Members:

1. Shri Ajay Khera, Executive Director, CWC
2. Shri Jayant Dasgupta, Joint Secretary (Infrastructure), Ministry of Commerce
3. Shri J. T. Nashikkar, Chief Engineer, Maharashtra Road Development Corporation
4. Shri Sriprakash, Adviser (Infrastructure), Railway Board
5. Shri S. L. Ganapati, Managing Director, Logistics +
6. Shri S. Ravichandran, President, TVS Logistics Ltd.
7. Representative from Ministry of Civil Aviation
8. Representative from Ministry of Shipping
9. Representative from Ministry of Surface Transport (Road)

II. Sub-Group on Industry structure issues:

Chair: Shri S. K. Acharya, Managing Director, VI eTrans Private Ltd.

Co-Chair: Shri Sumantra Choudhary, Principal Secretary (Transport), Government of West Bengal

Co-Chair: Shri Arvind Parekh, Chairman, Lumeir Group

Members:

1. Shri H. R. Srinivasan, Member, Core Committee, CII Institute of Logistics
2. Shri Gurender Pal Singh, President, Motor Transport Congress
3. Shri Anuradha Balaram, Director (PF-II), Ministry of Finance (Expenditure)

4. Shri Chittranjan Das, Vice President, All India Confederation of Goods Vehicles Owner Association

5. Shri Jasjit Sethi, Chief Executive Officer, TCI

III. Sub-Group Procedural, process, regulatory and tax issues:

Chair: Shri Vinod Chowdhary, Director, Jaypee Agents (P) Ltd.

Co-Chair: Shri Vineet Aggarwal, Chairman and Managing Director, Travel Corporation of India

Co-Chair: Shri Devendera Dutt, Member – Customs, Ministry of Finance (Revenue)

Members:

1. Shri Mark Fernandes, Chairman, Shipping and Aviation Committee, Indian Merchants Chambers and Managing Director, Sylester and Company

2. Joint Secretary, Department of Insurance, Ministry of Finance

3. Shri Vikas Mohan, Head – Operations GATI

4. Shri H. S. Bhatia, Assiatant Vice President, TCI

5. Capt. P. V. K. Mohan, Managing Director, Seaways Rhenus Logistics Ltd

6. Shri Densil de Souza, Chief Executive Officer, Writers Relocation

7. Representative from Government of Maharashtra

8. Shri Karamjit Singh Sra, PCS, Additional State Transport Commissioner Government of Punjab

9. Shri Abhik Mittra, Chief Executive Officer, TNT

10. Representative from Ministry of Surface Transport (Road)

11. Representative from Ministry of Civil Aviation

12. Representative from Ministry of Shipping

13. Representative from Government of West Bengal

IV. Sub-Group on Technology, IT, and Manpower Skills issues:

Chair: Shri Niraj Ambani, Senior Vice President, Reliance Logistics

Co-Chair: Professor Mangesh G. Korgaonkar, Indian Institute of Technology, Mumbai

Co-Chair: Shri K. Sathianathan, Senior Vice President, Adani Logistics Ltd.,

Members:

1. Shri Shantanu Banderkar, Managing Director, A.T.C. (Clearing & Shipping Pvt. Ltd.)
2. Shri Pradeep Mishra, Representative from Safe Express
3. Shri K Rangarajan, Vice President, TCI
4. Shri Mahesh Naruttam, Chief Executive Officer, Geo Logistics
5. Professor D. K. Banwett, Indian Institute of Technology, Delhi
6. Professor S. V. Sardesai, Head, Central Institute of Road Transport.

Annexure A

SUMMARY RECOMMENDATIONS OF THE INTER-MINISTERIAL GROUP ON CUSTOMS PROCEDURES AND FUNCTIONING OF CONTAINER FREIGHT STATIONS AND PORTS

An Inter Ministerial Group (IMG) under the chairmanship of Revenue Secretary with other members from the Planning Commission, Ministry of Shipping, Ministry of Commerce, and Central Board of Excise and Customs was constituted in pursuance to the decision taken in a meeting of the Committee on Infrastructure on the Port Sector. The Group obtained feedback from trade and other stakeholders and deliberated in detail about streamlining Customs procedures in the functioning of container freight stations (CFS) and ports in the background of existing international standards.

The important issues discussed by the Group relate to Risk Management based Customs clearance, expeditious clearance of goods from port area, EDI based Customs control, integration of Customs EDI with other agencies, transshipment, amendment to Import General Manifest, bank guarantee and 'multiple bond' issue, consolidation of less than container load (LCL) cargo, conversion of 'foreign going vessel' for coastal run and e-payment of customs duty. The Group also considered policy issues such as expeditious clearance of uncleared/unclaimed cargo and 24X7 operation of Customs at ports and suggested some areas like temporary importation of containers, import of sludge oil, bunkering for coastal vessels and spares used in ship repairs for coastal vessels for considering tax exemption.

The Group made the following recommendations:

1. Introduce Risk Management System (RMS) as a measure of trade facilitation and for selective screening of only high risk cargo for Customs examination;

2. Faster delivery system by creating separate area in the port premises clearly earmarked for immediate delivery of cargo to specified accredited importers;

3. Licences issued by DGFT under various export schemes should be in electronic format. These licenses should have data in a format which is compatible with Customs EDI system and the Shipping bills should form the basis for generating such licences;

4. Simplified procedure for amendment to Import General Manifest be provided;

5. Simplified Customs procedure for transshipment between Gateway port and hinterland ports - ICD/CFS be introduced;

6. Waiver of requirement of bank guarantee for shipping lines carrying more than 1000 TEUs should be introduced;

7. To address the concerns of shipping lines for simplified procedure for conversion of foreign going vessel to coastal run and reiterate the instructions issued in this regard comprehensively to all Customs field formations;

8. Issue suitable instructions so that containers loaded with Less than

Container Load (LCL) cargo are allowed movement from one CFS to another CFS for stuffing;

9. Simplified EDI based bond module to be made operational for custodian/shipping lines covering both custodianship and transshipment;

10. Customs message exchange with ports, airports, CFSs, CONCOR, banks, and DGFT should be implemented as per agreed time schedule;

11. Facility of payment of customs duty through e-banking by internet and through more banks should be provided;

12. Customs staffing in identified major ports JNPT-Nhavasheva, Mumbai, Kolkata, Chennai, New delhi-Tughlakabad, Dadri, Parparganj (ICDs), Cochin, Kandla, Nagpur ICD, Ludhiana-ICD, Tuticorin Port and Haldia on 24 X 7 hours basis with attendant facilities from other agencies such as Ports, banks, PHO/ Drug Controller;

13. Streamline the entire procedure for disposal of uncleared cargo, especially with reference to valuation of such cargo, to enable expeditious clearance of uncleared/unclaimed cargo and to avoid congestion in port or CFS.

14. Following tax exemption proposals, suggested by Ministry of Shipping, can be considered for examination as a part of budget exercise in the context of Budget 2006–07 by the Department of Revenue-

(a) General Exemption from customs duty in respect of temporary importation of containers needs to be examined.

(b) General duty Exemption to sludge oil needs to be examined.

(c) Duty Exemption to bunkering for coastal vessels needs to be examined.

(d) Duty Exemption to spares used in ship repairs for coastal vessels needs to be examined

15. An institutional mechanism consisting of the senior officers of Customs Administration and Port authority shall be made responsible for implementation of various recommendations of the IMG. This would be an ongoing exercise so that such machinery can also take care of the future problems. The IMG would review the progress on a quarterly basis till March, 2007. The first such review meeting will be held not later than April, 2006.

16. A separate working arrangement in each Port between Customs Administration and head of the Port Authority along with custodians of CFS would be set up for meeting at least once a month to work out solutions to various problems that may arise in the course of clearance of goods. The Central Board of Excise and Customs and Ministry of Shipping at the central level would review the performance of such group at the central level.

The above recommendations of the Group would be implemented in the prescribed time frame ranging from few weeks to one year.

Annexure B

CONCLUSIONS AND RECOMMENDATIONS OF THE REPORT OF THE COMMITTEE OF SECRETARIES ON ROAD RAIL CONNECTIVITY OF MAJOR PORTS

Connectivity

1. Each Major Port should preferably have at least four lane road connectivity as well as double line rail connectivity.

2. Connectivity should be established within a well defined time frame. The on-going and proposed projects as well as the stipulated time schedules for the respective projects are indicated at Annexure-I to Annexure-IV (in the Report of the Committee of Secretaries).

3. In order to meet the agreed timelines, funds should be earmarked for these projects while making annual plan allocations for the concerned Ministries. The funding requirements for road and rail projects have been indicated at Annexure-V to Annexure-VI (in the Report).

4. All those projects for road rail connectivity where the IRR (internal rate of return) is less than the minimum prescribed would be considered on a case to case basis. Budgetary assistance as well as assistance under the Viability Gap Funding Scheme should be considered for projects with a relatively low IRR, depending on their importance.

Road Projects

5. Road connectivity projects may be broadly divided into two categories:

   (a) Port Connectivity (PC): Projects where the length of the road is not very great (less than 50 km); and

   (b) Hinterland Connectivity (HC): Projects where connectivity to source of cargo such as iron ore mines/coal mines is to be provided.

6. Schemes for port connectivity would be undertaken by NHAI on BOT basis. The national highways for port connectivity may be categorised as National Highways (PC).

7. State highways with a traffic volume of 10,000 PCUs (passenger car units) or more should be declared as national highways as per the extant procedure.

8. All National Highways (PC) where traffic count reaches 12,000 PCUs should be taken up for 4-laning on priority.

9. All NH (PC) projects would be taken up by NHAI as per normal parameters. However, a separate tolling policy for NH (PC) could be proposed jointly by NHAI and the Shipping Department where necessary.

10. All proposals for roads falling in the category of hinterland connectivity would be taken up by NHAI on BOT basis, as far as possible.

11. Annexure I (in the Report) contains a list of ten projects (327 km; Rs 2036 crore) which are sanctioned or under construction and need to be completed within the time frame indicated against the respective projects. The progress of these works should be monitored on a regular basis.

12. Annexure II (in the Report) contains a list of four projects (364 km; Rs 2009 crore) for which the approval process needs to be expedited. It includes two hinterland connectivity projects which have been sanctioned under NHDP-IIIA and for which DPRs (detailed project reports) are being completed.

Rail Projects

13. Eight sanctioned/ongoing projects (961 km; Rs 2014 crore) have been shown in Annexure-III (in the Report). These projects need to be completed as per schedule and close monitoring of the same needs to be ensured.

14. Annexure IV (in the Report) contains a list of five projects (263 km; Rs 944 crore) for which the Railways have carried out or are currently carrying out surveys with a view to determining the viability of these projects.

15. For Ennore Port connectivity, the traffic survey was done in 2003 and the IRR was found to be negative (-1.75 per cent). The Committee felt that in view of the proposed Iron Ore terminal and container terminal, the Ministry of Railways may get the traffic projections updated in consultation with Ennore Port to determine the viability of the project afresh. This work may be completed in the next 6 months.

16. For Mumbai Port, the IRR is -2 per cent as per the present survey. The Committee felt that this would improve significantly if the proposed container terminal is factored into the traffic estimate. 50 per cent of the cost of relocating encroachments would be borne by the Railways and the remaining 50 per cent would be shared between the Port Trust and the State Government. This would improve the IRR further. The Project was recommended on this basis.

17. The need for rail connectivity to Vallarpadam where International Container Transshipment Terminal (ICTT) is proposed to be set up within 4 years was discussed and it was recommended that after a feasibility study is completed this project could be considered for funding as a national project. A Task Force under the chairmanship of Secretary, Shipping and comprising representatives of the Ministry of Railways, NHAI, Department of Economic Affairs, Department of Expenditure and Planning Commission may deliberate and recommend the most viable option for road rail connectivity to Vallarpadam. Provision of budgetary support may be considered after these proposals are firmed up.

Environment Clearances

18. Ministry of Environment & Forests would expedite environmental clearance for pending road rail connectivity projects.

Monitoring

19. The COS (Committee of Secretaries) should review progress of implementation every quarter and submit a progress report to the Committee on Infrastructure.

Annexure C

LIST OF POSSIBLE LOGISTIC PARKS

1. Ludhiana
2. Rewari
3. Mumbai
4. Kolkata
5. Chennai
6. Bangalore
7. Kishangarh
8. Ahmedabad
9. Hajira
10. Vadodra
11. Vapi
12. Durgapur
13. Nagpur
14. Hyderabad
15. Sriperumbudur

Annexure D

EXTRACT FROM THE REPORT OF THECOMMITTEE ON ROAD SAFETY AND TRAFFIC MANAGEMENT

The primary objective of the National Road Safety and Traffic Management Board would be to promote road safety and improve traffic management in India. It would be responsible for the following functions:

a. Road related measures—designing, setting standards and conducting audits.

b. Vehicle related measures—prescribing safety features.

c. Road safety research—institutional linkages and training.

d. Traffic laws, operations and management.

e. Capacity building.

f. Road user behaviour strategies, public awareness and education.

g. Medical care and rehabilitation.

h. Other functions.

Annexure E

SUMMARY RECOMMENDATIONS OF INTER MINISTERIAL GROUP ON SIMPLIFICATION OF CUSTOMS PROCEDURES IN AIR CARGO AND AIRPORTS

An Inter Ministerial Group (IMG) under the chairmanship of Secretary (Revenue) with other members from Planning Commission, Ministry of Civil Aviation, Ministry of Commerce, and Central Board of Excise and Customs (CBEC) was constituted in pursuance to the decision taken in the seventh meeting of the Empowered Sub-Committee of the Committee on Infrastructure. The said Inter Ministerial Group examined the issues related to clearance of goods at air cargo complexes and suggested steps for simplification of Customs procedures in air cargo and airports.

The important issues which the Group discussed relate to Risk Management based Customs clearance, expeditious clearance of goods from air cargo complex, EDI based Customs control, integration of Customs EDI with other agencies, transshipment – uniform and simple procedure, amendment to Import General Manifest, bank guarantee waiver, etc. The Group also considered policy issues that were equally applicable to both ports and airports/ air cargo uniformly and suggested adoption of certain trade facilitation measures recommended by the similar IMG constituted under the aegis of Committee on Infrastructure.

The Group made the following recommendations:

1. Risk Management System (RMS) should be extended to nine specified EDI locations on priority basis, viz. (i) Ahmedabad Air Cargo, (ii) Hyderabad Air Cargo, (iii) Trivandrum Air Cargo, (iv) ICD Ahmedabad, (v) Goa Customs House, (vi) Tuticorin, (vii) Cochin Customs House, (viii) Ludhiana, and (ix) Visakhapatnam Customs House.

2. Uniform transshipment procedure for expediting movement of import/export goods within Indian airports should be provided. The waiver of transshipment Bank Guarantee and instruction clarifying 'Gateway Port status' should also be issued.

3. Free period available to importer for storage of goods in the premises of custodian may be reduced from 5 days to 3 days. However, clearance of goods requiring plant quarantine testing, testing for Genetically Modified Food, Feed, Genetically Modified Organism (GMO) and Living Modified Organisms (LMOs) would be exempt from the reduced time period constraint.

4. Issues pertaining to 'Express industry' should be implemented i.e

   (i) Provide uniform examination norms for import/export of courier consignments.

   (ii) Amend Courier Imports and Exports (Clearance) Regulations, 1998 in respect of the following,

- Align the value limit to Rs 10,000 for duty free import of 'samples' and 'free gifts' under Courier Regulations on the basis of exemption already provided under notification' No. 154/94-Cus. and No. 171/93-Cus.
- Enhance of validity of registration and renewal under Courier Regulation to 10 years.
- Provision of single registration to Couriers enabling them to operate at all Customs locations.

5. Instruction should be issued in respect of perishable cargo for dispensing with routine examination and resorting to examination only on the basis of intelligence or information, so as to ensure that perishable cargo movement in import/ export clearance process is quick.

EDI related issues:

6. Directorate of Systems and NIC should provide online acknowledgement to Airlines and Console agents (for house airway bills) in addition to existing acknowledgement by sending a copy of complete IGM which is presently being sent to the Custodian and to the carrier.

7. Directorate of Systems should send the details of the manifest ULD wise. This would enable Airport Authority of India / Custodian to sort out ground level problems in segregation and to avoid delays.

8. The prevailing mechanism for notifying the trading partners about the unavailability of services in ICEGATE operations should continue.

9. ICES terminal should be provided at passenger terminal so that the IGM number is uploaded in ICES as soon as the information is made available to Customs. Once the central server infrastructure is made available this should be interlinked and uploaded online.

10. Carriers/Airlines should be free from submitting hard copies of Customs documents like AWB and Manifest once complete information/ details are filed online by Carriers/ Airlines.

11. NIC and Directorate of Systems should provide training in respect of ICES/ ICEGATE to the airlines and other agencies for enhancing compliance with law and procedures.

12. Field formations should be instructed by CBEC to respond to the specific queries of stakeholders in a time bound manner.

13. An institutional mechanism consisting of the senior officers of Customs Administration and Airport/Cargo authority shall be made responsible for implementation of various recommendations of the IMG. This would be an ongoing exercise so that such machinery can also take care of future problems.

Annexure F

REGULATIONS GOVERNING LOGISTICS

The applicable laws governing movement of vehicles and freight across the country are as follows:

1. Laws governing access control to National Highways:
   - National Highways Act, 1956
   - National Highways Rules, 1957
   - The National Highways Authority of India Act, 1988
   - National Highways (Land and Traffic) Act, 2002
   - Highways Administration Rules, 2003.
2. Laws governing inter-state movement of goods:
   - Central Sales Tax Act, 1956
   - Various State Sales Act/ State VAT
   - Various Local/Municipal Acts governing Octroi and Entry Tax.
3. Laws governing inter-state movement of vehicles:
   - The Motor Vehicles Act (MV Act), 1988
   - The Central Motor Vehicles Rules, 1989 (amended in 1994, 2000, and 2002)
   - Various State Motor Vehicles Acts.

LAWS GOVERNING ACCESS CONTROL TO NATIONAL HIGHWAYS

As per Section 5 of the National Highways Act, 1956 any highway corridor can be declared as 'National Highway' (NH) from the national development perspective point. However, there was no provision, until 2002, empowering the Central government to access and control the NH from the point of controlling of encroachments and restricting access to NH from the adjacent lands. This was done through the National Highways (Land and Traffic) Act, 2002. Further, traffic regulation has been vested with the National Highways Authority of India (NHAI) as per Section 16(d) of Chapter IV of the National Highways Authority of India Act, 1988 and the ownership of NH/land always vests with the Central government. Despite this provision states have set up their own check posts on National Highways.

LAWS GOVERNING INTER-STATE MOVEMENT OF VEHICLES

While the MV Act and Central Motor Vehicles Rules are Central enactments, their enforcement is the responsibility of State governments. The Act prescribes conditions for regulation of all types of motorised road transport. These are mainly carried out under the aegis of the State transport authorities. Further, there are regulations affecting trucking and road freight industry as detailed below.

Safety/Quality Regulation

There are provisions in the MV Act that deal with quality regulations. The existing quality

regulations include roadworthiness of vehicles (fitness certificate - Section 56 of the MV Act), competence in driving (driver licensing - Section 9 of the MV Act), and control of emissions and observance of other regulations.

Environmental Regulation

Rule 115 of the Central Motor Vehicles Rules prescribes limits for emission of carbon monoxide, oxides of nitrogen, hydrocarbons and suspended particulate matter, etc. The Central government has the power to lay down emission levels for motor vehicles. Emission norms, first prescribed in 1992, were subsequently tightened and were made more stringent with effect from 15 April 2000.

Regulation Of Axle Loads

Enabling provisions in the MV Act such as Sections 113, 114, 194, 199, and 200 empower the Motor Vehicles Departments of states to ensure that vehicles carry loads within the prescribed limits. However, overloading remains a common occurrence.

Insurance

Third-party liability risk cover is mandatory under the MV Act. Under third-party policy, the insurer provides indemnification to the insured against all sums that the insured shall become liable to pay in respect of damages to third-party property or death/bodily injury to any person arising out of the use of motor vehicles. However, the MV Act does not make it compulsory to insure cargo carried in vehicles, for which a separate policy is required.

Essential Commodities Act, 1955

The emphasis of this legislation has been on regulating the distribution of essential commodities specified in Section 2(a) of the Essential Commodities Act, 1955 rather than facilitating their supplies. The persons accompanying the goods are the truck driver and cleaner. In the event of any violation of the Essential Commodities Act, 1955, the driver and other staff in the truck are the first casualities to be booked for punitive action as accomplices to the crime. The duly authorised officers of the state government have powers to detain vehicles to verify their contents.

Indian Forest Act, 1927

This empowers the Union and state governments to make laws and regulations to regulate transit of timber and other forest produce. Chapter VII of the Act is specifically meant for controlling and regulating the movement of forest produce. Further, the Central government is empowered to make rules to prescribe the route by which timber or other forest produce alone may be imported, exported, or moved into the territories to which this Act extends. Besides the above, there are rules, such as the Handling and Management of Hazardous Waste Rules of 1989, controlling the movement of such goods.

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