

CONCOR IN THE VANGUARD OF INDIA'S INTERMODAL DEVELOPMENT

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ABSTRACT

Indian Railways (IR) made a rudimentary beginning with intermodal transportation of domestic shipments followed by its own 5-ton container for door-to-door transport of domestic cargo in the mid-1960s. IR also set up a nucleus of makeshift inland depots with linkages to gateways for ISO containers.

The Container Corporation of India Limited (CONCOR), a wholly-owned government company took over IR's infrastructure of inland container depots (ICDs) and provided a single-window, one-stop service to shippers at dry ports for warehousing, customs clearance, consolidation, disaggregation and other terminal facilities as well as feeder 'last mile' road services. CONCOR also diversified into handling and carriage of intra-country freight in ISO containers. A conscious thrust towards low-cost, modular construction and expansion of its network of ICDs and container freight stations, together with customer-driven business ethos has helped CONCOR win confidence of industry and business. It has also helped IR face the growing challenge from road transport for a share of the export-import traffic.

CONCOR stands today with a commendable track record and is ready to cope with emerging challenges of competition. Its management along with a compact body of professionals it has built would reckon its future as yet another opportunity to think out-of-the-box and reach new heights in intermodal transportation.

THE BEGINNINGS

Relatively a late starter in intermodal/multimodal development, India improvised some rudimentary infrastructure at some of the ports like Cochin,

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Chennai (Madras), Kolkata (Calcutta) and Mumbai (Bombay) supported by makeshift rail-fed inland container depots (ICDs) at Delhi, Bangalore and Coimbatore in the mid-1980s. It was only in 1990 onwards that intermodal development came to make a significant beginning, when Container Corporation of India Ltd. (CONCOR) provided an impetus to the scheme.

While, in the 1980s, the then Ministry of Surface Transport was assigned the task of developing container infrastructure and facilities at ports, particularly at Bombay, Calcutta, Cochin and Madras, as well as the development of a new modern container port at Nhava Sheva, (called Jawaharlal Nehru Port – JNP), the Government decided to set up a separate fully government-owned corporate body under the aegis of the Ministry of Railways, for the facilitation and promotion of intermodal transportation in the country. Following this decision, CONCOR was incorporated in March 1988.

Liberalization of the economy: International trade today serves as the bedrock for an increasingly interdependent global network of technology, investment and production. India realized it could grow fast only as part of the world, not in isolation; it must create an environment and framework that would provide strong impetus to exports.

Genesis: Containerization and intermodal transportation have emerged as the vehicle for efficient logistics arrangement. Slow and tardy, though, the development of containerization in India began when the first ISO container was brought to India's south-west coast, at Cochin port by an APL vessel on 27 November 1973. It was five years later that the first international container service was introduced on India-Australia corridor in September 1978. For as long as another decade intermodal transportation remained generally a mere concept. The slow development at India's ports was matched by even slower development of infrastructure for intermodal networks inland.

Indian Railways (IR) the pioneer: It goes to the credit of IR to have the foresight in the 1960s to realize the immense potential as well as benefits of cargo transported door-to-door through integrated intermodal arrangement. IR had in earlier years launched a rudimentary intermodal service for "smalls" or less than wagon load traffic through street collection and delivery service.

The gradual decline of railways in most of the industrialized countries had a lesson for IR, which too observed that it needed to think and act afresh for the fast dwindling general goods traffic, that as a rule was high revenue-yielding. Containerized intermodal transport was thus started in India as far back as 1966-1967 by IR with the transportation of domestic cargo in,

what were known as Indian Railway Standard (IRS), containers. (Three IRS containers of 5-ton capacity each would be counted as equivalent to one ISO TEU). IR inducted 4.5-ton and 5-ton containers for carrying intracountry cargo between metropolitan cities. Not much progress could, however, be made to run unit trains of containers. Consistent with the then myopic view generally held, IR fell a prey to doing most operations in-house, all pre-carriage and post-carriage activities including collection and delivery of cargo, even all millwright activities for operating and maintaining cranes vehicles, and containers. IRS containers remained in use till 1994, although no separate account was made for them. They were subsumed in the overall throughput data after 1991-1992. Table 1 provides IRS container traffic and earnings by year.

Table 1. Traffic in (5-ton capacity) domestic containers

Year	Number of containers	Earnings (million rupee) Rs
1980-1981	43 649	NA
1981-1982	37 864	NA
1982-1983	36 173	NA
1983-1984	32 276	53.8
1984-1985	36 779	66.0
1985-1986	36 390	74.2
1986-1987	38 433	68.9
1987-1988	36 113	71.7
1988-1989	27 900	66.8
1989-1990	29 281	73.8
1990-1991	26 649	83.2
1991-1992	37 485	NA

Source: Commercial Directorate, Railway Board, Ministry of Railways, India.

Notes: Fiscal year: 1 April to 31 March of the following year.

Starting with an improvised ICD at Bangalore within the rail freight handling siding at the station, in August 1981, IR designated a few other similar ICDs at Anaparti, Coimbatore, Guntur, Guwahati, Ludhiana and Pragati Maidan (New Delhi). The first four among them provided the linkage for movement of containers to and from Cochin and Madras ports; ICD at Guwahati was linked to Calcutta and Haldia ports, primarily for tea exports; ICD at Delhi had its connectivity to Bombay port. In 1988-1989, the total container handling at these ICDs was of 43,065 TEU, a mere 8.7 per cent of the containers handled at the gateway ports.

Handling and transport of ISO containers from gateway ports to hinterland was started by IR in 1981-1982. A 229 TEU throughput was achieved in the initial year. This throughput level rose to 43,065 TEU in 1988-1989, by which time, domestic IRS container throughput had drastically reduced from the 1980-1981 peak of 14,549 TEU equivalent to 9,300 TEU equivalent. The share of container traffic in IR's total freight traffic in 1988-1989 was less than 0.2 per cent by volume. Of a total IR's freight loading of 302 million tons, containerized traffic accounted for less than 0.5 million tons. International trade required more transit-time sensitivity and 'small-volume customer' care than what IR with its focus on large volumes of bulk commodities could provide.

I. CONCOR COMES INTO BEING

The fledgling CONCOR in its small way had an important task to manage change in India's logistics architecture. It had its task laid out: spearhead the container revolution in the country, build and operate infrastructure linkages for rapid and accelerated inland penetration of containerized international trade traffic; develop and promote the use of ISO containers for intra-country domestic general goods, duly aggregate them for unit train operation on specified routes; develop technologies for optimal intermodal services including concepts of piggyback and roadrailer; provide pragmatic and technical knowhow consultancy and management services in the field of intermodal transportation, warehousing, management of terminals, packaging and palletisation, container leasing and repairs; and function as a model intermodal transport operator.

A string of dry ports

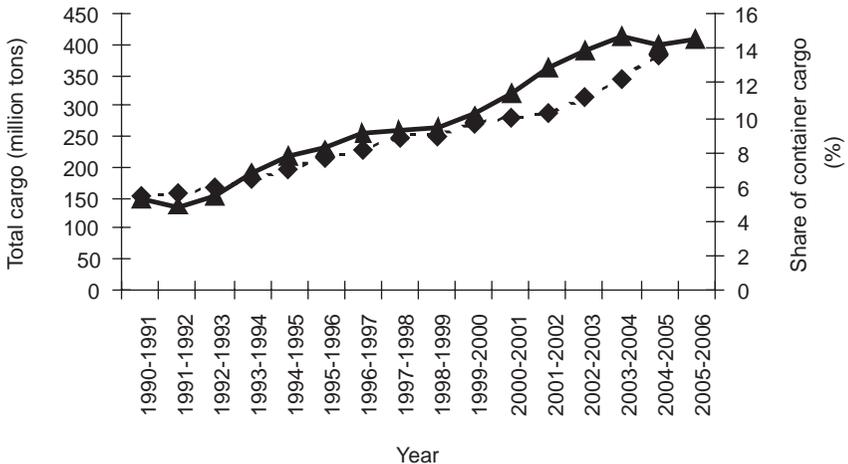
Set up with the objective of providing comprehensive integrated intermodal logistics support for India's international and domestic trade by way of direct door-to-door services, encompassing the flexibility of road transportation along with robust and economical unit train advantage of countrywide rail network, CONCOR moved about establishing a string of ICDs and container freight stations (CFSs).

The new gateway at Nhava Sheva near Mumbai steadily emerged as the main container terminal on the west coast linked to the sprawling hinterland in the western and central parts of the country as well as the northern and north-western region. The gateway itself came to be the largest beneficiary of intermodal infrastructure, especially the CONCOR's flagship ICDs at Tughlakabad in Delhi and at Ludhiana in Punjab.

Rail and road links were established with six of the eleven major ports in the country, with dedicated container liner services between Delhi and the ports of Mumbai, Nhava Sheva, and Chennai. The linkages on the network incorporated all good features of road and rail, in fact, the best of road and rail together. CONCOR utilized extensive rail network for long hauls, while road vehicles were involved for door-to-door deliveries and short lead movements. Modal choice was dictated by the efficiencies and economies of transportation.

Within two years of taking over the business, CONCOR more than doubled its container handling from 52,084 TEU in 1989-1990 to 108,277 TEU at the close of 1991-1992. Of this, 95,782 TEU were export/import containers. Compared with the container handling at the then 11 major ports, projected at 669,000 TEU in 1990-1991, container handling in the hinterland continued to be low, at about 10-11 per cent. The changes in India’s export-import basket, the rising share of manufactured and value-added export trades and of general cargoes in import trades constituting more than 70 per cent of total trade volumes, demanded greater sophistication in handling and transit that containerization represented. Figure 1 indicates the growing incidence of containerization in India’s external trade in relation to the overall cargo volume handled at its gateway ports.

Figure 1. Total cargo and share of containers



- - ◆ - - Total Cargo Traffic at Major Ports —▲— Share of Container Cargo: %

Source: Indian Ports Association.

The extent of containerized cargo volumes handled at different ports depended on the requisite infrastructure facilities available. In respect of the share of containerized cargo in non-bulk general cargo, JNP has been in clear lead, in fact, serving almost as an exclusive container handling port followed by Chennai, Cochin, Kolkata and Tuticorin. Table 2 shows it in a nutshell.

Table 2. Volume of cargo at major ports in 2005-2006

Ports	Total cargo (million tons)	General cargo			Share of general cargo as per cent of total	Share of containerized cargo in general cargo (per cent)
		Others	Containerized	Total		
		(million tons)				
All major ports	423.42	68.98	61.83	130.81	30.90	47.30
Kolkata	10.81	2.49	3.23	5.72	52.90	56.50
Haldia	42.22	5.20	1.71	6.91	16.40	24.70
Visakhapatnam	55.80	8.84	2.63	9.47	17.00	27.80
Ennore	9.17	–	–	–	–	–
Chennai	47.25	8.58	11.76	20.34	43.00	57.80
Tuticorin	17.14	5.35	3.43	8.78	51.20	39.10
Cochin	13.94	0.88	2.54	3.42	24.50	74.30
New Mangalore	34.45	1.43	0.15	1.58	4.60	9.50
Mormugao	31.69	1.94	0.11	2.05	6.50	5.40
Mumbai	44.19	11.84	2.15	13.95	31.60	15.40
JNPT	37.75	1.48	33.78	35.26	93.40	95.80
Kandla	45.91	16.94	2.31	19.25	41.90	12.00
Paradip	33.11	4.03	0.05	4.08	12.30	1.20

Source: Indian Ports Association.

As CONCOR moved about, generating container culture and consciousness in the country, it had firm plans drawn up to increase the number of container terminals that in Phase I, by the end of the Eighth Five Year Plan (1992-1997), would cover most of the major trade centres in the country. Realizing that resources will always be difficult to come by, CONCOR chose to improvise and build in stages. It helped conserve resources, cut costs of operations and build speedily.

Trail-blazer

CONCOR rests on the firm foundation of essential countrywide infrastructure it has built and ancillary software of systems it has put in place.

While it has engendered the crucial intermodal milieu in the industry, concomitant institutional framework has simultaneously come up to help expand and sustain the practice. The first few years of CONCOR's existence were more than an ambitious agenda of action, which was necessary not just for targets to be achieved, but for its relatively new technology to take root in the country's industrial and logistics milieu. Other important features relevant to legal, financial, and claims and compensation issues, and electronic data interchange, required to be constantly kept in focus for best global practices and systems to be incorporated in India's procedural and policy framework.

With around 30 per cent of total containerized export-import cargo handled at India's ports being carried by CONCOR mostly by rail to and from a network of dry ports, it provides the gains and facility of integrated mobility technology to shippers in almost every nook and corner of the country. Although CONCOR must strive to increase the rail-borne container traffic from and to ports much beyond the current 30 per cent level, this share in the intermodal business is far higher than what has been achieved by, say, the two of the world's largest comparable railway systems in China and the Russian Federation.

Triggers qualitative changes

CONCOR has played a pioneering role in India for ushering in intermodal transportation of export-import trade. Intermodal transport infrastructure development fostered by CONCOR brought about far-reaching qualitative changes in the internationalization of production as well as to enable Indian industry and commerce to acquire the requisite competitive edge in terms of cost, quality and reliability. Around its ICDs and CFSs, regional production networks grow and expand. Spatial dispersal of economic activities follows; and improved access to inland centres of industry and trade helps spread the benefits of economic growth from the traditionally strong coastal areas around ports.

Together with new growth impulses arising around new inland centres of industrial and commercial activity, an environment of competition as much as integration of services helps transaction costs to be lowered and time to be saved.

ICDs and CFSs as dry ports make a tangible contribution to growth, directly, through reduced transaction costs and, indirectly, through productivity gains as entrepreneurs organise their manufacturing and distribution more

efficiently. CONCOR's ICDs and CFSs provide facilities for cross-border trade to prosper in hinterland with linkages to gateway ports.

CONCOR devised its business strategy to be in harmony in the trinity of time, space and motion. As its core business of a carrier, a terminal operator and logistics operator, CONCOR pursued the essence and purport of intermodalism with the primacy of rail transit, road services being utilized mostly in the form of supplementary services to provide door-to-door linkages. Wherever it is operationally or economically a superior option, road has been used as an alternative to rail.

Essentially customer-driven

The CONCOR testament desired every customer to be served for an abiding relationship to recognize the different needs of its customers. Its customers were its partners. It strove to provide them a continuous stream of ideas and innovations to make their business operations efficient and profitable. CONCOR began providing integrated transport services, bringing advantages of containerization to the shippers' doorsteps – unitization, reduced handling, free from damages and pilferages, facility of customs inspection, direct supervision of stuffing/destuffing of cargoes, leading also to better stowage and consequent gains in ocean freight costs. With the terminals working as one-stop, single-window facilities and an optimal mix of road-cum-rail services from factory to port, a complete service package was offered.

Cost and quality primary concern

CONCOR maintained a commitment to cost consciousness. The realization that high costs inevitably got passed on to the users, rendering country's products uncompetitive, impelled the CONCOR executives to analyse and minimize cost of services as an ongoing exercise.

Prior to CONCOR coming into being, the makeshift ICDs were being operated by IR and point-to-point lumpsum rate had been fixed for transport of containers from and to ports. There were separate rates for different streams/routes worked out on the basis of fully distributed unit costs of the zonal railways with a margin of profit. While taking over the then existing ICDs from IR in 1989, CONCOR persuaded the former to fix a flat rate per TEU per km payable by CONCOR, without relating it to each stream or route. Weighted average cost of all streams of traffic was worked out, and a flat rate per km was derived; a 15 per cent rebate on the cost so determined was allowed for services not rendered by IR (documentation and other terminal services,

marketing, etc.); and a 20 per cent profit for IR was added to such rebate-adjusted cost.

Tariffs and terms

CONCOR also implemented a simplified tariff system as a package, covering most of the generic service, inclusive of terminal handling at both ends, lift-on, lift-off of boxes, positioning thereof, documentation as well as transportation. It was essential that it settled with IR all such important commercial and operational details, for it to function with its own identity and flexibility.

Towards this objective, IR would be working as an agent of CONCOR for the services to be specified in the agreement. The charge by way of terminal costs was to be excluded from these tariffs, as the operations would be conducted by CONCOR. The gross weight of two ordinary 4-wheeler wagons was more than that of a flat freight car containing two TEUs, leading to the average cost for haulage of the container per km being less than that for conventional wagons. Economies of scale would accrue to IR, if traffic was offered in train loads, and as such, CONCOR insisted that consideration be given to it for having a competitive edge to establish itself in the field of intermodal transport.

In fact, the Railway Fare and Freight Committee appointed by the Ministry of Railways further recommended in their report in December 1993 that

“The principles for fixation of rates for containerized cargo or for that matter any general goods cargo requiring multimodal transport, will have to be different from the principles adopted for fixation of standard commodity rates for bulk traffic.”

The Committee maintained

“A distinction should be made in the rate for a block train and a piecemeal flat. Cost of marshalling should be deducted in the case of former, and a lower rate be charged. We have recommended 5 to 11 per cent reduction in train load rates from wagon load rates. We recommend that block trains of containers should be charged at 5 per cent lower than wagon load rates.”

To keep it simple and slim

In its freight charge on the basis of per TEU km, CONCOR has opted for a simplified tariff structure, levying a virtual freight all kind (FAK) irrespective of the commodity in the box. It has also kept container and cargo handling charges standardized. A composite and consolidated charge is quoted for most of the common services including terminal handling charges at the ICD and the gateway together with haulage cost for rail transit of the container.

CONCOR's Inland Way Bill (IWB) covered road-cum-rail haulage, although the undefined liability regime and the uncertainty with regard to settlement of claims remained an area of concern. IWB signified CONCOR's abiding urge to simplify documentation sans bureaucratic rigmarole.

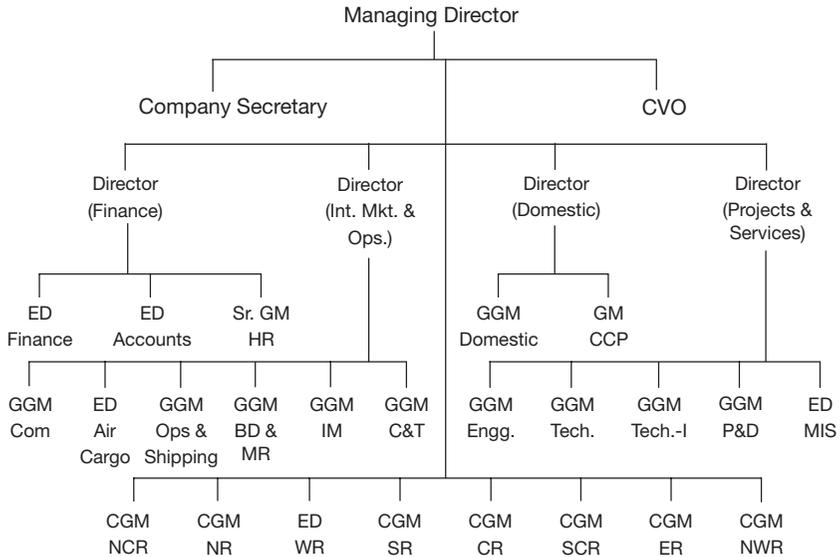
Low cost model

CONCOR recognized that deployment of resources, both human and technological, must generate high efficiency and productivity. Lofty, lumpy investments were eschewed; instead, sights were generally set on small-improvised facilities, to begin with, involving minimal expenditure and timeframe. ICDs set up at Sabarmati in Ahmedabad, Chinchwad in Pune, Sanatnagar in Hyderabad, Shalimar in Calcutta were examples of this corporate thrust. That enabled CONCOR to have these schemes and projects, long awaited for years, put on the ground in a matter of a few months. The response from trade and industry was equally encouraging, so also the help and cooperation from the relevant regulatory departments and agencies, particularly Customs.

CONCOR followed a deliberate policy of keeping capital costs low initially. Facilities were built in stages on a modular pattern as traffic picked up after the setting up of the interim-phase improvised terminals to provide the basic facilities speedily. Subsequently, it proceeded with unrelenting vigour to develop integrated full-fledged ICDs. At the same time, old terminals and depots were regularly strengthened; more linkages between the country's ports were established. The idea at CONCOR was a simple one, "fat birds don't fly": for them, it was so much more important to soar, not just fly. There was no sticking to a routine, no standard procedures, no frontiers drawn at individual desks and work windows.

CONCOR has adopted a lean and functional management structure (outlined in the chart below), to be constantly reviewed and revamped according to the needs and exigencies of business.

Figure 2. CONCOR's management organization



BD = Business Development
 C&T = Customs and Training
 CCP = Cold Chain Project
 CGM = Chief General Manager
 CR = Central Region
 CVO = Chief Vigilance Officer
 ED = Executive Director
 ER = Eastern Region
 GGM = Group General Manager
 IM = International Marketing

Int. Mkt. & Ops. = International Marketing and Operations
 MIS = Management Information System
 MR = Market Research
 NCR = North Central Region
 NR = Northern Region
 NWR = North Western Region
 P&D = Planning and Development
 SCR = South Central Region
 SR = Southern Region
 WR = Western Region

II. A BLUE CHIP COMPANY

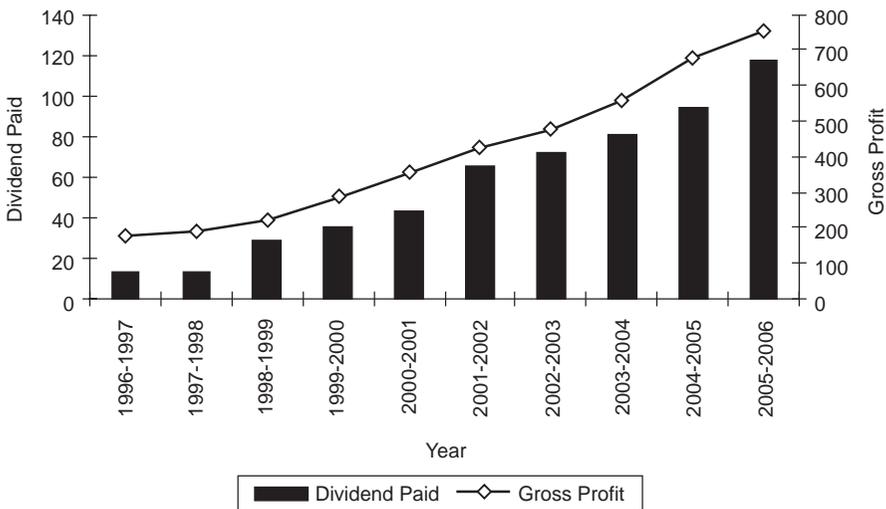
CONCOR has been maintaining a steady growth in its turnover; it has been more than doubled during the last five years, from Rs 11.10 billion in 2000-2001 to Rs 24.89 billion in 2005-2006. It has kept a lean organizational structure, with its employees' cost within 2 per cent of total expenditure. Its financial health is further reflected through the net worth of Rs 20.91 billion, and liquidity ratio of 2.47 and no debt in its balance sheet.

When the loss-sustaining public sector undertaking was common in the country, CONCOR closed its very first year of operations on a high note. It posted a pre-tax profit of Rs 10.04 million. It gained the confidence to sail afloat, although investments would be high. CONCOR is designated a *mini-ratna* (a tiny scintillating jewel) among India’s public sector undertakings, an acknowledged blue chip, hailed as a new genre of lean and nimble, customer-driven corporate entity in the public sector.

Steadily moving on a high growth path consistently, in the range of 13 to 15 per cent annually, CONCOR has handsomely contributed to the shareholders’ wealth. It started with authorized capital of Rs 1 billion and paid up capital of Rs 650 million; 37 per cent of its equity share capital has subsequently been disinvested, the balance 63 per cent share is held by the Government of India. Three tranches of divestment took place during 1994-1995, 1995-1996 and 1998-1999. The major private sector shareholders are foreign institutional investors (27.1 per cent), mutual funds and Unit Trust of India (4.67 per cent), banks and financial institutions (1.95 per cent), and the balance is held by non-resident Indians and other individuals. Financial performance of CONCOR is shown in figures 3 and 4 and in table 3.

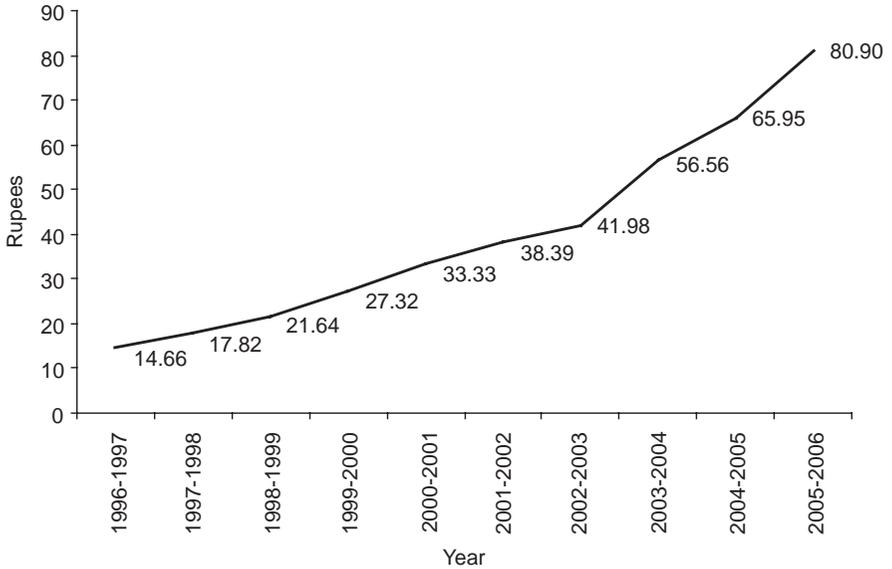
Figure 3. Gross profit and dividend paid (crores of rupee)

(1 crore = 10 million)



Source: CONCOR.

Figure 4. Earning per share of Rs 10



Source: CONCOR.

Table 3. Some salient financial indices

	<i>Per cent</i>			
	2002-2003	2003-2004	2004-2005	2005-2006
Return on capital employed	38.83	36.74	38.05	34.64
Return on equity	39.32	37.03	35.87	32.15
Return on fixed assets	27.77	30.66	27.85	29.31

Source: CONCOR.

III. CUSTOMER FOCUS AND INNOVATIVE URGE

New ground was broken and several initiatives brought in, e.g., direct stuffing of goods in containers straight from the road vehicle without first being unloaded and inspected by Customs. Likewise, the Central Excise staff posted for other regulatory functions in the factory supervised stuffing of containers and sealed them on behalf of Customs. This proved to be an important element in progressively increasing the factory stuffing/destuffing of export/import containers, thereby helping door-to-door intermodal transport gains accruing to trade. As a logical follow up of the above line of business, CONCOR has gone into:

- Mini-bridging of import containers from port to port by rail, with the objective of helping ships avoid calling at multiple ports within India.
- Bonded warehousing for long-term storage of import cargo, thus enabling fast release of import containers which, in turn, improved productivity of CONCOR's terminals as well as of the shipping lines.
- Addition of domestic containerized rail transport in its business.

Another cost-effective ingenious scheme has been the institutionalization of road-chassis system; for instance, at Moradabad and Panipat, the former an important node for handicrafts and the latter for textile made-ups, empty containers from ICD at Delhi are taken on trailers, export cargo Customs-cleared and stacked in the warehouse in advance being directly stuffed into containers, while still on chassis, and the sealed containers move back to the rail container complex at Delhi all in a matter of few hours for onward dispatch to gateway port by an express block liner train.

Improvisations and innovations

CONCOR emphasized a commitment to the concept of productivity, economy, improvisation, and innovation. The concept of port side container terminal (PSCT) is an instance. Conceived and developed by CONCOR, a PSCT was commissioned in March 1991 at Tondiarpet, within 6 km from the port of Chennai. Wadi Bander came up the following month across the way from Bombay port. Much the same way, other PCSTs added a new dimension to container handling.

PSCTs complement the facilities offered by premier container handling ports, particularly the Chennai port on the east coast and the Nhava Sheva and Bombay ports on the west coast. The PSCTs or near-dock terminals or off-dock container centres constituted extremely cost-effective infrastructure providing virtual extension to the respective ports. They served as intermodal hubs concomitant to quayside operations, facilitating quick dispersal of import containers from ports, and efficient aggregation of export containers for timely loading on to vessels, and relieving congestion and reducing strain on the port infrastructure. The concept further facilitated the rail landbridge development to link specialized port hubs between the east coast and the west coast.

Ever new initiatives

CONCOR also planned to provide an answer to chronic congestion and bottlenecks of air cargo clearance of exports, particularly garments and leather products. Cargo congestion at important airports like Chennai, Delhi and Mumbai had been endemic, particularly during the busy season (November to March), when exports of garments and leather products attained their peak during the year. CONCOR's emphasis was on cost effective and speedy transit of Indian exports. For readymade garments and leather shoes, for example, it offered a specially designed composite package of logistics services. For expeditious aggregation and transit, specific days were nominated for carting of cargo prior to the container for the destination being stuffed and dispatched. The transit time was guaranteed by CONCOR, for which detailed logistics arrangements were finalized with Railways, ports and specific ocean carriers. The total logistics costs in the arrangement devised by CONCOR were no more than 30 per cent of the costs incurred by exporters in sending the cargo by air.

CONCOR believed in quality in everything they did, from loading containers, to filling forms, and answering phone calls – it was its way of putting the customer first. It was realized that CONCOR's success would revolve not around its terminals, offices, facilities, depots, centres or computers but on how well, efficiently, pleasantly, innovatively, the specific needs and requirements of each customer were met. Its commitment was concentrated in individuals in as large a team as to handle any comprehensive challenge and as small to be most personalized.

The most important task CONCOR set for itself was to ensure the quality of service – guaranteed transits – to link with specified sailings; composite customized packages from door-to-door; innovative solutions to customer problems; prompt efficient service, eliminating excessive documentation and procedural wrangles. CONCOR also aimed at running exclusive liner trains with fixed formations, published time tables, advanced reservation of container space, and rail-cum-road transportation of cargo from door-to-door.

IV. BLENDING SYNERGIES: PUBLIC PRIVATE PARTNERSHIP

In regard to current widespread clamour for PPP (public-private partnership), CONCOR has in essence been its ardent advocate and practitioner. It has steadfastly joined hands with a number of private sector as

well as public sector entities in order to blend the synergies and strengths for optimal advantage, cost reduction and efficiency enhancement.

Several *avant garde* combinations for PPP projects have been executed to harness commonality of interests for intermodal business. For the setting up of satellite CFSs, participation of agencies like the state and central warehousing corporations and those in the private sector was sought at locations where they had appropriate warehousing infrastructure available. For the interim-phase of development, cargo destuffing of import containers, customs inspection and delivery was envisaged at some of the customs-bonded warehouses of these agencies, e.g., at Ahmedabad, Amritsar, Hyderabad, Jalandhar, Ludhiana and Pune.

Private entrepreneurs were invited and encouraged to join hands with CONCOR in different spheres on mutually acceptable terms, for instance, in providing capital and trained manpower for handling equipment (cranes, trucks, forklifts, etc.), at its ICDs and CFSs, maintenance facilities, and terminal operations. Besides, CONCOR proposed to let the private operators handle on contract/under franchise all transport of containers and cargo by road between the satellite CFSs and the rail-fed ICDs, and between ICDs/CFSs and shippers' premises.

Several participatory models

Its strategy of expanding business horizons by diversifying in allied areas by way of alliances and joint ventures has been continued unabated, for example, its joint venture partnership with major shipping lines at strategic locations. At Dadri, near Greater Noida, in the vicinity of Delhi, it has joint ventures with 49 per cent equity participation with four shipping lines: Maersk, APL, CMA CGM, and Transworld to develop CFSs. It has also entered into development and operation of the third container terminal at JNP, through a joint venture (JV) with Maersk, with 26 per cent equity contribution. The terminal with a capacity to handle 1.3 million TEU became operational in March 2006. Another JV it has entered into with Dubai Port World with 15 per cent equity contribution to develop a container transshipment port at Vallarpadam in Cochin.

CONCOR has joined hands with others through a revenue sharing model, e.g., with Hindustan Aeronautics Limited at Bangalore to develop facilities for airfreight of export cargo. Similar ventures at Nasik and Goa have huge potential to export fruits, vegetables and other agricultural products.

A landmark has been achieved by starting coastal shipping in association with Seaways Limited and started container movement from Phillaur in Punjab to Chittagong in Bangladesh via Kolkata port. CONCOR has commenced cold atmosphere (CA) storage facility near Delhi at an estimated cost of Rs 1 billion, for which CONCOR has launched Fresh & Healthy Enterprise, its 100 per cent subsidiary. To begin with, it proposes to procure apples from Shimla during the season, transport them in reefer containers to Delhi and stock them in CA store to be released during the off-season. The forward end integration with market has been done with a number of retail outlets in the national capital region.

A major growth strategy for both international and domestic businesses involves the use of the 'hub and spoke' system to serve the customer at his doorstep, while optimizing the internal logistics chain within the organization. In an effort to move from being a service integrator, CONCOR is also moving towards becoming a third party logistics (3PL) service provider by expanding the core business into areas such as warehousing, auto carriage on rail, refrigerated cargo storage and movement, and a large number of other value added services. It has set its sight high for expanding its business horizons by ingeniously diversifying in allied areas and has forged strategic alliances and joint ventures.

Another instance of evolving collaboration among various players keen to eke a share in the burgeoning intermodal business is a joint venture recently forged between CONCOR and Gateway Rail Freight Pvt. Ltd., a subsidiary of Gateway Distriparks, to construct and operate a rail-linked container terminal at Garhi Harsaru near Gurgaon in close proximity of Delhi. The joint venture particularly targets the high potential of double-stack container carrying train operation between the National Capital Region and the west coast container terminals at Gujarat ports of Mundra and Pipavav.

V. OPTIMAL MODAL MIX

Helping IR face increasing competition from road, and gain rail share in the niche market of value added manufactures, CONCOR has pursued a strategic concept of 'hub and spoke' operations with recourse to road or short haul rail shuttle services within defined catchment areas. Some hubs like the ICD at Tughlakabad are fed by several satellite locations such as Panipat or even Gwalior, until traffic steadily builds up and justifies running a scheduled service from the satellite facility itself, as was done initially in the case of Ludhiana and Moradabad, which started out as remote locations linked to the

hub terminal at Tughlakabad. For domestic cargo as well, 'hub and spoke' movements allow better utilization of resources by way of long lead services generated on the basis of short lead traffic collections using road and rail shuttle services. Unbridled by any dogmatic modal preference, CONCOR uses high speed heavy duty Volvo trucks to provide efficient road connectivity between, say, ICD, Bangalore and the gateway port of Chennai. Also, bonded trucking services for less than container load (LCL) export consolidation from, and delivery of LCL imports to, hinterland locations have been introduced between Chennai and many major industrial centres in southern India.

With road linkages between the satellite CFSs owned and managed by CONCOR, as well as most of the other CFSs, the aim was to provide a comprehensive network to cover most of the major trade centres in the country, which constituted salient nodes for production and distribution of export-import goods. Most of the CFSs and all ICDs owned by CONCOR, together with the road/rail linkages it provides, enables it to offer a complete service package unlike what can be obtained in many other countries.

VI. ICDs AND CFSs

CONCOR ICDs provide single window facility to customers for intermodal cargo transport by way of cargo aggregation and storage, palletisation, container stuffing, customs clearance, truck and trailer parking, banking and office space for customers' agents/employees regularly working at CONCOR terminals. Right from its inception, CONCOR visualized the satellite centres – CFSs or Trade Development Centres (TDCs) – to be export promotion and trade growth centres, extending myriad infrastructural support to the shipper. CONCOR ICDs extend the following additional facilities:

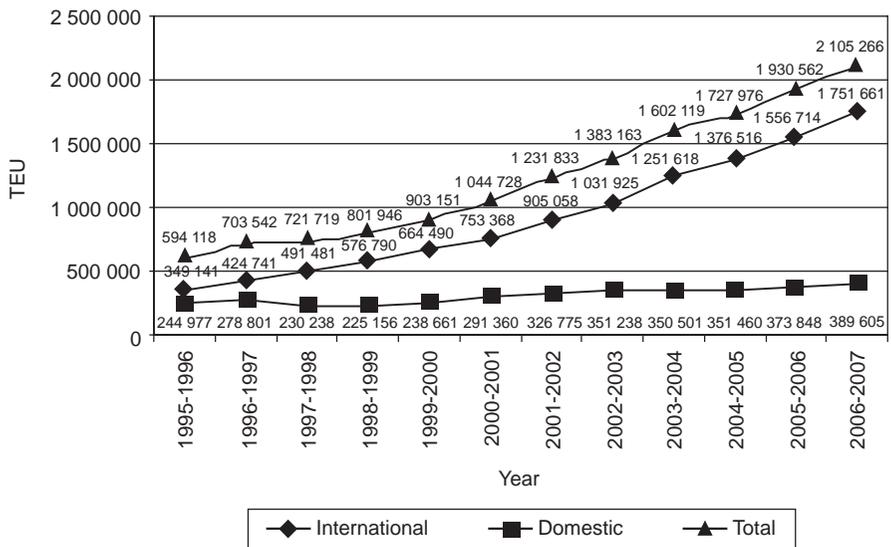
- Online information and container tracking
- Container repair and cleaning facilities
- Cargo palletisation, strapping, lashing/choking, etc.
- Fumigation of cargo/containers
- Door delivery/pick-up of containerized cargo
- Container/cargo survey
- Pre-deposit accounts
- Flexible payment arrangements
- Provision of reefer facilities

CONCOR's most important and biggest ICD at Tughlakabad, New Delhi, was commissioned on 1 September 1993. Its annual throughput exceeds 500,000 TEU. Another large unit is the mega terminal at Dadri (near Delhi), which, when working to full capacity, is likely to be the world's largest container terminal. A unique feature of the Dadri ICD is that it houses independent CFSs, joint ventures between CONCOR and renowned global shipping and container terminal operators. The terminal is a new State-of-the-art inland container terminal covering 110 hectare of land. Phase I envisages annual handling of 500,000 TEU with enhancement of the capacity to 1 million TEU per year.

CONCOR's current pan-India network aggregates 58 ICDs and CFSs among an overall total of 120 of such facilities all over the country set up and operated by various public and private entities. Most of the CONCOR facilities are located in the states of Andhra, Gujarat, Maharashtra, Punjab, Rajsthan, Tamil Nadu, Uttar Pradesh and West Bengal. Four more terminals are under construction – at Suranasi (Jalandhar), Khemli (Udaipur), Gurgaon and Sonapat.

A steady upward incline in CONCOR's throughput cumulatively at all its terminals is seen in Figure 5. No doubt, the progress in case of domestic container business suggests a lot to be desired.

Figure 5. CONCOR throughput: TEU



Source: CONCOR.

Ten of CONCOR's ICDs, largest in terms of throughput, namely, Tughlakabad (New Delhi), Dhandari Kalan (Ludhiana), Dadri (Greater Noida), Sabarmati (Ahmedabad), Dronagiri Node (near JNP), Whitefield (Bangalore), New Mulund (Mumbai), Tondiarpet (Chennai), Madras Harbour and Nagpur, account for over 70 per cent of total throughput CONCOR achieves at all its ICDs and CFSs. There is also a sharp imbalance in regional spread: the western and north-western regions account for 68 per cent of all export-import containers handled by CONCOR; the southern sector has a share of 25 per cent; and the eastern region is left with a meager share of 7 per cent.

VII. HOME TRADE: FOR HIGH GROWTH RATE

CONCOR added a new dimension to home trade. As it went about its schemes strengthening its infrastructure for an effective contribution to the growth of country's cross-border trade, it planned to simultaneously bring about a reorientation of production-distribution management of domestic trade cargo. The growing sophistication of India's industry necessitated commensurate infrastructural support. The terminals at the four major metropolitan conurbations – Delhi, Bombay, Madras and Calcutta – formed the cornerstones of CONCOR's expanding domestic network.

By way of efficient logistics support all the way from factory to market, it constantly experimented for raw material components and subassemblies to reach the production centres. CONCOR even organized round-trip closed-circuit movement, utilizing the most cost-effective time-sensitive rail-road combinations. For it, logistics arrangements meant better inventory and distribution management with just-in-time deliveries, which would go a long way in giving the Indian producer and supplier a competitive edge.

Domestic container traffic carried by CONCOR in earlier years was almost entirely the result of non-availability of enough rail wagons with IR. Cement was more than three-fourths of CONCOR's domestic traffic and the rest was pig iron and sponge iron, wheat flour and miscellaneous commodities. As IR resumed covered wagon purchases and eliminated wagon shortages, further increase in CONCOR's domestic traffic in commodities like cement, steel, and foodgrains was reversed. The loss of traffic in the heavy commodities was compensated by actively marketing for containerized movement of aggregated general goods.

The potential for containerization of home trade cargo is immense. As Indian industry and agriculture get more diversified and sophisticated and logistics of efficient inland transportation significantly begin to determine the

production-distribution matrix, containerization of domestic trade will no longer remain a choice but will become a necessity. CONCOR perceived a great potential inherent in this development. It initiated a dialogue with important shipping lines and international leasing companies in order that the inflow of empty containers was maintained for containerized export cargoes to move from inland dry ports like Delhi. These empty containers could be tapped for carriage of intra-country traffic. In response, several shipping lines joined hands. Special express trains carrying empty containers were run from Wadi Bunder to Delhi, Calcutta, and Guwahati, from Kandla port to Delhi as also from Calcutta to Delhi, many of them carrying domestic cargo.

CONCOR has a fleet of over 12,000 owned and leased ISO containers for the use of its domestic customers. These are not just general purposes boxes, but include various special types of containers. Containers of varying shapes and sizes for domestic business have been deployed, their use being determined by the commodity stuffed in them.

Recently CONCOR introduced a live-in forty foot container which is a special container developed for personnel to escort the movement of sensitive cargo. It provides accommodation for personnel, say, for escorting sensitive goods in container trains as well as during escort's stay at terminals. It has up to eight bunk beds to accommodate 16 people and is equipped with facilities like toilet, pantry, coolers, electric power generator, etc.

VIII. TECHNOLOGY SUPPORT

Hardware

Although rail-borne container transit in the initial years relied on make-shift container carrying wagons within the IR fleet and even inducted some general purpose wagons to cater for peaks in demand, CONCOR has acquired state-of-the-art high speed container carrying flats capable of running at 100 km/hour. Six thousand such wagons are already deployed, while additional stock is constantly added to the fleet to cope with the growth in business and to replace the old outworn stock. CONCOR also purchased some 1,300 freight cars from IR, which have since been upgraded and retrofitted for improved service and better transit times.

Generally following a policy of distributive partnerships on the basis of comparative strength and specialization conducive to overall economies and efficiency in operations, CONCOR involves competent specialized agencies

and operators for container handling as well as transport at its terminals. Nevertheless, at selected facilities such as its flagship ICD at Tughlakabad, CONCOR owns, operates and maintains an array of its own state-of-the-art sophisticated equipment, including a rail mounted gantry, rubber tyre gantries and reach stackers.

Software

With considerable advance in the information technology (IT) domain, CONCOR has been in the forefront of technology used to enhance efficiency, cost effectiveness and customer satisfaction. Since the Container and Cargo Logistics System (CCLS) went online at ICD at Tughlakabad in 1994, CONCOR has set up a company-wide satellite-based intranet. It has four Enterprise Resource Packages (ERP) systems in place, namely, Export Terminal Management System (ETMS), Domestic Terminal Management System (DTMS), Human Resources and Payroll Management System (RMCO), and Financial Management System (Oracle financials).

Customers need information and documentation systems for booking, tracking, paying, clearing cargo accurately and expeditiously. Computerized container control has become an integral part of CONCOR operations. CONCOR terminals are integrated by intermodal connections and logistics supported by a management information system. The VSAT-based network has been extended and now covers 54 locations. The Terminal Management Systems have been implemented using that VSAT-based network that links field locations/regional offices and the corporate office. The web-enabled system through a web server provides answers to queries from customers. A customer feedback system has also been implemented on its website. This has enabled CONCOR to constantly evaluate its performance and take corrective actions on complaints and feedback. An e-filing facility on commercial system (CCLS) at ICD Tughlakabad has been introduced for customers to file their documents electronically.

Radio data terminals (RDTs) are being used at the ICDs at Tughlakabad and Dadri for online container tracking and entry of unloading/loading of containers on to wagons. Interface software helps in automatic updating of entries through RDTs into CCLS and ETMS database for international operations. RDTs are also interfaced with DTMS, thereby enabling users to query the system either through LAN or Web to get the latest status and location of a container in the CONCOR network.

CONCOR's own web server provides web interface for customers to access information regarding their shipments. Additionally, an integrated track and trace system on CONCOR website provides container tracking details, train summaries and current train running status.

Customers can search details of trains dispatched from a particular station to any destination. There is a further link on train number, which, on clicking, displays the complete train summary details including all the containers loaded on that train, wagons number, container size and container status.

IX. EMERGING COMPETITION

It is believed that generally 40 per cent of port traffic originates from and terminates at places within 300 km from the port, the rest 60 per cent is traffic for the hinterland. The share of CONCOR and other similar agencies that may come up in the future is about 60 per cent of the total containerized international traffic handled at ports. The room for increasing CONCOR's traffic is, therefore ample and, if CONCOR can add capacity and provide transport linkages between ports and hinterland of acceptable standard at competitive prices, its international traffic can grow substantially. Its export and import traffic has been maintaining sustainable growth over the years both in terms of originating loading as well as handling of containers.

The possibilities of growth in container traffic in domestic sector are also bright. Logistics parks and large cargo hubs become a necessity, as large retail chains would generate the demand for professionally managed cargo delivery systems.

With fourteen more players coming in this field, the organization finds itself in a competitive environment. With its formidable infrastructure across the country, consistent growth profile in the past, trained manpower and dedicated customer base, it is confident to maintain its growth rate in the future.

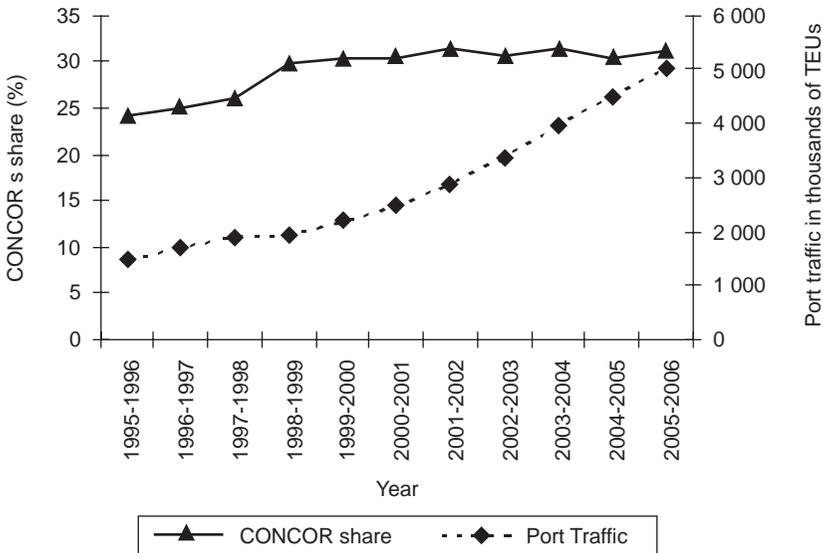
CONCOR's steady increase in intermodal business has attracted a large number of corporates including a few of the important global operators joining Indian companies. Triggered by a discreet move by IR to let other private sector enterprises to operate container trains in addition to the hitherto exclusive operator that CONCOR has been, the new entrants in the business should help augment the much needed capacity for container transportation, which is projected to witness exponential growth in demand.

The fifteen container licencees (including CONCOR) are classified in two categories: (i) a registration fee of Rs 500 million allows operators to offer containerized services across the country for both export-import and domestic traffic; and (ii) a Rs 100 million fee will allow operators to move domestic containerized traffic across the country, but international containerized traffic can be moved only from specified ports.

X. FUTURE: CHALLENGING AND EXCITING

A clear plateauing of CONCOR's share in container traffic at the country's ports at a level of 30-31 per cent for the last many years (as indicated in figure 6 below) warrants a time-bound strategy for it as much as IR to expeditiously and steadily expand the capacity on selected routes. To some extent, the new entrants (licencees) will help by way of providing additional wagons and inland terminals. However, the saturated rail routes cry out for quick and ingenious solutions.

Figure 6. Port throughput and CONCOR's share



Source: Indian Ports Association.

Whereas containerization of India's export-import trade grew at 14 per cent per year during the period 1992-2005 in comparison to 7 per cent growth in overall cargo volumes handled at India's major ports, there are deficiencies

that have shown up. With the national economy recording an annual increase of over 8 per cent in recent years, there is a clear need to expeditiously put in place additional wherewithal of container handling facilities at ports with appropriate linkages to hinterlands, develop efficient infrastructure on the east coast where the share of container business has been a paltry 7-8 per cent, substantially enhance capacity of rail and road networks to and from major container handling ports, further improve productivity and efficiency at ports, streamline procedures and regulations with optimal utilization of IT, and reduce rates and charges for different facilities through the logistics chain. An unrelenting commitment has to be maintained to weave a genuine and preemptive concern for customer care at all levels.

In the context of an overwhelming share of container business originating from, and terminating in places around Delhi and in adjoining states in the northern and north western parts of India, the greenfield “intermediate” ports along the Gujarat coast – particularly Mundra and Pipavav – may emerge as the most promising gateways, more so because these ports are connected by rail without overhead electric wires, which allows double-stack container trains to operate. Rail track distances from these ports to northern and north-western India are also shorter than the erstwhile direct route from JNP to these centres. In a rapidly evolving environment, new private sector port projects like Dhamra on the east coast – between Kolkata and Paradip as also the port at Rewas near New Mumbai hold a great potential and promise.

The proposed dedicated rail freight corridors for west-north and east-north streams of traffic will take a few years to materialize. Some viable interim solution is indeed of paramount importance. The competitive participation by private sector aspirants in rail transport of containers will help, but they have to go about developing inland terminals and procure wagon fleet. In fact, acute rail transport shortage will be exacerbated on critical corridors such as the one along the west coast between Delhi and Mumbai.

In view of the steadily rising volumes and long distances for them to traverse, rail transport is a clear choice for at least 50 per cent of the containers handled at Indian ports. A great opportunity that double stack container train operation can provide needs to be grasped to make a great success of it most expeditiously.

India has a vast potential to explore and exploit intermodal logistics for domestic cargo. CONCOR has been able to do but a modest job so far. A great deal still needs to be done. IR will need to take a long-range view for facilitating large logistics hubs by way of freight villages, logistics or distriparks to come up in railway complexes for intermodal services for domestic cargo to

Figure 7. Indian Railways' double stack train

Courtesy: CONCOR.

register an exponential growth. It is in IR's interest to frame its tariffs for these services in a long-term perspective. These services have the potential to alter IR's business profile towards container carrying trains operated at lower tariffs proving the proverbial golden goose, besides yielding other economic and environmental gains to the country.

Terminal handling of inbound and outbound air cargo commenced by CONCOR in close conjunction with some airlines at a couple of locations can expand. Air cargo does need considerable logistics support. Allied with it, rail-based intermodal support to get a good share of express freight should yield good gains. This segment will call for same day or next day delivery and a product faster than road and cheaper than air.

With a beginning already made by way of its own subsidiary Fresh and Healthy Enterprises, CONCOR will hopefully emerge as a major player in cold chain logistics for exports and imports of different commodities and products. It will aim to be a dominant trend setter to wrest a lion's share of intracountry traffic in fruits and vegetables. It may be mentioned that IR have traditionally run onion and potato specials, mango and banana trains, and also special vans for fish and poultry.

Now with the container handling terminals at ports being developed almost entirely in PPP mode, there is a steady confidence built up that ports by themselves may not be much of an impediment. No doubt, ports need to cut down delays and costs. It is also essential that some of Indian ports develop a critical mass instead of diffusing the effort at many of them.

XI. CONCLUSION

In India, CONCOR was the pioneer in its field and has thus far enjoyed a virtual monopoly. It started off with all the qualities of a leader – breadth of vision, meticulous planning, cost and quality consciousness, and care of the needs of the customer. But as the competition gets into the act, its leadership is going to be challenged. It is time for it to think bold and fresh, contemplate pragmatic collaboration with global liner services and container terminal operators, among other things, to forge alliances for developing cross-border intermodal logistics services across the region and subregions, for land bridging of containerized freight for the SAARC region, and for developing a maritime regional hub on the country's east coast. CONCOR may well also explore the potential of coastal shipping and inland waterways in partnership with appropriate players, and mount a really ambitious project to establish nodal logistics centres for domestic containerized cargo with value added services.

Logistics has acquired a new significance today as an essential and important segment of management and intermodal has emerged as its cornerstone. There is an awakening world over in favour of intermodalism. Asia and the Pacific needs to commit itself to maximizing intermodal linkages across the region. For countries like India and China, intermodalism signifies an undisputed primacy and potential to be nurtured and promoted, especially in the context of continental distances and huge volumes involved. It is expected that intermodal transportation with preponderance of rail will constitute the bulwark of integrated logistics support system for India's industry and agriculture in the future.