

**Background note on
'CONTAINERISATION-
GLOBAL AND INDIAN SCENARIO'**

CENTRUM 2006, New Delhi

CONTAINERISATION-GLOBAL AND INDIAN SCENARIO

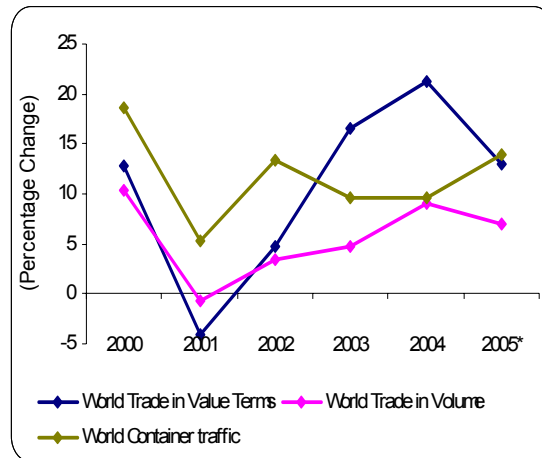
Global Trade and Container Traffic

Shipping is truly the lynchpin of global economy and international trade. More than 90% of world merchandise trade is carried by sea and over 50% of that volume is containerised. In today's era of globalisation, international trade has evolved to the level where almost no nation can be self-sufficient and global trade has fostered an interdependency and inter-connectivity between countries. Shipping has always provided the most cost-effective means of transportation over long distances and containerisation has played a crucial role in world maritime transport.

Global trade drives containerisation

Global merchandise trade has been growing at CAGR 10.3% (value terms) during 2001-2005, which was the highest average growth rate of world merchandise trade in the last three to four decades. The high merchandise trade has pushed container traffic worldwide. In 2005, it is estimated that world merchandise trade has witnessed an excellent growth rate of 13% in volume terms and container traffic has registered an estimated growth rate of 13.89%. Containerisation accounts for over 50% of world merchandise trade and is expected to go up further. During 2001-2005, world container traffic has increased at CAGR 9.2%. Liberalisation of international trade and globalisation has contributed significantly towards this robust world trade, which in turn increased the container traffic. Moreover, the strong world economic growth has also increased the momentum of world merchandise trade. Development of information and technological progress also attributed to the rapid growth of global container traffic by prompting trading prospects, particularly the movement of highly perishable goods.

Chart 1: World Merchandise Trade and Container Traffic Growth



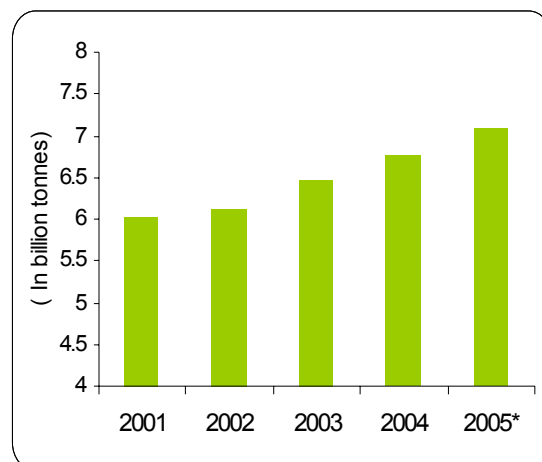
Source: WTO, Cygnus Research

*2005- Estimated

World seaborne trade registered 4.76% growth rate in 2005

In 2005, world seaborne has increased strongly and is estimated to have reached 7.08 billion tonnes, registering a growth rate of 4.76%. Dry cargo accounts for about 66% of total seaborne trade, while remaining 34% is by tanker cargo. Asia contributes the largest share of world seaborne trade with 38.4%, while Europe contributes about 23%; North America contributes 21.4%, Africa 8.6% and others 8.6%.

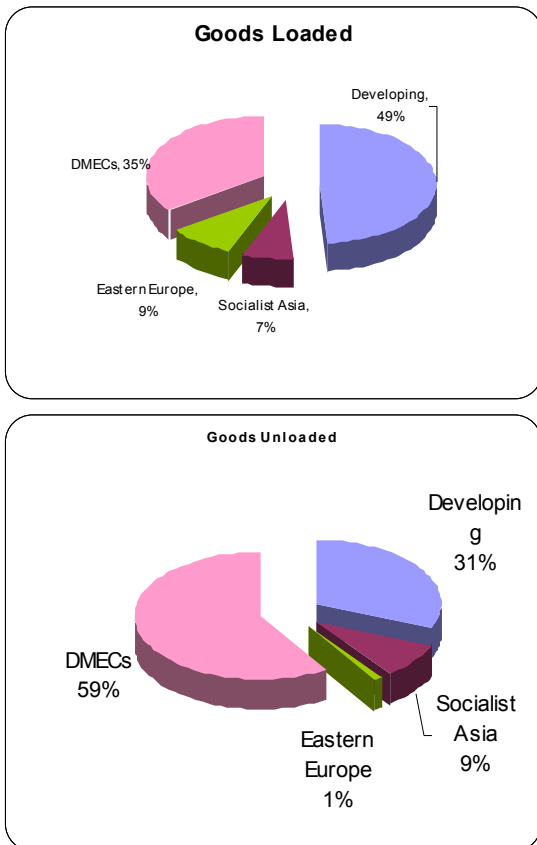
Chart 2: International Seaborne Trade (Goods Loaded)



Source: UNCTAD & Cygnus Research

World Seaborne Trade by Country Groups

Chart 3 & 4: Seaborne Trade by Country Groups



Source: UNCTAD & Cygnus Research, (DMEC- Developed Market Economy Countries)

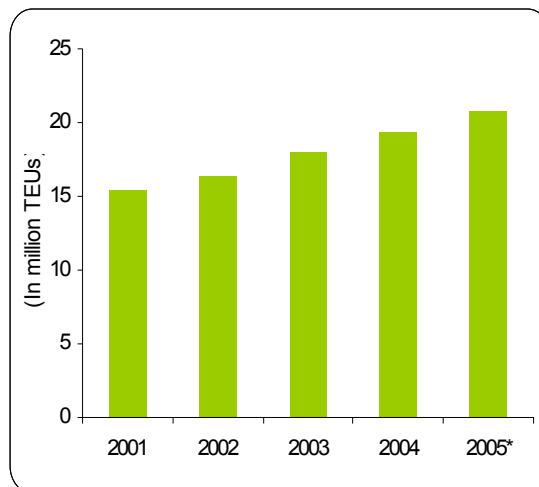
The contribution of Developed Market Economy Countries (DMEC) in terms of goods loaded and unloaded in 2004 were 39% and 59% respectively of the total 6.7 billion tonnes of seaborne trade (Chart 3 & 4). Developing countries contributed 49% in terms of loaded trade (Export), while 31% was in terms of unloaded trade (import). For DMEC countries, crude oil accounted for around 5.1% and petroleum products accounted for 22.7% of total world exports. Import figures stood at 67.9% and 50.9% for crude oil and petroleum products respectively. The developing countries' combined contribution towards crude oil exports was

86.7% and 66.6% towards petroleum products in 2004.

Global containerisation drives up the number of container fleets

Robust growth in world containerisation has driven the number of container fleet worldwide in the last couple of years. In 2005, the container fleet has witnessed an estimated growth rate of around 7.7% to around 20.8m TEUs. The fleet ownership is split between container lessors and sea carriers. In 2005, the container fleet owned by sea carriers accounted for around 55% of total world container fleet and the remaining by the lessor's fleet. In 2005, fleet owned by lessors had registered a growth rate of 7.1%, while fleet owned by sea carriers registered 8.1%. In 2002 and 2003, lessors increased the size of their container fleets at a faster rate than the sea carriers, but in 2004 and 2005, lessors were more cautious due to the rise in box prices. In 2004, prices of dry freight containers increased by over 50% due to the rising prices of steel and timber.

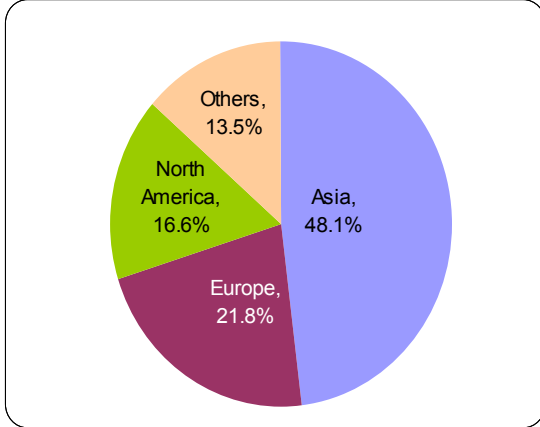
Chart 5: Trend in World Container Fleet



Source: UNCTAD & Cygnus Research
*2005 Estimated

Asia accounts for highest container traffic in the world

Chart 6: Geographical Distribution of World Container Traffic in 2004



Source: Drewry Consultant & Cygnus Research

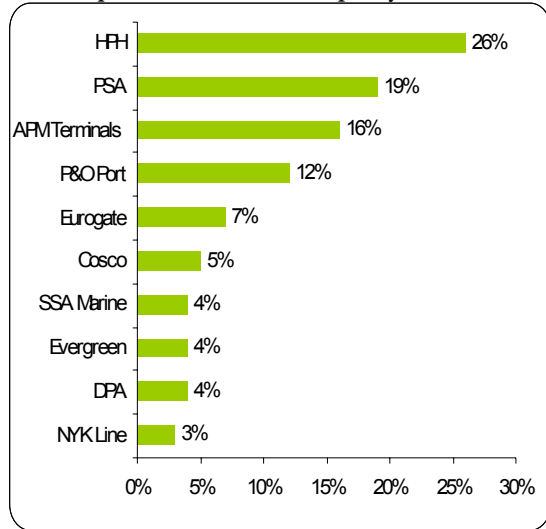
Asia region has emerged as a major hub with around 48.1% share of world container traffic. Burgeoning trade growth in China and India has played a pivotal role in Asia's dominance of container trade in the world. Some of the factors that are instrumental in Asia's contribution towards world container traffic are: sound medium to long term growth prospect in Asian countries; regional free trade agreements such as ASEAN's Common Effective Preferential Tariff Scheme and very close relationship among number of economies at different levels. In addition the increase in the rate of FDI inflows in the region has fuelled containerisation in the region. This reflects improved economic performance and greater acceptance of containerisations in the region.

HPH accounted for 26% of world container traffic

The increased opportunities in the private investment in the port sector have influenced international port operations. Hutchison Port Holding (HPH) accounted for 26% of world container port capacity with container throughput of around 48m TEUs in 2004.

Hong Kong, the original stronghold of HPH, has wide range of investments in the Chinese mainland and other regions such as Middle East, Africa, Americas, Asia and Europe.

Chart 7: Top 10 World Container Port Operators in Terms of Capacity in 2004



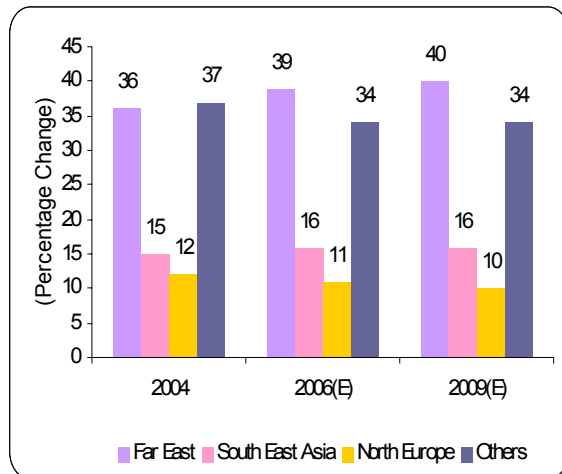
Source: Drewry Consultant & Cygnus Research

PSA International Pte Ltd, stands second (19%) in terms of container handling capacity with 33m TEUs throughput in 2004. Currently, PSA International operates in 11 countries with investments in 20 port projects.

Far East region will constitute lion's share of global container traffic

Far East region will drive the global container traffic. The contribution of Far East region to global container traffic is expected to reach

Chart 8: Region-wise Forecast for Container



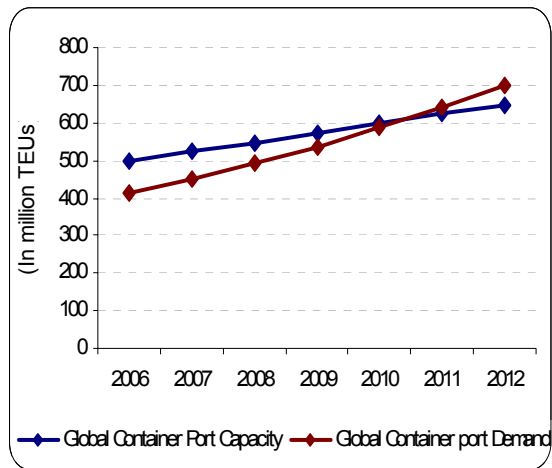
Source: Drewry Consultant & Cygnus Research

40% in 2009 from 36% in 2004. Booming trade in the region, particularly countries like China, Japan, South Korea and Singapore will push global container traffic. It is estimated that container trade volumes on the East-West routes will increase at an average 7.5% per annum from 2006 to 2009. The biggest deep sea liner route is the trans-pacific trade between Asia and North America, which will play a crucial role in Far East region's dominance in the global container traffic movements.

Challenges

Container port demand and capacity imbalance: In view of the buoyant global merchandise trade scenario, container port demand has been growing rapidly. Globalisation has spurred merchandise trade, which is ready for big stride. During the last

Chart 9: Forecast for Container Port Capacity



Source: Cvenus Research

four years, world container traffic has been growing at over 9.2% per annum, while container port capacity is growing at an average 4.5% per annum. There will be requirement for additional port capacity to be built if the current trend and port utilisation level is maintained by 2010 (chart 9). The projected global container demand and container port capacity illustrates that there will be a huge difference between container port demand and capacity in the next four to

five years. This is one of the major challenges for global container trade. Extra capacity should be built to meet the growing demand.

Congestion: Worldwide, container traffic is growing rapidly and post-WTO, the phenomenal growth of world seaborne trade has put tremendous pressure on existing port infrastructure. Moreover, inefficient inland transportation is contributing to congestion at world's major gateway ports.

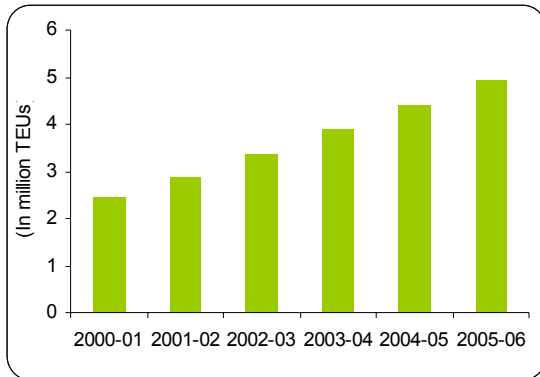
Labour relations: One of the major challenges for world-wide ports and terminals is the balancing and negotiating power of labour union personnel as per the company requirements to control costs and improve productivity. For instance, the 10-day US West Coast Labour dispute/Shutdown in 2002 was estimated to cost US economy over US\$1 billion per day.

PERFORMANCE OF CONTAINER TERMINALS IN INDIA AND FUTURE POTENTIAL

India's container traffic growing at CAGR of 12.5%

Burgeoning trade is driving container traffic at major ports in the country. In the last five years, India's container traffic has increased at CAGR of 12.5% from 2001-02 to 2005-06 (chart 10). There has been a sea change in accepting containerised trade in the region, which has played a crucial role in this high growth rate. Remarkably, India's container traffic is growing faster than the global container traffic during the last 6-7 years. Post WTO scenario played a major role in growing containerisation in the country. The country's growing external trade particularly textile, automotive, auto ancillary, engineering and capital goods have boosted containerisation in India. India's growing domestic market is one of the major strengths for containerisation. With economic liberalization, India has become one of the major markets for global players.

Chart 10: Container Traffic in India

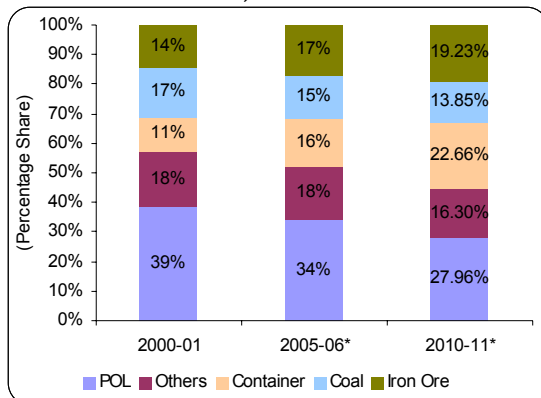


Source: Indian Port Association & Cygnus Research

Containerisation to contribute about 22.66% to total cargo by 2010-11

The robust growth of India's manufacturing industry has pushed up India's containerisation. India's containerisation has over 70% of total exported cargo, and around 40% imported cargo. The Government of India has pursued a policy of developing a number of Inland Container Depots and Container Freight Stations to facilitate modal interchange and distribution of cargo and most importantly to avoid awkward customs procedures from the waterfront. Containerisation at major ports of India contributed about 11% (chart 11) of total cargo handled at those ports in 2000-01; it increased to 16% in 2005-06 and is estimated to further increase to 22.7% by 2010-11.

Chart 11: Break-up of Commodities Handled at Major Ports



Source: Indian Port Association, Cygnus Research
* Estimated

Opportunities

There is a huge potential for containerisation in India and some potential factors are given below:

- Textile contributes over 18% of India's total export, which is expected to grow over 25% in the next five years. Post Multi Fibre Agreement (MFA) has rejuvenated India's textile sector, which in turn will increase containerisation in India.
- Engineering industry contributes over 11% of total export and it is estimated that its share will increase by over 15-18% in the next five years.
- Indian Railways has allowed private participation in inland container transport which will attract large number of private players entering into the markets, earlier dominated by CONCOR. With the positive decision to allow private players in the market, it is expected that CONCOR's monopoly will sharply decline. Currently, CONCOR charges an average freight rate of Rs17,000 per TEU from Delhi to JNPT, and the increased number of players is expected to result in a decline in rail freight rates.
- India's auto component export has gone up over 33% in 2005-06 to worth US\$1.8 billion and it is expected to touch US\$20-25 billion by 2015. While, automobile exports registered a growth rate of 28% in 2005-06.
- Globally, the average level of containerisation is above 70%, while in India, it is around 30-35%. The level of containerisation in India can improve rapidly if required infrastructure facilities are provided.
- According to A T Kearney, India's retail industry is estimated to be over US\$200 billion, which is expected to grow at a CAGR 30% over the next five years.

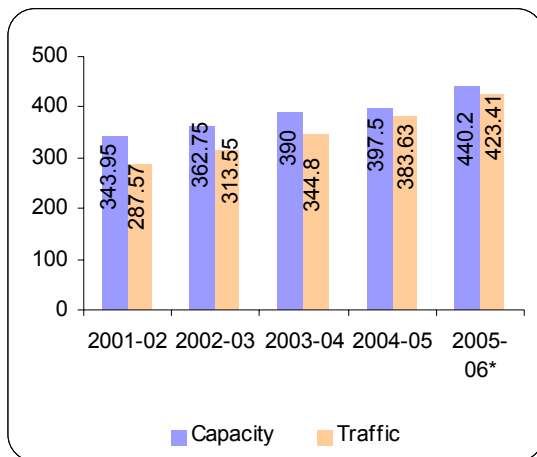
- The Government of India has set the target of achieving India's export share of 1.5% to world merchandise trade by 2009 and this will create huge opportunities for containerisation in the country.

Challenges

Port infrastructure is the major concern in container movements

Inadequate port infrastructure in India is a major bottleneck for containerisation in the country. India's contribution to global containerisation is insignificant (just over 1%). JNPT handled the highest container traffic in India i.e 2.37m TEUs in 2004-05. It stands at 32nd position in handling container traffic globally. Port capacity has to be enhanced to handle the projected container traffic in India. During 2005-06, cargo handled by major ports was 423.41m tonnes; while total capacity was

Chart 12: Capacity Utilisation at Major Ports (m tons)



Source: Indian Port Association, Cygnus Research
*2005-06- Estimated

440.2m tonnes, which indicates about 96% of port utilisation (chart 12). India still lacks deep water in many ports with only Mundra Port having a draft in excess of 14 meters. Inadequate road infrastructure is one of the important challenges for the growing containerisation in India. There has been a

rapid change in the size of vessels with 15,000 TEUs and most of the ports in India are not in a position to receive those bigger vessels provided they increase the drafts and modify the channels in the port.

- Another important bottleneck for container terminals in India is timely evacuation of containers. Generally, container evacuation is done through railways unlike in the West where road transport is the major mode of evacuation. The efficiency at container terminal would definitely improve if the ports have adequate railway corridors.
- The regulation of tariff by Tariff Authority for Major Ports acts as a key constraint on the efficiency of the port operation. The port operators should be given enough freedom to regulate the tariff based on the ceiling rates and apply or negotiate tariff below the maximum allowed limit rather than a fixed rate.
- Age profile of Indian fleet is another concern for maritime transport. In India, as of January 2005, 39% of ships are above 20 years as compared to 27.3% global ship age distribution; 17% of ships are under five years against over 23% of global. These old ships are becoming a major concern for maritime transport.
- In India there has been an improvement in productivity in terms of ship turnaround time which was 3.53 days at major ports and average pre-berthing waiting time was 6.03 hrs in 2004-05. But the performance is very low as compared to international standards. For instance, the turnaround time at Hong Kong Port was just 13 hours; Colombo Port was 16.5 hours in 2004. Despite, huge potential, Indian ports are not well equipped with international standards to handle the container traffic. High percentage of non-

working time at berth per vessel is one main reason for low performance by Indian ports. Moreover, container handling cost in India is about 70% higher than other developed countries, despite availability of cheaper labour.

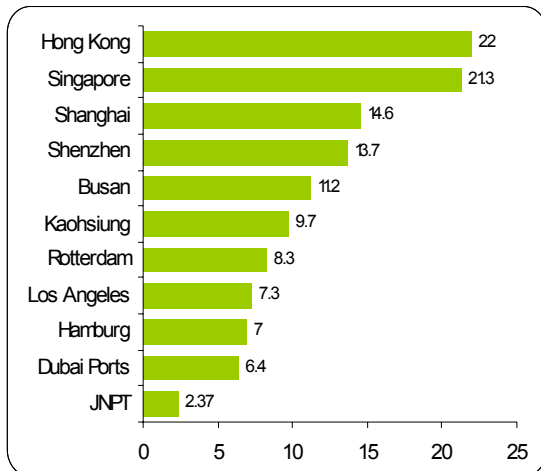
Indian ports are losing huge container cargo to other Asian ports

India is the largest country in the Indian Ocean and has considerable maritime power. However, its port operation is much lower than Hong Kong, Singapore, China, and Dubai. Colombo Port is emerging as a major transshipment hub in South Asian region and about 70% of containers handled at Colombo are of Indian origin, causing an estimated loss of Rs1,000 crore per annum to Indian ports. It is imperative for the Indian Government to take major initiatives to create port infrastructure of International standards.

Table-1: Container Traffic per day (In TEUs)

JNPT (2004-05)	6,493
Chennai (2004-05)	1,687
Hong Kong (2004)	60,082
Singapore (2004)	56,438
Dubai (2004)	17,616

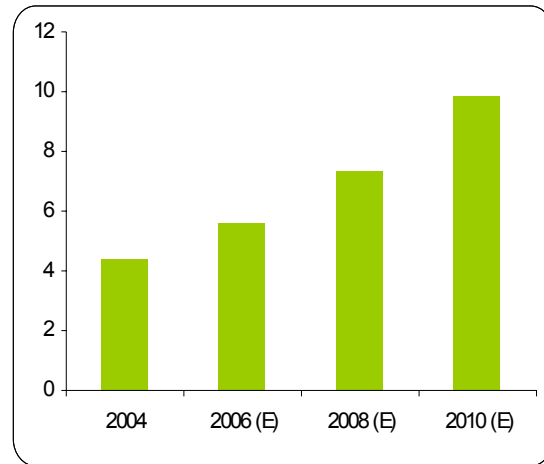
Chart 13: Top 10 Global Container Ports and India's Top Container Ports in 2004 (In m TEUs)



Source: Institute of Shipping Economics and Logistics, Cygnus Research

JNPT, India's largest container terminal, handles over 65% of India's total container traffic handled by all major ports together. All major ports should have sufficient container terminals to handle the growing demand. As of now, it is mainly concentrating to Western Coasts. For example, to send a containerised cargo from Cochin or Chennai to JNPT increases transportation costs; this in turn increases final price of the product.

Chart 14: Forecast for Container Traffic in India (In m TEUs)



Source: Cygnus Research

Container traffic is expected to increase by 16% in the next 4-5 years

With the booming Indian economy and liberalisation, India's container traffic is poised for a big leap in the next four to five years. It is estimated that India's container traffic will grow at CAGR of 16% in the next four years to reach around 10m TEUs by 2010-11 from 4.91m TEUs in 2005-06 (chart 13). The manufacturing industry and auto and auto component sector in particular will intensify India's containerisation. India's manufacturing industry is growing at around 10% per annum, while auto and auto component industry is growing over 15% per annum.

Conclusion

Global containerisation is growing at over 9.2% per annum and is expected to grow over 10% per annum in the next five years based on the promising world economic growth. Global trade has bolstered container traffic world-wide and widespread acceptance of containerisation is evident from the current growth trend. The ongoing trade agreements between countries will enhance container trade, particularly in the Asian Pacific countries. China will make inroads in the East-bound transpacific trade lane with roaring manufacturing sector. The main routes that are likely to attain the highest expansion are Intra-Asian transport and routes from North America and Europe to Asia. According to forecasts by Drewry, ports in Baltic and Black Sea, South America, Africa, China and India will register the highest growth rates in container handling.

In view of the current globalisation scenario, container traffic in India is all set for a big stride. As of June 2005, there were 11 container terminal projects with estimated cost of Rs13,155 crore at various stages of implementation. Acceptance of container trade in India, although very low, is picking up exponentially. The huge potential of containerisation in India has to be harnessed through various measures by the Government of India. Riding high with booming economy, India is becoming the most preferred destination for manufacturing outsourcing in the world, offering greater potential for containerisation. The growing industrialisation in India will boost containerisation in the country, which offers immense private and public investment opportunities in port infrastructure development.