Air Cargo Logistics in India

Working Group Report

7th May, 2012

Ministry of Civil Aviation, Government of India

1   Table of Contents

List of Graphs

List of tables

Foreword

Air Cargo Logistics play a vital role in the economic development of a nation. Airlines, Air Cargo terminal operators, Ground Handling service providers, Integrated Express Service Providers, Forwarders, Domestic Cargo Transport service providers and Custom House Agents are the key players in the entire Air Cargo supply chain. Thus the Air Cargo industry presents a wide variety of service providers coming together to move goods both domestically and internationally with a single minded purpose of faster and efficient delivery. These business entities in Air Cargo logistics industry in turn interact with a number of cross-border regulatory agencies the principal among them is the Customs establishment. Speedier services in the Air Cargo supply chain facilitate large number of business entities to become more competitive. Globally, more than one – third of the value of goods traded internationally is transported by air and therefore Air Cargo industry is considered as a barometer of Global Economic Health. From the point of view of Airline industry, Air Cargo Services contribute near about 20% of their revenue. India's international Air Trade to GDP ratio has doubled from 4% to 8% in the last twenty years.

Keeping in view the significance of Air Cargo to the economic growth of the country, it was decided to set up a Working Group on Air Cargo / Express Service Industry in the Ministry of Civil Aviation to recommend policy initiatives to address important issues considering the long term perspective and future growth potential in India. The Working Group was chaired by Economic Adviser, Ministry of Civil Aviation and represented by members from all the key stakeholders of the Air Cargo Logistics industry in India. I have had the pleasure of chairing two sessions of the Working Group meetings myself. The Working Group in fact brought together all the key stakeholders of the industry in one platform to discuss and deliberate the challenges of growth opportunities in the context of faster pace of economic growth in India and to identify areas that require further improvement.

Forecast of Air Cargo volume for India made in the report suggests that the domestic and international Air Cargo throughput is expected to grow by eight to ten times the present level in the next twenty years. Catering to the growth of this magnitude would involve expansion of infrastructure facilities, simplification of procedures and adoption of Information Technology / Automation besides development of Human Resources in the sector.

Having gone through seven meetings since its formation and a number of other meetings by the sub groups under the Working Group and field visits to Air Cargo terminals, the Working Group has now come out with a comprehensive report. I am aware that two drafts of the report were circulated earlier to all the members to seek their suggestions / comments. These

have been appropriately incorporated and addressed in this final version of the report. The report contains vital evidences on global best practices governing the Air Cargo Logistics operations. In depth analyses of issues and comprehensive coverage of key aspects of the Air Cargo business leading to specific actionable points with timelines for implementation are the key highlights of this report. Perhaps, for the first time Air Cargo Logistics has been identified to be a key industry as part of Civil Aviation Sector and its role duly recognized.

Recommendations made in the report require action needed from (a) Ministries / Departments of Government of India (b) Central Board of Excise and Customs (c) Bureau of Civil Aviation Security (d) Airport Operators / Custodians (e) Carriers, Air Freight Operators, Custom House Agents and Trade.

One of the major recommendations made in the report pertains to setting up of Air Cargo Logistics Promotion Board, which would be an Inter-Ministerial Group that can steer through the reforms suggested in this report for achieving the goals and objectives set out for the future of the Air Cargo Logistics sector in India.

I am sure that the respective agencies would accord due priority to the action points arising out of the recommendations made in this report.

(Dr. Nasim Zaidi)

Secretary, Civil Aviation

2   Introduction
2.1   Overview

2.1.1   The strong relationship between growth in international trade and logistics infrastructure is widely acknowledged. Growth in trade induced requirement for supporting infrastructure while availability of infrastructure at competitive rates promotes trade and improve global competitiveness of the country. Availability of infrastructure is also a key determinant of foreign direct investment (FDI) inflows. In developing countries like India an efficient logistics infrastructure can reduce cost of transportation which in turn can contribute directly to global competitiveness of the country. Efficient logistics industry acts as an economic catalyst by opening up new market opportunities, moving products and services with speed and efficiency.

2.1.2   The demand for air cargo transportation has increased significantly over the last few years, because product life cycles have shortened and demand for rapid delivery has increased. Changing business models such as Just- in-Time Manufacturing and Global out sourcing models have contributed to the rapid growth of air cargo logistics business. In such a changing business environment, where speed-to- market is a competitive imperative, movement of inventory is no longer viewed as a compartmentalized process. Rather, the sourcing of inputs, parts and components and the delivery of final product are all viewed as a continuous value-adding chain. Efficient supply chain management therefore offers significant benefits including lower inventory and intermediary costs; and simplicity in order placement, delivery and management of suppliers and customers. These benefits directly contribute to making businesses more competitive.

2.1.3   Evidence from the 2007 and 2010 Logistics Performance Index (LPI) indicates that, for countries at the same level of per capita income, those with the best logistics performance experience an additional growth of 1% in Gross Domestic Product and 2% in trade. These findings are especially relevant today, as developing countries need to invest in better trade logistics to emerge in a stronger and more competitive position. India's LPI rank in 2010 was 47 down from 39 in LPI 2007. In comparison to India, China's 2010 LPI rank was 27 and Brazil was ranked at 41[1] . This should be a matter of grave concern to India.

---

[1] Logistics Performance Index and Its Indicators 2010 World Bank Report

2.1.4   Air cargo represents about 10% of the airline industry's revenues. As 35% of the value of goods traded internationally is transported by air, air cargo is a barometer of global economic health[2].The fortunes of the transport and logistics industry are closely connected to the economic cycle. When economic activity is buoyant, demand for transport and logistics services is equally strong. Consumer and business demand for goods and services inevitably translates into higher demand for transport and logistics services3.

2.1.5   Indian Economy is on the higher trajectory of growth. Forecasts suggest that the growth prospects are likely to continue for more than two decades. That means, requirements for augmentation of infrastructure facilities in the logistics space to cater to the growing needs of the trade and industry will be immense. Opportunity cost of not meeting such requirements in a timely manner is very high. While improving efficiency is a continuous process, international bench marks help us in assessing the current state of affairs. Based on best practices, and based on concept of proof, what needs to be done in the Air Cargo sector, by whom and how, could be identified for preparing a road map for implementation This is the primary focus of this report which is a culmination of discussions in a large number of meetings of the Working Group and the Sub-groups formed on various issues, feedback received from trade/industry and other stakeholders.

2.2   Air Cargo Logistics Operations

2.2.1   The air cargo industry incorporates an industrial supply chain, which includes airlines, customs, ground services, air cargo forwarders, brokers, domestic transportation, air cargo terminals, distribution centers and integrated international express services. Of these, air cargo terminals are critical in the air cargo supply chain. A typical air cargo terminal has three main users – airlines, air cargo terminal operators and forwarders/cargo-agents who are the principal contributors to the revenue of air cargo terminals.[4]

---

[2] IATA
[3] Q Finance Transport and Logistics
[4] Chih-Hsien Chen and Dr. Shuo-Yan Chou, " A BSC Framework for Air Cargo Terminal Design: Procedure and Case Study"
Journal of Industrial Technology, January - March 2006

2.2.2   The demand for air freight is limited by cost, typically priced 4–5 times that of road transport and 12–16 times that of sea transport. These values differ from country to country, season to season and from product to product and for different volumes also. Cargo shipped by air thus have high values per unit or are very time-sensitive, such as documents, pharmaceuticals, fashion garments, production samples, electronics consumer goods, and perishable agricultural and seafood products. They also include some inputs to meet just-in-time production and emergency shipments of spare parts. As the volume of air freight grows, there is a natural progression from passenger aircraft to chartered cargo planes of increasing size and ultimately to scheduled cargo services.[5]

2.3   Stakeholders

2.3.1   It is important to understand business models of different entities and various processes involved in the entire business of Air Cargo as these are not the same for everyone that are involved in the Air Cargo / Express Delivery service industry in India. International air cargo business is concerned with the transportation of goods by air on International flights both for import of cargo into and export of cargo out of India. Domestic air cargo business is concerned with carrying goods by air through the domestic flights operating within the country. Within that, cargo that is transported by passenger flights through the belly space of aircraft is one and by dedicated freighter aircraft is another variant.

2.3.2   At another level, Express Delivery Services have emerged as a key product in recent times as compared to the conventional General air Cargo services. Express delivery services when rendered through the Scheduled passenger Flights, are known as Air Express operators. Express airlines, both domestic and foreign, operate dedicated freighters and have their own unique requirements based on customer demand, the growth in volumes handled etc.

2.3.3   In the conventional model of International air cargo business, while air carriers draw the lion's share of attention, freight forwarders and other allied services fill critical roles in the development of air cargo operations. In many developing markets, freight forwarders either supplement or wholly replace the carrier's own in-country sales efforts, while also performing customs agency and other critical functions on behalf of shippers.

---

[5] "Air Freight - A Market Study with Implications for Landlocked Countries Market Study", Transport Papers, World Bank, August 2009, Washington DC

2.3.4   Forwarders are critical to carriers in markets in which foreign carriers are less inclined to maintain their own sales forces. Although a large market with increasing presence from global cargo operators (often through acquisitions and partnerships with national entities), India still has a substantial presence of national forwarders. National forwarders are said to often enjoy uniquely strong relationships with national carriers, thereby gaining access for their customers to the precious limited capacity of such carriers during peak seasons.6 This business again is highly fragmented in India like the other related business activity being discussed here.

2.4   Express Delivery Services

2.4.1   Globalization of business transactions, shift to just in time manufacturing and inventory control methods and, growing requirement of industries of all types to ship products quickly by air to distant customers are the key driving forces in the development of Express Delivery Services. The Air Express industry worldwide is both domestic and international. The main features of the Air Express industry include: Speed of Service, Door-to-door Delivery including completion of all cross border regulatory requirements, Tracking Systems, Proof of Delivery, Security and Reliability and access to   global connectivity to their customers.

2.4.2   The size of India's express service industry in 2006 was pegged at around Rs.7, 100 crores and in 2010 it is estimated at Rs 10,000 crores[7]. India's express service industry is largely fragmented with more than an estimated 2,500 entities. In terms of strength, the organised segment consisting of a few players control about two-third of the industry revenues. The organised segment includes Key global integrators DHL, FedEx, TNT and UPS. While, FedEx, TNT and UPS operate their own international freighters, DHL has tie ups with commercial cargo airlines. In the domestic segment, the key players include Blue Dart, First Flight, DTDC, Skypak, Overnight, Professional Couriers and many others. [8] Blue Dart Aviation is an important player in the Express Aviation sector in India. It follows that the air cargo industry has three primary types of carriers; combination carriers (passenger airlines that use a portion of their "belly-hold" capacity to carry cargo and may also operate separate air cargo fleets), conventional all-cargo carriers operating both scheduled and charter services, and integrated (express) carriers operating their own fleet of aircraft and delivery vehicles providing overnight, door-to-door service.[9]

---

[6] ibid
[7] Express Industry Council of India's Submission to Working Group
[8] ibid
[9] ibid

2.4.3 Thus, we have a range of stakeholders in this crucial business of Air Cargo logistics operations in India. While most of the discussions in the report will be common, wherever required, distinction will be made to highlight key problems that are unique only to one segment. Unless otherwise specified, reference to Air cargo logistics operations in this report would also include the Express Delivery Service industry and domestic cargo.

2.5 Domestic Cargo

2.5.1 Strong macroeconomic fundamentals, growth in retail driven by rising levels of disposable income in the hands of more and more people, expansion in domestic air Network by Indian Carriers, End to End solutions by Express Service Providers, growth of new time sensitive verticals like Pharmaceuticals, Healthcare, Electronics, wireless telephony, and Automotive Spares etc. are said to be the factors responsible for the rapid growth of Domestic Air cargo logistics business. There are in all, 500 plus Air Cargo Players in the Domestic Sector with 75 at National and regional level providing direct and indirect employment of about a million on pan India basis.[10] The industry was valued at Rs. 2015 crores in 2007 – 2008. 82% of cargo transported as belly cargo in Domestic Airlines. Interline Cargo from International Line haul for Domestic Carriage grew from a share of 4.78% in 2007 – 2008 to 6.55% in 2009 – 2010 of the total Domestic Air Cargo business.[11]

---

[10] Submissions by Domestic Air Cargo Agents Association of India to the Working Group
[11] ibid

3   Role of Air Cargo in Indian Economy

3.1   India's Economic Performance

3.1.1   The rate, pattern and structure of the growth of Indian economy have significant implications for the Air Cargo logistics Business in India as these are highly interconnected. In this section, it is proposed to review these aspects with evidence.

3.1.2   India's Gross Domestic Product at constant prices has almost quadrupled in the last two decades. From a slower average annual growth rate of 5.6% in the 1990s to a moderately faster average annual growth rate of 7.7% in the first decade of 2000, the growth journey has excited many investors both in India and abroad. The latter part of 2000s particularly in the period 2008-09 to 2010-11 recorded an average annual growth of 8.3%. (See Graph 1)

3.1.3   The current slowdown in 2011-12 is expected to be temporary as the fundamentals of Indian economy are evaluated to be strong with high investment rate of 36% and growing domestic demand. IMF Economic Outlook September 2011[12] forecasts the Indian GDP to be growing at 7.5% in 2012 and at 8.1% subsequently till 2016.

Graph 1: Trends in GDP growth
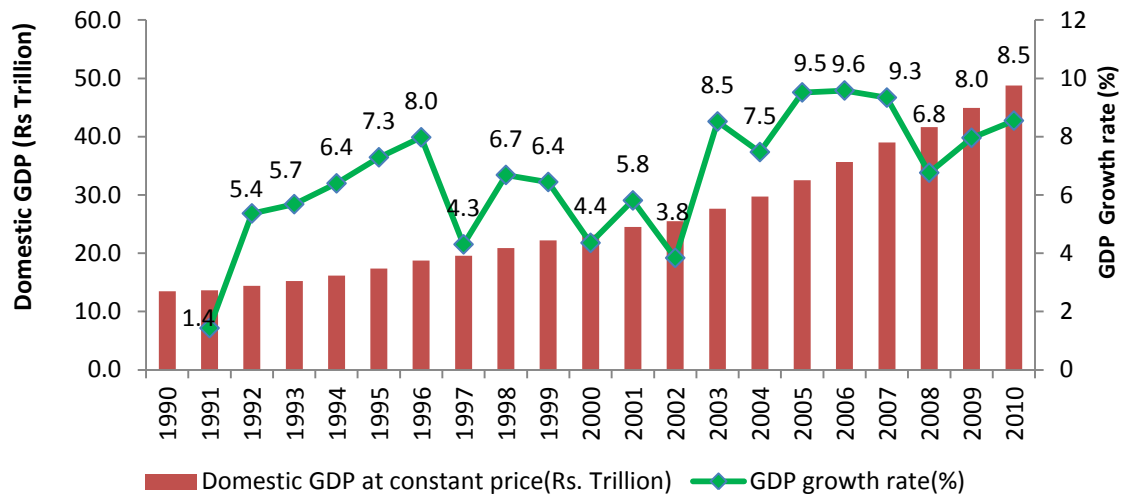
Source: Economic Survey 2010-11, MoCA[13] Analysis

---

[12] http://www.imf.org/external/pubs/ft/weo/2011/02/weodata/download.aspx
[13] MoCA: Ministry of Civil Aviation, Government of India

3.1.4   Air Cargo growth rates in general are seen to be highly susceptible to the fluctuations in the GDP growth rates of India more so in the international Cargo segment. In fact the slowdown in cargo seems to be preceding the slowdown of the economic growth in many cases. That is why air cargo sector is known to be the barometer of the economic health of a country. Graph 2: depicting the relationship between GDP growth and Air Cargo growth rates highlights the phenomenon of fluctuations in the growth rates of Air Cargo at much higher amplitude than that are seen in the fluctuations of growth rates in GDP.

Graph 2: Trends in GDP& Air Cargo growth rates
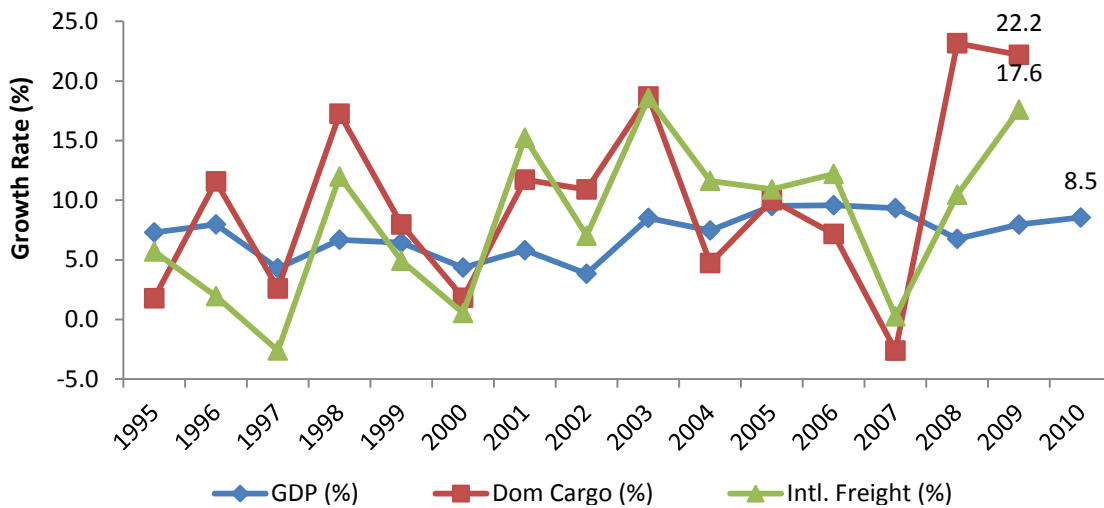
Source: RBI, AAI and MoCA Analysis

3.2   Integration with global economy

3.2.1   The merchandise Trade to GDP ratio indicates the level of integration with the global economy. From Table 1 it is evident that India's merchandise Trade to GDP ratio increased from 14.2% in 1990-91 to 37.8% in 2010-11. The trade to GDP ratio peaked in the year 2008-09 to 42%.

Table 1: India's merchandise Trade-GDP ratio in the period 1990-91 to 2010-11

Year	India's merchandise Trade-GDP ratio
1990-91	14.2%
2000-01	21.9%
2004-05	29.5%
2010-11	37.8%

Source: RBI, MoCA Analysis

3.2.2   The levels of both exports and imports have gone up with the rising economic activity in India over the last two decades. On the whole, the overall merchandise trade to and from India was US dollar 607 billion in 2010-11, which has also grown 14 times in the last two decades. In the last seven years exports grew at a CAGR of 22% approximately, imports grew at a CAGR of 24% and total merchandise trade grew at a CAGR of 23%.

Graph 3: India's International air trade to GDP ratio
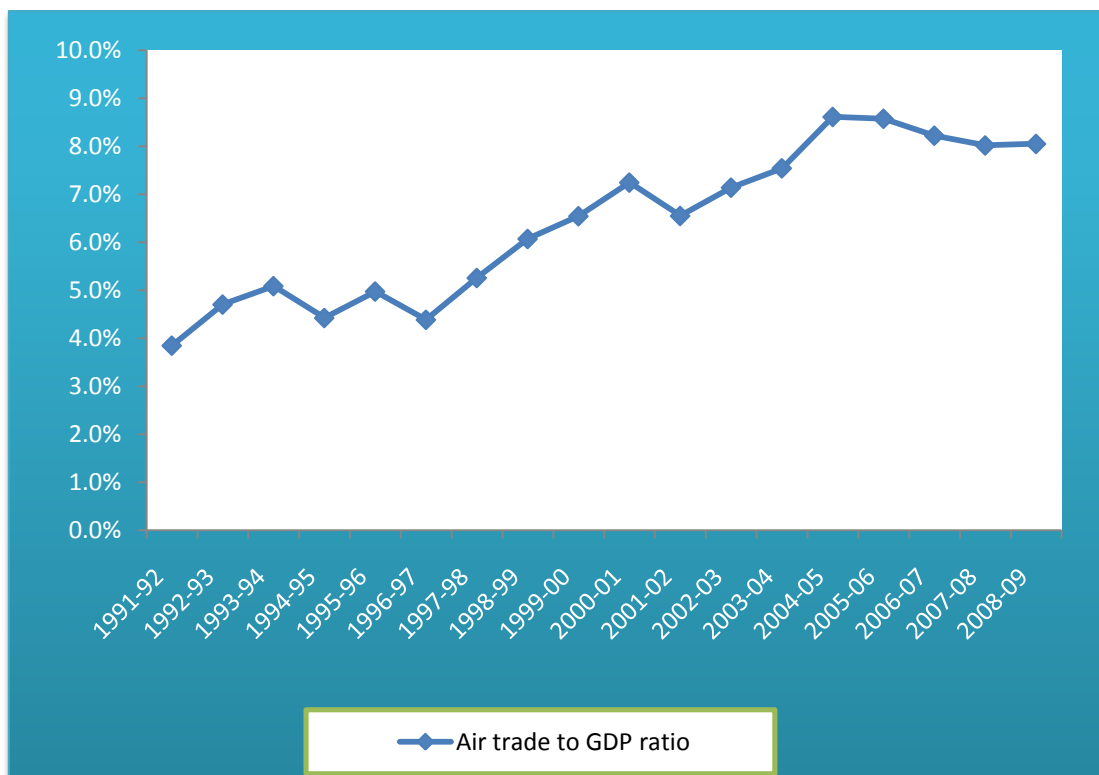
Source: DGCI & S, RBI, MoCA Analysis

3.2.3   India's International air trade to GDP ratio increased from 3.8% in 1990-91 to 8.1% in 2008-09 implying more than doubling of the integration metric being discussed. Although the period has been marked by fluctuations in the measure owing to the vulnerability of the Air Cargo business to overall economic performance, the trend indicated by the Graph 3   is clearly showing that the integration is getting strengthened.

Table 2: Size of India's foreign merchandise trade

Year	India's Foreign Trade (in USD billions)		
	Export	Import	Total
1990-91	18	24	42
2003-04	64	78	142
2010-11	254	353	607
CAGR (%)			
(1990-91 to 2010-11)	14.1	14.4	14.3
(1990-91 to 2003-04)	10.2	9.5	9.8
(2003-04 to 2010-11)	21.8	24	23.1

Source: RBI, MoCA Analysis

Evidence provided by WTO,[14] suggests that India's share in world total merchandise exports is still only 1.44% as against China which contributed 10.4% of global merchandise exports in 2010. This is suggestive of the high potential that India's foreign trade could offer for the growth of Air Cargo business.

3.3   Structure of International Trade (Merchandise)

3.3.1   Over the last five decades, value of imports has always been higher than exports. Exports constituted 42% while imports constituted 58% of total merchandise trade in 2010-11.

Graph 4: Share of Exports and Imports in India's Total trade

Source: RBI, MoCA Analysis

---

[14] http://stat.wto.org/CountryProfile/WSDBCountryPFReporter.aspx?Language=E
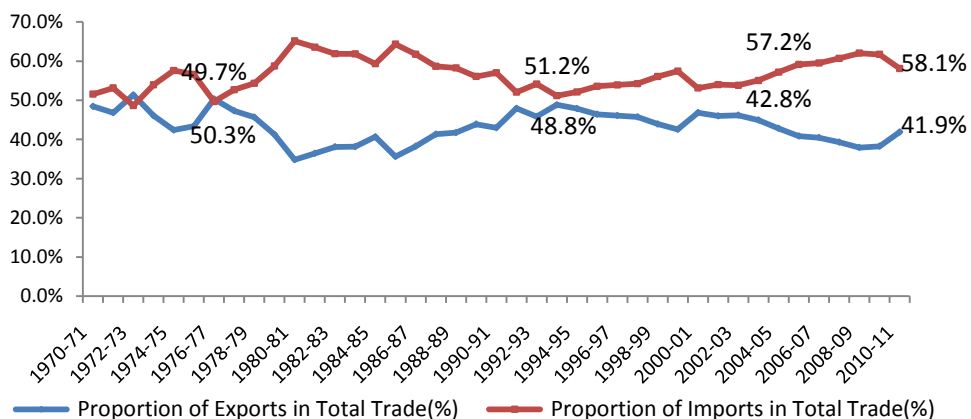
3.3.2   However, a point was made by a member of the WG that since petroleum / petroleum products do not travel by air, it would be appropriate to exclude these products from the analyses of India's International Trade to get a better idea of the trade lane direction and opportunities for Air Cargo. Accordingly, such an analyses was also carried out by excluding petroleum and petroleum products and it is found out that the share of exports in value terms were also higher than the share of imports particularly during the 1990s and during many years in 2000 – 2005.

Graph 5: Share of Exports and Imports in India's Total trade (Excluding oil trade)
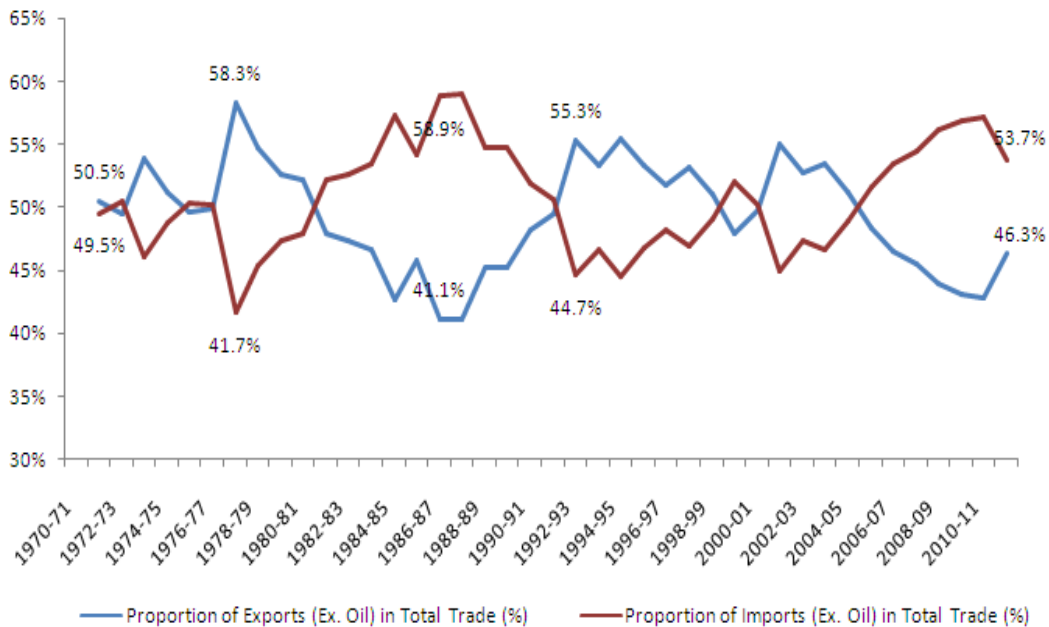
Source: RBI, Analysis: MoCA

3.4   Trends in Inbound / Outbound Air Cargo Traffic

3.4.1   It is interesting to note that the volume of India's Outbound Air Cargo has been higher than the volume of Inbound Air Cargo.

Table 3: India's Inbound & Outbound Air Cargo traffic (in '000 Metric Tonnes)

Year	India's Inbound & Outbound Cargo throughput (in '000 Metric Tonnes)		
	Outbound (Load)	Inbound (Unload)	Total
1995-96	296	163	458
2003-04	435	266	701
2010-11	842	661	1,504
Compounded Annual Growth Rate (%)			
(1995-96 to 2010-11)	7.2%	9.8%	8.2%
(1995-96 to 2003-04)	5.0%	6.3%	5.5%
(2003-04 to 2010-11)	9.9%	13.9%	11.5%

Source: AAI Annual Review of Traffic 2010-11, Analysis: MoCA

3.4.2   Historically, sea cargo has been the most dominant form of shipping cargo from and to India whereas air cargo has accounted for only a miniscule proportion of the total cargo trade with India. The main goods transported by air are perishables, pharmaceuticals, garments & textiles, electronics, and valuable cargo and express mail items with time definite delivery. Volume and Value growth of sea and air cargo during different points of time have been analyzed for the last two decades and are given in Table 4.

Graph 6 Air cargo business is high in value and low in volume
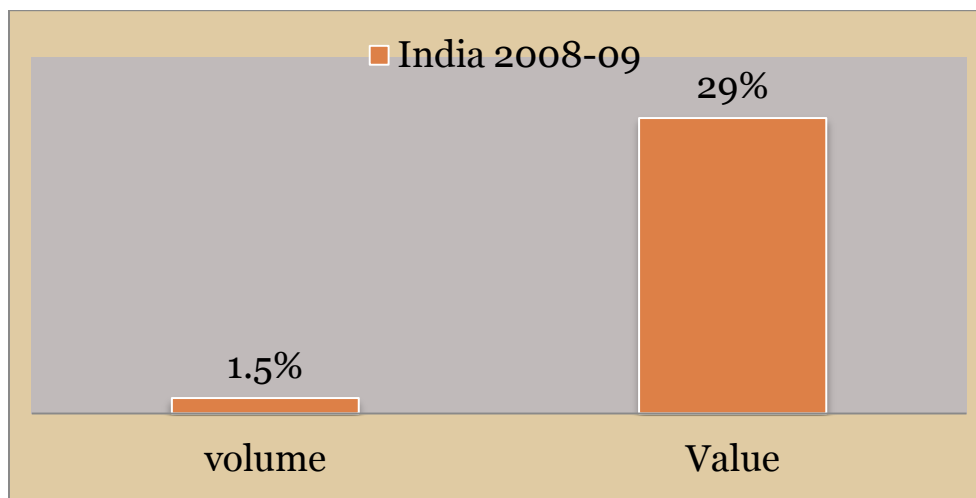
Source: DGCI&S, MoCA analysis

3.4.3 It is quite understandable that trade by air is high in value as compared to volume. This highlights the critical need to reduce transit time as the goods that are carried by air are not only time sensitive they are also significantly higher in value terms. The more the goods are delayed in delivery the higher the possibility of blunting the edge of competitiveness and the scope for pilferage of goods in transit and storage. If these aspects are not given due importance, possibility of shifting of traffic from air mode to maritime mode is high.

3.4.4 In fact, DGCI&S[15] data on this suggests that growth rate of value of maritime cargo is faster than that of Air Cargo during 2003-04 to 2008-09. Table 4 gives an account of the trends in the volume and value of Air Cargo and Maritime Cargo and the growth rates during the period from 2000-01 to 2008-09. While the value of maritime cargo rose by 29%, the value of air cargo grew by only half of that rate.

Table 4: International trade by Sea and Air Cargo- Volume and Value growth comparison

Year	Total Volume (Million Metric Tons)			Total Value (Billion Rupees)		
	By Air	By Sea	Total	By Air	By Sea	Total
2000-01	0.5	55.5	56	1440	1345	2785
2003-04	0.6	40.8	41.4	1977	2407	4384
2008-09	1.3	84.7	86	4253	10475	14728
	CAGR (%)					
CAGR (2000-01 to 2008-09)	12.7%	5.4%	5.5%	14.5%	29.2%	23.1%
CAGR (2000-01 to 2003-04)	6.3%	-9.7%	-9.6%	11.1%	21.4%	16.3%
CAGR (2003-04 to 2008-09)	16.7%	15.7%	15.7%	16.6%	34.2%	27.4%

Data Source: DGCI & S, Analysis MoCA

---

[15] Directorate General of Commercial Intelligence &Statistics, Ministry of Commerce & Industry, GoI

3.5   Performance of Air Cargo throughput in Indian Airports

3.5.1   India's impressive growth in international and domestic trade over past few years has augured well for the air-cargo industry in India. Air Cargo in India received its initial impetus from the 1986 permission, wherein air taxi operators were allowed to provide on-demand services primarily to boost tourism on major routes. Subsequently, the 'Air Cargo Open Sky Policy' was adopted in 1990 initially for 3 years and further extended in 1992 on a permanent basis, where any airline whether Domestic or Foreign carriers which met specified operational and safety requirements, were allowed to operate scheduled and non-scheduled cargo services to/from any airports in India wherever customs facilities are available. In addition, regulatory regime over cargo rates for major export commodities was abolished so that carriers are free to set their own rates.[16]

Graph 7: Trends in growth of Air Freight Traffic throughput at Indian Airports

	1995-96	2000-01	2004-05	2006-07	2010-11
Domestic Cargo	0.22	0.33	0.49	0.57	0.89
International Cargo	0.46	0.57	0.83	1.03	1.50
Total Cargo	0.68	0.89	1.32	1.59	2.39
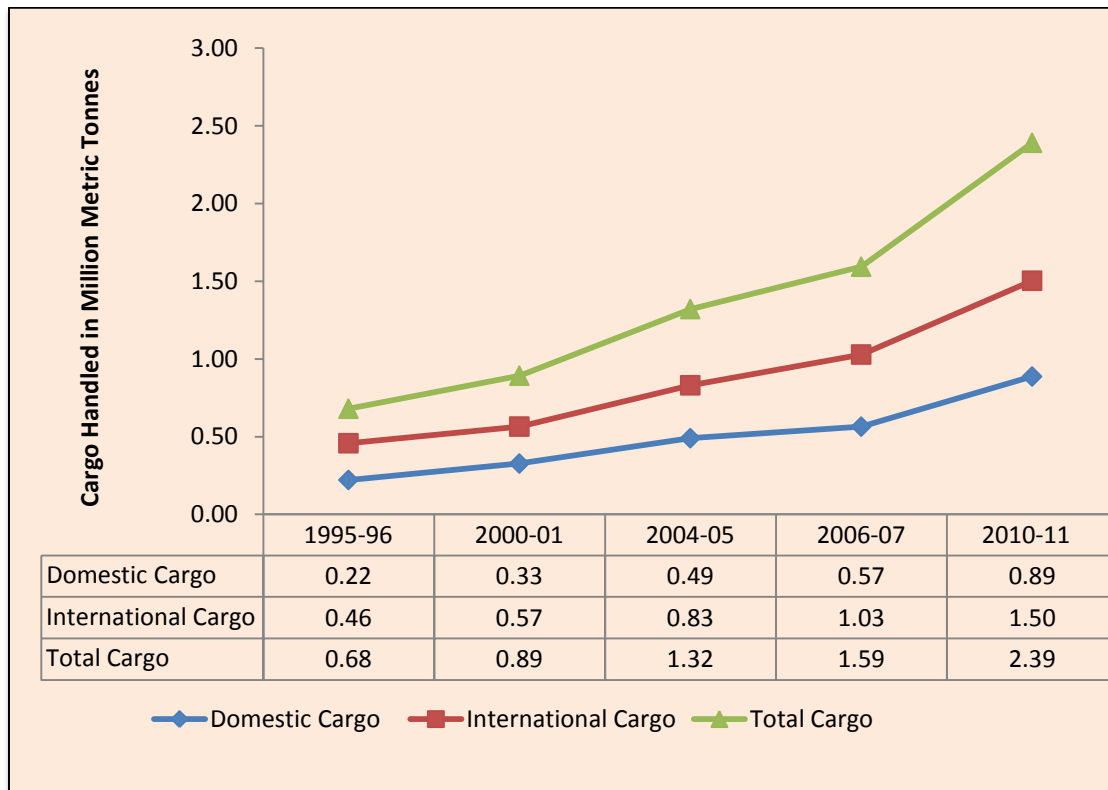
Data Source: AAI, Analysis: MoCA

---

[16] http://www.icao.int/icao/en/atb/ecp/casestudies/india_en.pdf

3.5.2 Total Cargo Handled at Indian Airports has grown 3.5 times in the last 15 years from 0.68 Million Metric Tonnes (MMT) in 1995-96 to 2.39 MMT in 2010-11 i.e. a CAGR of 8.7%. Domestic Cargo Handled has grown 4 times from 0.22 MMT in 1995-96 to 0.89 MMT in 2010-11 i.e. at a CAGR of 9.7%. Similarly, International Cargo Handled at Indian Airports has grown 3.2 times in the same period from 0.46 MMT to 1.5 MMT i.e. at a CAGR of 8.2%. However, in the last 3 years, Domestic Cargo throughput is the fastest growing segment (CAGR of 13.6%) as compared to International Cargo throughput at a CAGR of 9.2%.

Graph 8: Freight throughput across 6 Metro Airports of India (2010-11)
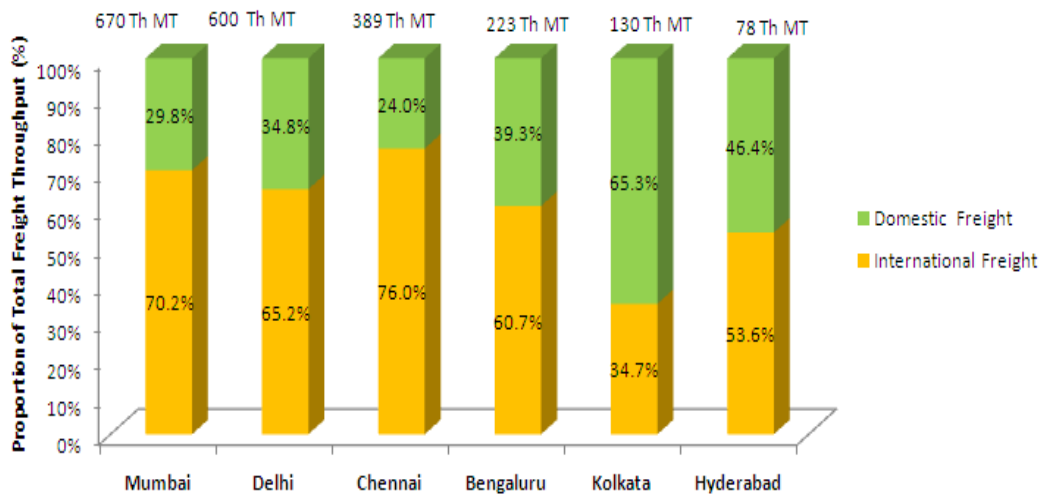
Source: AAI, MoCA Analysis

Note: 'Th MT' refers to Thousand Metric Tonnes

3.5.3 The Cargo throughput across 6 Metro airports in India for the year 2010-11 has been arranged in descending order in the above graph. The highest quantum of Cargo throughput is handled at Mumbai airport. The proportion of International cargo handled to the total cargo throughput handled is highest at Chennai Airport (76%) followed by Mumbai Airport (70.2%). The proportion of domestic cargo throughput to the total cargo handled in that airport is the highest at Kolkata Airport i.e. 65.3%.

3.6 Dedicated Domestic freight operations

3.6.1 Dedicated freight operations refer to the cargo carried by aircrafts solely meant for freight carriage.

Table 5: Proportion of domestic cargo carried as belly cargo & in freighter aircraft (%)[17]

Year	Sch. belly cargo (%)	Sch. cargo operator (dedicated) (%)
2000-01	88.7	11.3
2004-05	85.8	14.1
2009-10	82.8	17.1

Note: Sch. refers to Scheduled

Source: DGCA; Analysis: MoCA

3.6.2 Over the period 1999 to 2009 (for which the data is available) the proportion of belly cargo to the total cargo carried has been declining and stood at 82.8% in 2009-10 from a level of 88.7% in 2000-01; and that of freighter cargo operations has been increasing. Emergence of Time-Definite-Delivery in domestic express delivery service is the main driver of growth in this segment. The cargo capacity in Passenger aircrafts as part of belly capacity is around 13 to 15 MT; baggage space does not exceed 2 to 3 MT whereas small jet freighter aircrafts have a capacity of 10 to 30 tons, mid-size freighter aircrafts have a capacity of 30 to 80 tons and large freighter aircrafts have a capacity of greater than 80 tons[18].

3.7 Forecast of the air freight traffic

3.7.1 MoCA carried out forecasting exercise using econometric models to estimate the most likely growth scenarios of air freight traffic in India for the next 20 years. While domestic GDP is the explanatory variable for forecasting domestic Cargo growth, world GDP is the explanatory variable used to forecast international freight traffic to and from India. The data points used are 1990-91 to 2010-11.

---

[17] The total of proportion of scheduled belly cargo & cargo operator does not add up to 100, the remaining proportion accounts to the cargo carried by non-scheduled operators.
[18] Airbus Global Market Forecast, 2009-2029

3.7.2   Log-linear model was used, for the purpose of forecast, the Indian GDP growth rate is assumed to range from 8.5% in the near term to 6 % in the long term on an average as the expected scenario in the period 2011-12 to 2030-31. The International GDP growth rate assumption has been taken to be 3.25% in the near term and 3% in the long term as the likely scenario keeping in line with the IMF expected GDP growth rates.

Graph 9: Forecast of Air Freight Traffic throughput at Indian Airports

	2010-11	2015-16 (E)	2020-21 (E)	2025-26 (E)	2030-31 (E)
Domestic Cargo	0.89	1.63	2.8	4.54	6.9
International Cargo	1.5	2.29	4.18	7.12	11.29
Total Cargo	2.39	3.92	6.98	11.66	18.19
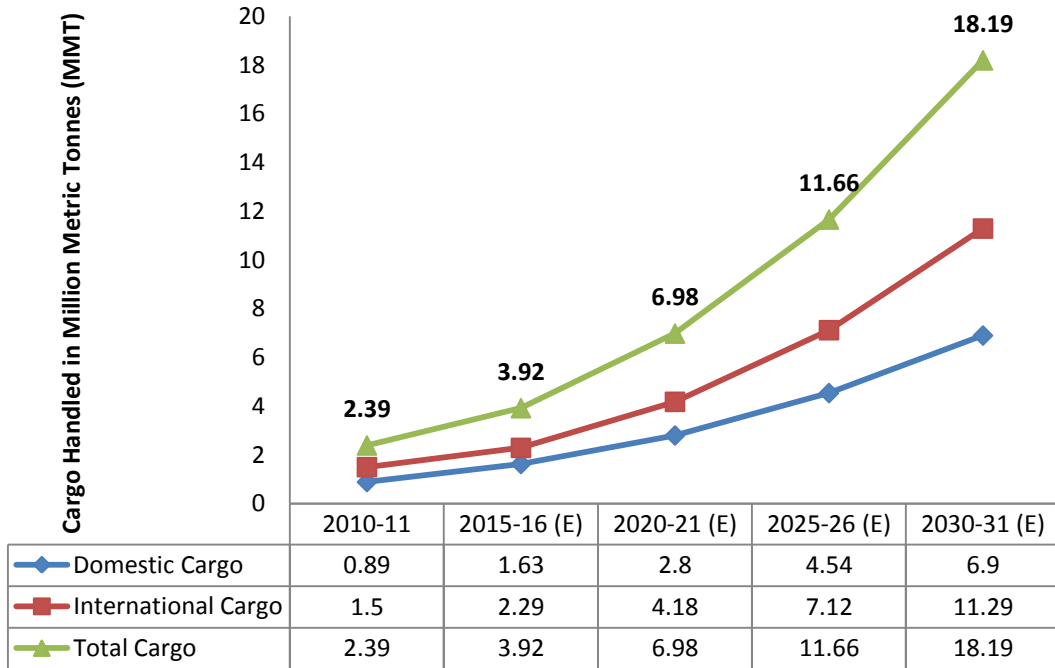
Forecast: MoCA

Note: E refers to Estimated; international cargo is inclusive of transshipment cargo

3.7.3   MoCA forecasts that the Total Cargo throughput at Indian airports is expected to grow 7.6 times in the next 20 years (CAGR of 11.2). Domestic Cargo throughput is expected to grow 7.8 times in the next 20 years (CAGR of 10.4%). International Cargo throughput is expected to grow 7.5 times in the next 20 years (CAGR of 11.7%). Transshipment segment has significant market potential. It is assumed to be 5% by 2015-16, 10% by 2020-21, 15% by 2025-26 and 20% of International cargo by 2030-31.

3.8   Cargo Forecast: a Comparative Analysis

3.8.1   Domestic cargo volume projected by different agencies including MoCA range from growth of 8 to 10 and in respect of international cargo it is 4 to 7.5 times by 2030-31.

Graph 10: Cargo forecast for the 20 year period 2010-11 to 2030-31
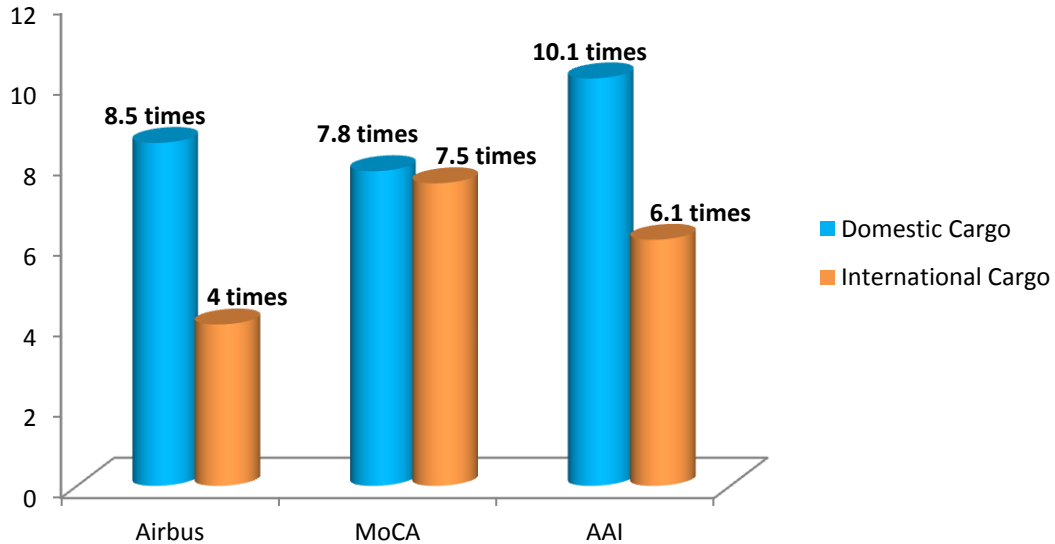
Source: Airbus Global Market Forecast 2010-2029, AAI, MoCA Estimates

Note: Number of times indicated in the graph pertains to the growth in 20 years from the level of 2010-11

3.9   Drivers of Air Cargo Traffic in India

3.9.1   There is a significant untapped potential for air-cargo in India. An indication of the same can be gauged from the fact that the total air-cargo volume of 2.3 million MT handled in FY-11 by all Indian airports put together is less than that handled by individual airports like Hong Kong, Memphis, Shanghai, Incheon, Anchorage and Paris.

3.9.2   Just-in-time manufacturing coupled with global outsourcing business model will continue to push demand for Air cargo business in India. Faster movement of raw materials, components, parts and spares help firms in maintaining lower inventories.

3.9.3   Growth of passenger fleets would provide ample belly capacity for cargo movement both in the domestic and international segment. Airbus Global Market Forecast (2010-2029), indicates that the passenger fleet in service at 322 (passenger aircraft with over 100 seats) in December 2010 is expected to go up by three times by 2029.

3.9.4   Express industry is certain to grow many folds in future as they provide end to end solutions, which are fast, reliable, on demand, integrated and door to door and can be tracked and controlled throughout the journey.[19]

3.9.5   GDP growth of China and India are forecast to grow at an average of 7-9% over the next 5 years and thus China and India could be at the epicenter of supply / redistribution in the region.

3.9.6   Sources of optimism also arise out of the fact that Free Trade Agreement concluded by India with south-east Asian countries like Japan, Malaysia and South Korea and the Likely India-EU FTA are expected to give a big boost to improve trade between these regions.

3.9.7   Government of India's goal is to double exports from $225 Billion to $450 Billion by 2014 and the National Manufacturing Policy 2011 announced by the Ministry of Industry and Commerce, GoI aims to enhance share of manufacturing in GDP to 25% by 2020 from current level of 15%.

---

[19] Express Industry Council of India

3.9.8   Transshipment throughput at Indian airports is assumed to grow at a much higher rate than what it is now based on a number of factors. Transshipment cargo constitutes as high as 60-70% of total volumes handled by some of leading airports tends to be negligible for Indian airports. A significant potential lies for the Indian airports to become transshipment hub. Given its geographic location, India is well placed to capitalize on this opportunity. While neighboring countries of India, particularly Bangladesh and Sri Lanka, have sizeable international trade with Europe and US, they have very limited direct connectivity to US and Europe.

3.9.9   India thus has an opportunity to emerge as the preferred transshipment hub for these neighboring countries to begin with. It is expected that the barriers to growth in transshipment which exist today in the form of process and procedural hurdles will be removed shortly (recommendations to that effect are given in this report).

3.9.10 Further, security regulations are becoming stringent in developed regions such as Europe and U.S.A. in so far as air freight is concerned. It is our understanding that India is and it will continue to be capable of complying with such regulations which itself will place India at an advantageous position when it comes to air cargo operations in the region. Also, India has a large scope for multi-modal connectivity because of its vast coast line with access to modern ports in the region. As India becomes a key node in the network of most global airlines, the transshipment service would offer a significant market potential. If the growth potential of this segment is appropriately harnessed, Indian airports can become cargo hubs of the region.

4   Key performance Indicators of Air Cargo Logistics operations in India

4.1   Overview

4.1.1   The aviation logistics in the country today is confronted with multitude of serious issues like inordinate dwell times, missing and non-traceable cargo, damaged cargo, lengthy cargo processing times and queues at the cargo terminals, etc. Air cargo infrastructure in India is seldom planned for medium and long term requirements and thus is woefully inadequate and overloaded. It is widely acknowledged that the existing processes at the airports for cargo act as a stumbling block for growth of this industry.

4.1.2   Procedures mandated by multiple agencies stifle innovation and growth besides causing inefficiency in the system. Procedures have not been aligned with the changes in the processes brought out by technological progress which become international best practices.

4.1.3   Missing Cargo/non-traceability of cargo in terminals has assumed undesirable proportions in the recent past. This has serious implications for not only timely delivery of cargo but could also in terms of security and image of the country in international trade. Flow of goods has not been seamless i.e. there are too many stages between the shippers' door and export uplift or vice versa from arrival of flight till the delivery of goods to final consignee. Lack of shipment visibility requires constant follow-up with carriers, shippers and custodians resulting in increased communication costs, penalties and delays.

4.1.4   Comparison of performance standards for some of the key parameters of Indian Air Cargo Industry with other countries shows substantial gaps in the existing supply chain. Lack of enabling infrastructure, lack of automated material handling systems, high manual intervention in the processes and inadequate skilled man power are some of the key areas where Indian air cargo industry lags behind global peers.[20]

4.1.5   Speed is a competitive imperative in the Air Cargo business. Certainty in terms of a reasonable time for delivery of cargo is an important parameter for comparative analysis. How the Indian airports are comparable to some of the major airports in the region in terms of key performance indicators is described in the Table 6. A well known key performance Indicator widely acknowledged in the air cargo industry worldwide is Dwell time at airports.

---

[20] International conference on Air Cargo Industry, Background paper, ASSOCHAM, India, KPMG, New Delhi, December, 2011

4.2   Dwell Time- a key Performance indicator

4.2.1   One of the key performance indicators of cargo terminal operations in any airport is the dwell time. A major gateway airport operator has represented that, at Indian Airports, the Dwell time is higher than other countries because officially permitted Free period itself is 72 hours.

Table 6: Global Benchmarks of   Dwell Time vis-à-vis Indian Airports[21]

Airport	Dwell Time - Exports (Hours)	Dwell Time - Imports (Hours)
Sharjah	4	4 -8
Singapore	6	3 to 6
Frankfurt	6	NA
Incheon	2 to 3	2 to 7.5
Dubai	2 to 3	2 to 6
Hong Kong	3 to 6	4 to 8
Delhi	36	119
Mumbai	48	96
Chennai	48 `	72
Hyderabad	12	36
Kolkata	48	72
Bengaluru	36	48

Source: Airport websites, industry research, KPMG analysis

---

[21] Includes 72 hours free period both on Exports and Imports.

4.2.2   Discussions with industry sources in general suggest that such international comparison of Dwell time is valid and therefore that should be serving as benchmarks for Indian Airports. However, one custodian is of the view that comparison of dwell time of Indian airports with Hub airports like Hong Kong, Dubai etc are not realistic because bulk of their cargo throughput in these Hub airports are transshipment cargo which does not have to undergo customs clearances unlike the situation in India where the transshipment component is an insignificant proportion of the total throughput handled.

4.2.3   It is true that volume of transshipment cargo in Indian airports is very insignificant. However, quantum of cargo imported for Home Consumption in some of the countries compared here is itself large and much higher than such cargo handled at Indian airports.

Table 7: Global Comparison of Total throughput and Transshipment

Airport	Throughput(MMTPA)	Transshipment Cargo (MMTPA)
Hong Kong	4.6	1.5
Incheon	2.7	1.2
Singapore	1.7	0.8

Source: KPMG analysis

4.2.4   It is evident from the Table 7 that in the case of Hong Kong, more than two thirds of Cargo handled in that airport is meant for Home consumption and in respect of Incheon and Singapore it is more than 50%.   Therefore benchmarks taken up for analysis are relevant and we must always look up to such   best standards so that our air cargo logistics is made more efficient to become globally competitive.

4.2.5   MIAL in a written submission has quantified the time taken for clearance of various types of cargo imports for the period from October 2011 to February 2012 which is reproduced below:

"General Cargo: - Out of the total time of 153.12 hours taken for delivery, 12.27 hours are attributable to custodian and airlines and rest 141.25 hours are attributable to importers, break-bulk agents, CHAs and regulatory agencies.

Perishable Cargo: - Out of the total time of 138.09 hours taken for delivery, 11.03 hours are attributable to custodian and airlines and rest 127.06 hours are attributable to importers, break-bulk agents, CHAs and regulatory agencies.

DGR Cargo: - Out of the total time of 212.34 hours taken for delivery, 12.36 hours are attributable to custodian and airlines and rest 200.38 hours are attributable to importers, break-bulk agents, CHAs and regulatory agencies."

4.2.6   In the absence of source information, it is not possible to comment on the data furnished. Suffice it to say that the total dwell time for imports shown here is much higher than the one shown in Table 6 in this section. No doubt there are several agencies that are responsible for clearance of the goods at airport and therefore it is incorrect to say that only the custodian/airport operator is responsible for the increased dwell time at Indian airports. These are discussed in great length at various places in the report.

4.3 Throughput efficiency at cargo terminals

4.3.1 International standard[22] for throughput efficiency measured in terms of tonnage handled per sq.meter is linked to the total volume of cargo handled in that terminal in a year. Research has also established that the most meaningful factor is the comparison between freight volume and freight terminal efficiency.[23]

Table8: Efficiency norms for Air Cargo terminal Warehouse

Annual Throughput (Tonnes)	Throughput per Sq.meter of Covered area (Tonnes)
Less than 50 thousand	5
50 thousand to 100 thousand	8
100 thousand to 250 thousand	10
More than 250 thousand	17

Source: World Bank Report on Air Freight Market Study, 2009

4.3.2 In the major gateway airports of India, overall handling efficiency in the warehouse is estimated to range from 3.14 MT to 6.68 MT per sq.meter per annum. Invariably for inbound cargo the tonnage handled per sq. meter of covered area is lower than that of Out-bound cargo. As per the International Standards given in the Table 8, comparison is required to be made between airports that handle tonnage of the given bands.

4.3.3 Since we have data separately for exports and imports for each of the major gateway airports, it would be useful to look at their throughput efficiency separately for exports and imports at major gateway airports of India.

---

[22] Air Freight Market Study, Transport Papers, World Bank, August 2009, Washington DC
[23] Yonghwa Park, Hun-koo Ha and Oh Kyoung Kwon, "Air Cargo Competitiveness of major Airports, Journal of International logistics and Trade, June, 2006

Table 9: Air Cargo throughput efficiency in Terminals of major gateway airports of India, 2010-11

Name of the Airport		Air Cargo throughput (Annual in MTs)			Covered Area (in sq mts)			Tonnage handled per sq meter (in MTs)		
		Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
AAI, Chennai		128,400	126,000	254,400	21,500	16,600	38,100	5.97	7.59	6.68
IGIA, Delhi		179,454	214,917	394,371	35,000	35,000	70,000	5.13	6.14	5.63
RGIA, Hyderabad		14,000	31,000	45,000	3,600	4,400	8,000	3.89	7.05	5.63
CSIA	I	166,838	140,188	307,026	49,057	14,198	63,255	3.40	9.87	4.85
	II	37,851	101,346	139,197	-	-	26,804	-	-	5.19
Kolkata		22,000	25,500	47,500	7,304	5,481	12,785	3.01	4.65	3.72
BIA, Bengaluru		-	-	135,263	-	-	43,113	-	-	3.14

Data Source: AAI; Norms: World Bank Report on Air Freight Study, 2009; Analysis: MoCA

Note: Tonnage handled per sq.meter. = Covered Area/ cargo throughput,

AAI: Airports Authority of India, BIA: Bengaluru International Airport, CSIA: Chhatrapati Shivaji International airport, IGIA: Indira Gandhi International Airport, RGIA: Rajiv Gandhi International Airport

4.3.4   In-bound tonnage handled by Delhi, Mumbai and Chennai fall in the same band of 100-250 thousand tonnes per annum and their tonnage handled per sq.meter is highest for Chennai at 5.97, followed by 5.13 for IGI Delhi, and 3.40 Mumbai (MIAL).

However, none of the three airports are achieving the International bench mark for this band which is 10 MT per sq. meter of covered area.

In the case of Out-bound cargo also, Mumbai, Delhi and Chennai are in the same band of 100-250 thousand tonnes per annum and their tonnage handled per sq.meter is highest by MIAL at 9.87, followed by 7.59 Chennai and 6.14 IGI Delhi.

4.3.5   MIAL in their written submission has attributed the difference in throughput efficiency at Indian airports and other airports abroad mainly to the fact that in those airports abroad, processing of air cargo transaction is not carried out at the Air cargo terminal but at the Agents` facility known as Air Freight Station. In India, Air Cargo logistics operations are processed and handled at the Airport premises wherein all stake holders play their respective roles as per defined guidelines laid down by the regulatory agencies and government. These are integrated functions and airport operators / custodians facilitate the functioning of all agencies at the airport premises, which is not the practice followed at other foreign airports.

4.3.6   Also, it is stated that Air Cargo Terminals at Brown Field airports in India including that of Mumbai are in the process of restructuring without affecting the current Import and Export processes of handling and delivering. It is also claimed by them that implementation of EDI (1.5 version) by Indian Customs has resulted in increased clearance of import cargo under RMS; with various in house process improvements by MIAL, the total overall average dwell time has been considerably reduced to 5.7days from 8.54 days within the period of last six months. Conceding that reduction has happened in dwell time, the absolute levels of time taken now are admittedly more than 5 days which is a cause for concern.

4.3.7   MIAL has also submitted that nearly 45% of import cargo is cleared within the first 3 days. As far as exports is concerned that in Mumbai airport, it is claimed that over 95% of export cargo is cleared within a day.

4.3.8   On the higher dwell time in Indian airports as compared to airports abroad, in the written feedback given by a new cargo terminal operator at Delhi International Airport it is opined as follows:

"Most of the reason can be attributed to the fact that 100% cargo is customs processed through airport terminal and not taken to consignee or forwarder's location under bond for later time clearance. Delay occurs on account of delay in submission of documents necessary for clearance, issue of mis-classification of goods etc. ..Further the dwell time also increases because of working habits of everyone involved in the process…The actual working of clearance starts only after 1200 hours. In case of exports, most of the dwell time can be attributed to airlines booking and accepting cargo much ahead of flight departure. Free period of 48 hours to airlines allows them to hold cargo at the airport terminal much before departure time of their flights."

4.3.9   In the same breadth, the Cargo terminal operator has submitted the following with regard to comparative analysis of efficiency norms at the cargo terminals:

"The cargo terminal operator has to make separate space available for customs examination which takes away more than 30% of effective cargo space. Need for segregation of cargo and demarcation of areas as per BCAS norms takes away another 10 to 15% of floor space. These problems are not faced by cargo terminal operators abroad. There is no flexibility available to terminal operators in India to maximize his cargo space in terminals. Even truck docks are physically separated for exports and imports when they can be used effectively if there is no such barrier. So comparison of throughput time per sq.met should reflect this reality."

4.4   Menace of Missing/Non-traceable Cargo

4.4.1   Strong views were expressed by members of the Working Group about the menace of Missing and Non-traceability of cargo in the airports which is assuming undesirable proportions in the recent past. It was observed that this has serious implications for not only timely delivery of cargo but could also dent the image of the country in the international trade arena. This is therefore considered as one of the key performance indicators   of air cargo operations. Accordingly, it was decided to deep dive into the issue of Missing Cargo/Non-traceability24 of cargo in the terminals.

4.4.2   A sub group was constituted to study the same and submit a report. The sub-group was required to work on the issue first by assessing the magnitude of the problem at all major airports, and then identify the causes. Several challenges on data collection front were reported by the sub-group in this regard.

4.4.3   Different sources of data yield quite divergent results. Terminology / definitions may not be common across carriers, custodians and forwarders / agents. Data on this from the concerned stakeholders were not forthcoming for the Sub-Group. Estimations were made by the Sub-Group based on some sample data which were contested by some Custodians.

4.4.4   Accordingly it is proposed to highlight only some of the major qualitative findings of the Sub-group and these are discussed in the paragraphs that follow.

4.4.5   In general, the carriers and forwarders reported experiences of having a high incidence of cargo not found at the time of segregation or eventual delivery. Unfortunately statistics were not available as these were not maintained by the concerned carriers/ forwarders but an interview with various forwarders, customs house agents and carriers by sub-group members revealed that the magnitude of the problem was quite high. Very often even manifested cargo was reported to be missing which were mostly located subsequently after loss of precious time and also after suffering storage charges.

---

[24] Cargo that is found missing at the time of loading of a particular flight and found within 24 hours of departure of that flight is defined to mean as missing cargo on exports side. On the imports, cargo that is short received on a flight and arrives on a subsequent flight of that carrier would be treated as missing cargo. Cargo that is missing at the time of loading (exports) or at the time of flight segregation (imports) and is eventually not found even up to 21 days of a global tracer having been initiated by the concerned carrier should be treated as untraceable or lost.

4.4.6   The issue of pilferage affects parts of the packages as some pieces from the packages are found missing, and it is not unusual to find full cartons missing at times. The instances of pilferages also account for missing cargo.

4.4.7   There are instances where valuable freight and sometimes vulnerable items like mobiles, laptops are reported missing from the packages and cause shortages on delivery to be reported. A physical round at the airports and interaction with various functionaries indicates that these activities have been happening for a long period of time.

4.4.8   The international benchmark for mishandling rate is 0.015% (i.e. is 1.5 for every 10000 shipments). There is a need to lay down clearly quantifiable standard for this parameter. Domestic Air Cargo Agents Association of India has represented strongly in favor of a mechanism to check pilferages in the Domestic Air Cargo Net work as almost 75% of the cases go unreported and claims are arbitrarily settled. It is claimed that the menace of pilferages have diverted many customers of mobile phones and other electronics away from Air Cargo.

5 Key Challenges - Infrastructure Bottlenecks

The Root cause analysis of the issues discussed in the previous chapter reveals challenges in the form of lack of enabling infrastructure, complicated regulatory processes and procedures, inadequate and poor quality of human resources deployment and lack of effective technological enablement of cargo handling supply chain are responsible for the current state of affairs in the air cargo logistics sector in India. These challenges are discussed in greater detail in the following sections.

5.1 Inadequate and overloaded infrastructure facility

5.1.1 Airports were developed primarily from passenger stand point of view, and thus requirement of cargo facility development was not taken seriously. Cargo is generally the last part to be thought of and is relegated to that part of the airport, considered not important otherwise. This leaves the entire logistics of cargo – infrastructure and facility in woefully inadequate and poorly managed area of the airport.

5.1.2 Cargo infrastructure at any airport is just not the cargo terminal building that houses the warehouse but also the related facilities including special facilities for express freight, frozen foods, airmail, and hazardous goods. Infrastructure also includes specialized equipments, connecting roads, truck parking terminal, public amenities like offices for intermediaries, public car parking area etc.

5.1.3 The development and design of any warehouse including airport cargo terminal is mainly dependent on the business model and processes to be adopted which in turn is dependent on

- Nature of operations e.g. Air express
- mix of different types of cargo
- level of automation planned
- volume of cargo to be handled
- peak time load factor
- customs procedure in a particular location
- Nature of cargo to be handled - loose versus palletized
- Storage period of import cargo prior to delivery of cargo amongst other conditions.

5.1.4   Unfortunately in most cases in the past, it is the other way round. The warehouse facility is first created and then the processes are fitted into it leading to inefficient operation and poorly developed infrastructure. It is important therefore the warehouses are planned based on the processes and business model adopted.

5.2   Gaps in Key facility infrastructure at Cargo terminals in Gateway airports

5.2.1   There has been a lack of planned and integrated development of airports to cater to the needs of cargo business. Lack of adequate and appropriate air-cargo infrastructure at airports remains the key stumbling block to the future growth of the air cargo sector in India. Some of the key facility infrastructure which are lacking at majority of the air cargo complexes are:

i.   Shortage of landside truck docks, vehicle holding area and airside operational space

ii.   Insufficient entry gates and lack of upgraded handling equipment and trolleys

iii.   Lack of specialized storage and handling facilities for hazardous, radioactive and valuable cargo

iv.   Lack of sufficient cold storage capacity for perishables cargo

5.2.2   Table 10 shows some glaring infrastructure gaps of cargo operations in India, when compared with global best practices.

Table 10: Comparison of air cargo infrastructure operations in India with global best practices

Global best practices	Cargo operations in India
Segregated facilities for different types of cargo	Most terminals don't offer separate facilities, except cold rooms
Dedicated and specialized perishable handling facilities that cater to end-to-end supply chain needs	Inadequate investments in cold chain infrastructure (temp-controlled warehouses, trucks) to handle agricultural, pharma and other perishable commodities
Proper waiting area for trucks	Agents use the cargo terminal landside as a truck parking / holding area, leading to congestion
Agent warehouses, office spaces and other processing facilities close to cargo terminal	Agent warehouse are often located within the city
Promotes transshipment handling/ hub operations	Cargo terminal operators need to have separate license handling area for transshipment handling
Dedicated facilities for Air Express Operations with air side and city side access, multiple freighter parking bays	No fixed model and dependent on decision of individual airport operators. Very few dedicated freighter parking bays.

Source: Presentation to WG by AI-SATS, 2011

5.2.3   Because of the infrastructure overload, most of the airport warehouses are congested, leading to delay in the cargo processing. MIAL in their submissions has attributed the infrastructural inadequacy solely to the uneven utilization of transaction timings, inordinate delay in clearing of special products. These factors have contributed to the increased dwell time for both imports and exports. To decongest the warehouse, build up pallets (BUP) concept for export and import should be considered. With the introduction of BUP by the shipper and forwarder, major reduction can be achieved in damage and pilferage and a faster acceptance can be achieved as compared to individual boxes and multiple handling. This can help in reducing dwell time and decongest the warehouse as well.

5.3   Bottlenecks in truck docking

5.3.1   The floor area at the truck dock is the first entry point for offloading the cargo before shifting for clearance. Reports[25] received from the users of cargo terminals indicate that dwell time for trucks waiting outside the Air Cargo Complex ranges from 8 to 12 hours in one of the major gateway airports during peak seasons. In today's competitive environment it is ironic that export cargo vehicles are not off loaded due to lack of adequate space availability. Limited number of truck docking bays for imports also is said to severely limit the ability of the cargo terminal operator to clear the cargo on time resulting in delay and accumulating daily back log of undelivered cargo.

---

[25] Representation of ACCAI dated 14-09-2011 to Ministry of Civil Aviation

Table 11: Comparison of Truck docking Bays in Major gateway airports of India with few overseas airports

Gateway airport	Exports	Imports	Total
Mumbai	8	33	41
Delhi	30	22	52
Chennai	22	14	36
Bengaluru			46
Hyderabad			29
Kolkata	7	6	13
HIA, Hong kong			230
Dubai^			109
Munich Airport~			>50

Note: ^ includes both air cargo and Cargo mega terminal~ only in respect of freight forwarder building

Data Source: Report of Sub-Group: Websites of International airports; Analysis: MoCA

5.3.2   Number of truck dock bays in air cargo terminals of HIA-HK, Dubai etc is several times the facilities prevalent in Indian air ports. More importantly, access to truck dock areas need better road connectivity which is missing in some of the major metro airports. If existing roads accessing the air cargo terminals cannot be widened, options should be explored to provide additional access from the city side to relieve congestion.

5.3.3   Nature of equipment to be deployed will depend on the process adopted by terminal operators for handling of cargo. It is also essential to install efficient and effective container device loading equipment in areas such as loading and unloading docks as well as relevant entrances for the freight movement. There is no general guideline to be adopted. However as a minimum there should be enough and adequate number of forklift to handle the type of cargo to be received.

5.3.4   The cargo terminal should be equipped with closed truck docks with dock levelers which can accommodate trucks platform height from 0.8 to 1.4 metres.[26]However, it has been suggested by one Airport operator that the men/machine requirements at the truck dock is based on demand and there is no global benchmark standard for such activity.

---

[26] Report of Sub-group on Infrastructure submitted to Working Group

5.4   Inadequate X-ray screening facilities and lack of associated trained manpower

5.4.1   The lack of adequate screening machines, coupled with the fact that there is a lack of machines that can screen built-up pallets (BUPs) creates accumulation of cargo at the land side, particularly more so when a large part of the cargo is tendered at the same time. There is an absence of ULD screening facilities for heavy and palletized cargo. Machines frequently break down, and there are no on-site engineers who can trouble-shoot and provide the solutions immediately. This stalls the clearance process and leads to a pile up.

5.4.2   Further, there is a lack of appropriate number of screeners who are qualified to scan the cargo on the x-ray machines. Key stakeholders complain about the lack of X-ray screeners, and the need to replace old X-ray machines. Users of Cargo Terminal at Chennai airport complained about the lack of X-ray Screeners and the need to replace Old X-ray machines urgently. Clearly, the need to augment new x-ray machines backed by adequate number of X-ray Screeners was apparent for a casual visitor.

5.4.3   There is an immediate need to augment new X-ray machines backed by adequate number of X-ray screeners in almost all the air cargo terminals in the gateway airports in the country. There are norms for working hours and rest hours that apply to these X-ray screening officials and the lack of adequate number of such personnel leads to heavy pile up. There is no uniform break time for the staff working under different agencies in the warehouse. The break time (dinner break) of the various agencies being different, further adds to the chaos.

5.5   Absence of off-site facility such as Air Freight Station (AFS) for cargo processing

5.5.1   Traditionally almost all activities related to air cargo processing (including weighing, screening, customs examination, ULD formation, etc.) have been done at the Cargo terminals in the airport area. With the growth of cargo volume, the current space at most Cargo terminals in country is proving woefully inadequate, leading to severe congestion issues.

5.5.2   The concept of AFS was conceived as a means to reduce congestion in the airport premises, by permitting transfer of cargo to designate / customs notified freight Stations – AFS or ICDs through bonded trucking operations. This will facilitate greater throughput efficiency, reduce dwell time, and maximize the utilization of installed capacity. AFS is an innovative solution that would complement an Air Cargo Terminal. This concept of Off-Airport Cargo processing is well known globally and has been proved as a successful model in maritime cargo sector in India.

Box1: Success Story of ICDs/Container Freight Station (CFS) in Chennai

The enormous success of ICDs/CFS (Container Freight Station) in decongesting the Indian sea ports is an example worth emulating by the air cargo sector. An ICD / CFS is common user facility with public authority status. They are equipped with fixed installations and offer services for handling and temporary storage of import/export laden containers carried under customs transit by any applicable mode of transport. All the activities related to clearance of goods for home use, warehousing, temporary admissions, re-export, temporary storage for onward transit and outright export, transshipment, take place from such stations.

The operationalisation of CFS in India has been the key enabler for the rapid maritime cargo growth in the country.

Chennai is a live example to demonstrate the success of CFS, where off port container facilities were created. This led to containerization/standardization of the cargo, which played a vital role in the smooth and seamless multi-modal connectivity of the sea port with other modes. Today more than 70 % of the total cargo volume is transported in containers as compared to 30%, some ten years ago. Further, the consolidation of cargo through containerization led to reduction of transit time by more than 2/3rd and cut the cost of ocean freight by almost half during the past 10 years. Container throughput at Chennai sea-port is reported to have increased by 5 times to reach 15 Lakh Containers in 5 years.

Source: Industry submissions to the Working Group

5.5.3   Customs have permitted transport of individual packages, container cargo and ULDs etc. for both export and import cargo clearance at Air Freight Stations (AFS). However, it has been noted that existing AFS' as notified by Customs have not been made operational. The key reasons for this non-operationalisation of AFS include: Lack of enabling customs procedures in place for off-airport clearance facilities, absence of legal framework[27] to ensure creation and utilization of AFS instead of mere notification of the facility, lack of enthusiasm on the part of Carriers and airport operators to support this concept.

5.5.4   Barriers with regard to operationalising the AFS should be removed without any further delay. It is vital that the concerned regulatory clearances are issued by Customs/BCAS and others permitting the bonded movement of cargo to and from the off-airport terminal. A major gateway airport operator has commented on this issue by stating the following:

a)   Airport cargo development is an integrated service for an airline and trade partners. Delinking its core business will only lead to increased dwell time and risk to the entire supply chain and additional cost on account of AFS will be loaded on clearance alone, hence the overall cost will increase.

b)   Multiple handling of Air Freight at the airport of destination as well as at AFS will make the Cargo more prone and vulnerable to damage / pilferages. Today the facilities are integrated, if fragmented at different places it will lead to multiple handling and increased requirement of customs officials. If customs strength at Airport terminal is enhanced it would further lead to expeditious clearance and increased through put.

c)   Issues of increase in the handling cost on account of Terminal Handling cost at the airport, transportation cost from airport to AFS, Bond value for the goods in transit, Bank charges for the bond and terminal handling cost at AFS besides the cost recovery charges for customs at AFS and Airport, etc. have not been taken into account while projecting and marketing for AFS without looking into the ground realities.   The Scope of Service and activity remains the same for AFS as compared to Air Cargo Terminal. It's a duplication of work.

d)   Commercial business viability would be a challenge both for airport operator as well as for AFS operator. It is only the AFS operator adding money to its portfolio, leaving

---

[27] Proposals to amend the Customs Act 1962 in this regard are contained in Union Budget 2012-13

national airport assets redundant and expensive proposition for Exporters and Importers.

e) End user for Air Cargo Product will be saddled with higher transaction cost besides the quality risk due to multiple handling.

5.5.5 A member of the WG representing Airports Authority of India is of the view that doubtlessly establishing AFS will reduce burden on Air Cargo terminals at Airport but it will add to increase in dwell time as there are additional steps in shifting cargo to AFS. These additional steps according to him are,' Filing documents with customs for approval, shifting import ULDs / Individual packages to truck dock area, loading of ULDs and Individual packages of import cargo in trucks, bonding trucking from airport to AFS, documentation with customs and cargo custodian, offloading cargo from bonded trucks under customs of supervision and de-stuffing of cargo after tallying with documents.

5.5.6 Suffice it to say here that using AFS is not recommended to be mandatory under normal circumstances and it is only one of the options before the users and the industry. There cannot be a second opinion on such a choice being made available for the users. Further, there is no evidence to prove that operationising AFS will leave the airport operations unviable. If that is indeed the case, air ports overseas which are often cited in bench marking of standards would not have promoted Off-airport facilities for processing of cargo.

5.5.7 It is already seen that a substantial proportion of cargo handled by airports in overseas (compared in earlier section) are processed and Customs cleared in off-site locations. If an operator finds it unviable to operate an AFS, there is no proposal here to force that operator to continue. It is once again left to the choice of the operator. However, it is important to ensure that barriers to operationalisation of AFS are removed so that those who want to make use of the facility are not denied that option particularly when there are issues being faced by the users as brought out repeatedly.

5.6   Special Cargo Infrastructure

5.6.1   Often express cargo and general cargo require special handling facilities for temperature sensitive cargo, pharmaceuticals, perishables and Dangerous Goods. Dedicated and appropriate facilities are not available at all airports and hence there is a need for clear guidelines regarding the minimum infrastructure that an airport must mandatorily have for handling such shipments.

5.6.2   The same may also be based on the demand based on the location of different key industries which require special infrastructure e.g. clinical research, agri based exports, high tech and electronic equipment etc. Special areas for ample storage and handling of temperature sensitive cargo such as separate cold storage space for pharmaceuticals and perishable food items as well as for Dangerous Goods will have to be earmarked.

5.7   Cold chain facilities

5.7.1   The composition of trade in fresh agro-food products is shifting towards horticultural products, fruits and vegetables, fish, and spices which have led to an increase in demand for airfreight to meet the delivery times. The quality of logistics is an essential element of competitive advantage. Cost is equally important and provides an advantage for countries that already have well-developed air freight routes, whether through scheduled freighters or space on passenger flights.

5.7.2   Non-Resident Indian population living in Middle-East and in other parts of the world continues to source a large part of their food stuff requirements including native grown vegetables from India. Belly space available from the passenger aircrafts flying to these destinations provides an ideal opportunity for exporters of such items to supply the perishable items of food at competitive prices. However, what is important is to enable the growth of this trade by facilitating appropriate infrastructure for handling, storage and faster movement of these goods for exports in the cargo terminals. Cool chain processes effectively safeguard product quality and maximize shelf life, thereby enhancing profitability.

Box 2: Facilities for special cargo handling in other countries

- Nairobi has a pair of on-airport refrigerated storage facilities operated by the ground-handling subsidiary of Kenya Airways, as well as a stand-alone cold storage operated by DHL on the airport and Swiss port off the airport. These are highly automated.

- Possibly the most advanced cold storage is the Dubai Flower Center, a multi-storey facility located next to the Dubai Cargo Village. It is designed for the storage and processing of flowers imported primarily from Africa for both the local market and for distribution to the region. The initial phase on this center is designed for an annual throughout of up to 180,000 tons of flowers. The perishable handling area in Dubai Cargo Mega Terminal is about 4623 square metres floor space, with 3927 square metres of 218 individual cells of temperature zones.

- The 9,000 m² perishable centre, for instance in Cargo City, Frankfurt Airport, offers 20 different climate zones.

- Changi air freight terminals offer Dedicated/specialized perishable handling facility that is temperature monitored and humidity controlled to cater to different types of requirements and a wide range of commodities

Source: World Bank Report on Air Freight Study, 2009

5.7.3   Benchmarked against these best practices in the world, it is observed in most Indian airports there is need to focus more on these areas so that handling of e.g. agricultural and other perishables/pharmaceuticals for which India has potential is done in the best possible manner to boost their trade. MIAL has claimed there will be no shortage or paucity of space for special handling of cold storage cargo with two dedicated facilities said to be in operation one each by MIAL and Air India for export perishable and Pharma. India should aim to benefit from the benefits of cold chain logistics for air cargo operations like other countries. Ministry of Commerce has set an export target of US$ 42 Billion for 2016-17 for pharmaceutical sector alone.[28] This suggests a huge potential for air cargo business in this segment.

5.8   Lack of DG qualified staff leading to high turnaround time

5.8.1   There is an increase in the number of consignments that come under the classification of Dangerous Goods (DG), that are tendered for exports. However, handling of DG is still at a nascent stage in the Indian scenario. The forwarders and customs clearance staff are not well equipped to handle DG consignments and a similar scenario exists with the carriers.

5.8.2   The mandatory number of DG qualified staff with forwarders is said to be only on paper. Senior personnel (often owners of smaller companies) are the ones that are DG qualified. But the pressures of commerce cause them to accept DG consignments which are then cleared more on the basis of the knowledge of the DG expert of custodian or carrier as the DG qualified personnel of the forwarder are very senior and involved with other aspects of the business. A delay in clearance of DG therefore often adds to the congestion and creates an environment conducive to missing packages.

---

[28] Report of Working Group of on "Boosting India's Manufacturing exports for the 12th Five Year Plan, Department of Commerce, GoI, 2011

5.9   Security arrangements for the air cargo complex

5.9.1   In some key airports there is a lack of adequate number of CCTV cameras covering from truck dock to final build up. It is important to note that the value of vulnerable cargo in trade- Gems & Jewellary, Laptops, Mobile phones, Mother Board has grown at a CAGR of 14% during 2003-2010 and it constitutes about 50% of the total value of exports by Air. In the Air Freight Terminals (1-6) of Changi airport for example, there are more than 670 cameras (fixed and pan-tilt-zoom) and all cameras are centrally monitored at the control room in the AFT5 and all activities are digitally monitored.

5.9.2   The Table 12 shows the inadequate security arrangement at Air cargo complex in India with global best practices.

Table 12: Comparison of air cargo security infrastructure in India with global benchmarks

Global benchmarks and best practices	Cargo operations in India
Extensive use of CCTV, Radio Frequency Identification devices and physical manpower to guard premises and protect cargo.	• CCTV coverage often limited to specific areas of air cargo complex • Deployment and Usage of RFID is almost "Nil" • Very limited presence of security staff for cargo complex

Source: Presentation made to WG by AI-SATS

5.9.3   One member has commented saying that RFID technology usage can only be optimized in ASRS mode wherein only the units are identified based on active and passive mode. It is also claimed that in all the Airports and air cargo facilities, substantial investments in overall safety and security arrangements have been made and are certified by BCAS/ICAO. However, no data has been provided to support their claims on investments made in this regard.

5.10   Express Companies- Infrastructure related issues.

5.10.1   Express Delivery Service companies are strongly of the view that their operations require airport facilities with landside and city side access at all major international airports. Speed is of essence in express operations. In the absence of their facilities not having proximity to the cargo bays on the air side and sufficient truck docks on the city side with access to roads, then it is said that it could take as much time for shipments to get to the aircraft as it takes to fly to the destination.

5.10.2   Air side and city side access with adequate truck dock facilities is hence the most crucial factor in planning express infrastructure at airports. This should be incorporated in the Airport Master Plans in the planning stage itself after seeking feedback of users regarding their present and future requirements. Two types of infrastructure are required at all major airports (a) Dedicated facilities for express companies with large dedicated operations and (b) Common user terminals for smaller operators.

5.10.3   At present dedicated and common user facilities for EDS are being provided based on the perception of the airport operator regarding availability of space and the priority that it wishes to accord to express operators. It is represented by the Express operators that often these considerations and criterion are determined by revenue considerations rather than as an obligation to provide dedicated space for express operators based on the recognition of Express operations as an important building block of the economy.

5.10.4   It is reported that at most airports except for Delhi and Bangalore there are no dedicated facilities or the facilities provided are inadequate. Facilities allotted to air cargo/air express operators are often in old dilapidated buildings in some airports. These are difficult to maintain and result in damage to shipments and subsequent claims. MIAL is of the view that all gateway airports wherein courier flights are handled have exclusive and dedicated courier facility depending upon the volume and at MIAL express courier cargo was being handled through EICI in their own built up facility with both air side and landside access.

5.10.5 By virtue of their business models, EDS companies are required to make huge investments to develop state of the art express facilities; however they are leased facilities for a short timeframe of 3 to 5 years and given short extensions annually with demands for huge escalations. This can potentially lead to lack of clarity and inability to budget future investments for development of world class infrastructure. There is no guarantee that they will be permitted to use the facility for appropriate period to justify the huge investments. Developing an express facility can typically range from Rs. 2 crores to Rs. 20 crores in investments depending on the level of automation, equipment and infrastructure developed. Besides the nature of the tenure which is short there is no minimum commitment in terms of Service levels as there are no service level agreements.

5.10.6 Due to lack of clear cut guidelines for express operators, most of the airport operators including AAI provide facilities treating EDS companies reportedly at par with duty free shops as they are required to undergo a system of bidding for space rather than direct allotment. While such a system would be considered appropriate for non aeronautical facilities, it is important to appreciate the role of EDS companies and express cargo as a whole, being a key aeronautical activity and not an ancillary non aeronautical activity akin to duty free shops.

5.11 Air side infrastructure for Cargo operations

5.11.1 Air side infrastructure for cargo operations is equally important for seamless and smooth operations to achieve better efficiency. Freighter aircrafts play a vital role in increasing the cargo throughput of the country. There is no consistent policy for allotment of dedicated facilities at any of the airports for dedicated freighter air craft including for air express operators. One of the important indicators in this context is the number of dedicated freighter parking bays available on the airside.

Table 13: Dedicated parking bays for freighter aircraft in Indian airports with global comparison

Name of Airport	Number of Parking Bays (Freighter Aircraft)
IGIA, Delhi	9
BIA, Bengaluru	5
CSIA, Mumbai	5
RGIA, Hyderabad	3
NSCIA, Kolkata	3
AAI, Chennai	2
CA, Singapore	45*
Incheon, S.Korea	36
HIA, Hong Kong	34
DIA, Dubai	17

Source: AAI, Respective airport websites for Hub Airports

* 33 are remote parking stands

5.11.2   Evidently, the number of dedicated freighter bays in Indian airports is far below the status accorded to this aspect in the Hub airports in the region. It is also essential to ensure that freighters are provided with adequate dedicated facilities and parking bays in close proximity to improve operational efficiency. Necessary infrastructure and upgrade in infrastructure is required in key international airports like Chennai so that they can service the new generation of large cargo airplanes.

5.11.3   One member of the WG representing Airport operator has submitted that in all major airports where cargo facilities are in operation, dedicated airside infrastructure including cargo aircraft parking aprons are provided in close proximity to the Air Cargo Complex keeping in view the volumes handled. According to him, comparing the number of parking aprons of Indian airports with that of foreign airports handling different type of traffic is not correct benchmarking, as most of the foreign airports mentioned in the reports are transit hubs, whereas the Indian Airports in reference are handling the volumes for local consumption (imports) and volume creating airports (export).

5.11.4   Suffice it to say here that if we aim to create cargo hubs in our country for which there is no doubt about its potential it would then be appropriate to bench mark with the best facilities that are there in those cargo hubs in the region.

6 Key Challenges –Regulatory Hurdles and Other Processes / Procedures / Systems

6.1 Overview

6.1.1 Speed of delivery is crucial to efficient logistics. Regulatory processes and the regulatory environment play a key role in the movement of cargo by air and express delivery industry. Regulatory obligations are required to be fulfilled within a very short delivery timeframe. A simple, transparent and efficient regulatory environment without compromising on regulatory requirements is necessary for enabling faster movement of cargo/EDS by air. Significant amount of investments made in creating infrastructure would become futile if the regulatory framework does not assist in the full realization of the potential of this infrastructure. As the regulatory environment impacting the air cargo/EDS industry spans over various departments/Ministries, every wing of the Government has to work in a concerted manner to ensure that the overall objective of economic development is advanced without barriers.

6.1.2 This section also focuses upon certain Systems/ Processes and even the cultural environment that are in vogue in the air cargo trade relevant for discussion in the context of our goal to reduce dwell time, congestion and improvements in efficiency. Key regulatory agencies involved include Customs Administration, Airport Authorities, BCAS, and Office of the Drug Controller, Public Health Office, and Plant Quarantine Directorate. Other agencies that are part of the supply chain but are not in the nature of a regulator include Carriers, Express Air line companies, Terminal operators, Freight forwarders and Custom House Agents.

6.1.3 Following are the key hurdles identified during the several rounds of meetings of the Working Group on Air Cargo/Express Delivery Services and field visits to air cargo terminals in select airports. Based on the discussion, analysis and conclusion arrived at in this section, initiatives needed to overcome the hurdles are recommended in the last section of this report.

6.1.4   Customs administration have taken a number of initiatives towards trade facilitation and there is no denial of that; but what is important is that, today India is poised to become the economic power house of the world being one of the fastest growing economies and therefore needs of such a fast growing economy are different and this requires deeper analysis of problems on hand and a faster and a durable solution. While major policy issues such as Cost Recovery, RMS for exports, 24x7 operations are discussed in detail in the recommendations section under "Initiatives needed from CBEC", important process/procedures related issues are discussed in this section.

6.2   Procedural hurdles in Operationalization of Air Freight Station (AFS)

6.2.1   The concept of Air Freight Station was conceived as a means to reduce congestion in the airport premises by permitting transfer of cargo to designate / Customs notified Freight Stations – AFS or ICDs. Way back in   November 2007 Chennai Air Customs administration notified Central Warehousing Corporation facility at Virugambakkam as the first ever AFS in India. One more ICD at Sriperumbudur was also designated by Customs authorities in Chennai as AFS. Air Cargo Commissioner at Mumbai Customs granted permission to M/s. CONCOR to carry out Export and Import Operations of air cargo shipments from a dedicated warehouse within ICD Mulund(East) Mumbai in April, 2010.

6.2.2   There was expectation that this would augment the off-airport warehouse capacity/facility and decongest the airport premises which can at the best be a transit area for cargo operations. AFS is an innovative solution that would complement an Air Cargo Terminal. Customs have permitted transport of individual packages, container cargo and ULDs etc. for both export and import cargo clearance for the Air Freight Stations (AFS). However, the WG noted that existing AFSs notified by Customs administration have not been made operational.[29] Union Budget proposals for 2012-13 include amendment of Customs Act 1962 to provide a legal backing to the AFS by equating AFS with CFS.

---

[29] It is understood that recently, AFS at Mulund has started operations in a small way

6.2.3 It is reiterated here that the success of the AFS will require inter-alia Customs permission for bonded trucking operations of both cargo and equipment between the gateway airports and these inland facilities. Customs do not have enabling procedures in place for the operation of off-airport clearance facilities in respect of the bonded trucking operations of air ULDs. For instance, the EDI 1.5 does not have necessary provision to capture transactions of transfers meant for AFS/ICDs. Dedicated officers are also required to be allotted for supervising movement of the cargo.

Action Points: Amendments to be carried out in the application software meant for EDS 1.5 version of Customs to capture the transactions covered in Transshipment for AFS. Suitable instructions are required to be given to the concerned field formations for allotting officers for giving clearance to consignments pertaining to AFS. Off-site Freight Station is a creation under the Customs Act for augmenting Off-port facilities for processing cargo meant for international trade and for effective implementation there should be enabling provisions guideline either time bound or tonnage based that could mandate for moving the cargo as ULDs from the Airport to an AFS. For example, Chennai Port Trust allows the terminal operator to move the consignments to a CFS of their choice, if dwell time of 72 Hrs is exceeded.

6.3 Requirement of 100% export shipment examination leads to delay

6.3.1 Export shipments cannot be moved for build up leading to delays, till all shipments marked for examination are scrutinized. Customs system should be able to identify export package meant for examination, so that they can directly be moved to warehouse for built up. This will decongest the warehouse.   This will facilitate the custodian and trade members to decongest the warehouse, as shortage of space in warehouse causes lot of problems. System to be modified to identify packages meant for examination based on product of export, scheme applied and other parameters. It is possible to make modification in the system software to establish a link with Custodians to convey the packages so identified to eliminate human intervention and facilitate Custodian to plan movement of the rest of the cargo to warehouse.

6.4   Duplication of documentation

6.4.1   Generation of Export Promotion Copies is a cumbersome and wasteful exercise as much as not being an eco friendly process. These documents have outlived their relevance for their physical existence and should be replaced with electronic mode. The condition of Printers at all the Major Customs Air Cargo Complexes are much below par and their maintenance pathetic. Hence there should be a way out of relying on printing of documents.

Action Point: Customs started a procedure that required registration of digital signature few years back as a serious endeavor and there is not much headway made in this area. It is advisable that this is taken up again seriously to make digital signature mandatory to transact business with Customs. Once this is established, print out of all manual documents – Bills of Entry, Shipping Bills, EP Copies can be eliminated saving precious time for both Customs and the Trade.

6.5   Simplify customs processes and documentation through full adoption of EDI

6.5.1   Physical papers are still being used even after implementation of EDI in the processing of import & export cargo. Wherever data is transmitted electronically at least in such cases no hard copies should be required by customs.   Physical copies should be only required wherever no electronic data is possible or missing. This will help in reducing the dwell time of import/export cargo by at least 10-20%.

6.5.2   Customs should go for full EDI adoption for import/export registration, clearance, drawback and e-payment of duty. This might release considerable manpower / man-hours in the existing pool, which can be deployed elsewhere. Certain functionalities to be achieved fully through EDI:

i.   Dispense manual printing of customs Shipping Bills and Bills of Entry to expedite processing time at examination points.

ii.   Convey export order /out of charge real time from customs to expedite palletisation /deliveries

iii.   Accept electronic confirmation of AWB nos and RMS goods released without delays.

iv.   Put provision for regularization of short/excess/over-carried cargo as part of normal EDI amendment message without human intervention.

v.   Dispensation of all hard copies: Customs should not insist stakeholders to submit manual documents, wherever trade partners are submitting Data electronically to them to avoid duplication of work and unnecessary paper work. Submission of delivery order by airlines, sub delivery order by consol agents, Customs out of Charge copies, manifest, consol manifest, MAWB, HAWB copies should be dispensed with.

6.5.3   **Ensure inter-linkage of all the agencies in the supply chain with EDI**: Historically, there has been a compartmentalized approach to introduction of IT within each industry, as also Government for EDI. Establishing an integrated approach with an overall industry view by adopting a common platform is required. Flow of goods and information is not seamless – there are too many stages between shipper's door and export uplift or vice versa from arrival of flight till the delivery to final consignee. Same commercial, customs and transportation data is entered multiple times during the logistics flow, resulting in high administration costs and scope for manual error.

6.5.4   Lack of shipment visibility requires constant follow up with carriers, shippers and custodians resulting in increased communication cost, penalties and delays. On many occasions there is a complete lack of real time alerts and status updates. There is a need for industry to collaborate and shift to a completely IT enabled environment within next five years. Therefore, there is a need for a comprehensive and a common platform through which all players and regulators can be connected.

6.5.5   For effective implementation it is recommended that it is necessary to mandate EDI standards, standardized processes, digital signatures and inter-linking of regulatory agencies and adoption of multi-model EDI processes by everyone. Currently, testing agencies are not connected with customs and all certifications are manual. Precious time is lost as documents physically travel from different locations to customs. It is preferable that Version 1.5 is enabled and allied agencies are linked to customs through the system.

6.5.6   Ensure circular flow of information between airports, airlines, operators and other stakeholders in the supply chain: To achieve greater mobility of the processes, there should be inter-linkages and circular flow with airlines, airport operations and Air freight stations, Customs, Banks, CHAs, and other allied agencies like PHO, ADC, etc. The industry should focus on improving information flow between different parties in the logistics chain, through electronic messaging and other EDI protocols. System should be modified to identify packages meant for examination based on product of export, scheme applied and other parameters. System link should also be effectively established with custodians to convey the packages so identified, to eliminate human intervention and facilitate custodian to plan rest of the cargo to warehouse.

6.6   Provision for amendments in EDI system

6.6.1   Amendments to be carried out in   the application software meant for EDS 1.5 version of Customs to capture the transactions covered in Transshipment for AFS. Suitable instructions to be given to the concerned filed formations for allotting officers for giving clearance to consignments pertaining to AFS. Introduce transshipment module in EDI ver. 1.5: Version 1.5 should compliment electronic declaration pre arrival of flight for seamless and smooth transshipment for the vision to create air cargo hubs in India.

6.7   Transshipment a cumbersome process

6.7.1   Customs facilitation procedures with respect to transshipment cargo still needs further clarity and simplification. Customs procedures for transshipments and export / import procedures differ at various airports. There is an urgent need for standardization of policy / procedures for gateway operations. As more and more Indian carriers fly out to International destinations, the transshipment segment has significant market potential.

6.7.2   While the Circular No 6/2007-Customs dated 22.01.2007 has clarified that the permission of transshipment in case of imported cargo from one Customs station to other are allowed on the basis of CTM prepared by Carrier / Consol agents as the case may be. This document itself should be treated as application for transshipment and there is no requirement for filing of separate application for 'Transshipment Permit'. However, in case of export of cargo tendered at one Customs airport for export from another Customs airport there is a requirement of Transshipment Permit by the Airlines / Carrier which needs to be approved by Proper Officer.

6.7.3   Further transshipment from one gateway airport to another gateway airport via an intervening gateway airport where a simple Transshipment load is done should be permitted and instructions issued accordingly. At present customs formations in different airports take different views on this issue. As of now, there is no module for transshipment in EDI 1.5. Hence all transshipment is based on manual filings. This anomaly needs to be rectified and a suitable amendment issued.

6.7.4   Similarly a Bank Guarantee is also sought separately for export and import transshipment. While the waiver of BG requirement has been made on the basis of annual tonnage, hardly any airline has been able to avail of the same. In view of the same, the criteria should be based on waiver for airlines who have been operating for over 5 years on a scheduled basis with a clean track record of no default on payments to customs. Guidelines for transshipment should be suitably modified to clarify that transshipment through intervening gateway ports are permitted to ensure optimum use of aircraft capacity and for better connectivity. Also clarification is required to be issued to ensure that multiple bonds and Bank Guarantees are not requested for transshipment of one shipment.

6.7.5   At present some customs stations are asking for a Bond and BG from the custodian as well as from the airline. At times even unreasonable demands of making the bonds of one custodian co-terminus with that of the airline are made which is not even part of the guidelines in this regard. Airlines cater to several custodians and hence such an expectation is unreasonable. As and when the EDI1.5 system develops a transshipment module, the above concerns should be taken into account to ensure ease of operations.

6.7.6   Appropriate clarification is required to be issued clarifying both issues and modifying Circular No. 6/2007-Customs dated 22.01.2007. A circular highlighting the need for uniform implementation may be issued by CBEC.

6.7.7   Transshipment permission is generally issued only for one year and thereafter extended every 3 years. The renewal process takes anything from 2 to 6 months. This is time consuming and the TP Pubic Notice at some station is issued without a time frame on a continuing basis and at others only for 1 year. This leads to wastage of time. Clear instructions need to be given by CBEC to all its field formations for issuing Public Notice permitting transshipment without any time restrictions subject to regular renewal of Bond and BG periodically.

6.7.8   Customs always reserves the right to terminate or withdraw the permission at any time and hence there is no point in going through the time consuming exercise of renewal every year. Present Version1.5 adopts a centralized platform. Hence be it Bond or BG an airline should have the option to execute on Pan India basis which could be regularized with debits and credits as and when transshipments are required and permitted. When Version 1.5 is extended and enhanced to cover transshipments, this proviso could be created in the system. Carriers under the Customs Act in any case are accountable for the manifested quantity. Hence there could be a review of the entire process of CTM including eliminating such document if this could be replaced electronically.

6.7.9   Transshipment not permitted, even if there is only a ramp transfer, if there is a change in flight number/aircraft: Currently, transshipment is not permitted within the country when a change of flight number is involved. E.g. Import Shipment from HYD to CCU cannot be forwarded HYD-BOM to connect a BOM-CCU flight even if just a ramp transfer is involved. Basically transshipment should be a pre arrival process and not a post landing procedure. This if permitted to be transacted electronically will eliminate many delays. It is not always possible to have direct connectivity between all city pairs in the country.

6.7.10   Such a restriction also constrains the movement of high volume loads within the country as the only other alternative is belly-hold capacity of passenger airlines which severely limits the dimensions and weights of acceptable shipments. This means that international airlines can only land at a gateway where there is a direct connectivity to the required airport. Such restrictions would severely limit the development of secondary markets. In the interest of speedy connectivity of transshipment loads, such transfers should be permitted. Such possibilities would also serve to increase the capacity utilization on the aircraft by both International and domestic operators to reduce cost.

6.7.11   Working Group therefore considers it necessary to suggest that Transshipment should be permitted for ramp transfers even if there is a change of aircraft. Ramp to Ramp transfer for pre sorted containers is highly recommended at major airports for faster movement without any additional charge and documentation to promote HUB.

6.7.12   Such transfer of pre-sorted containers may be from one international flight to another or from one domestic flight to another which carries export or import cargo in bond. While Circular No.8/2011 dated 28th January, 2011 is already issued in the matter, it only covers international ramp to ramp transfer and the provision related to transfer of international shipments from international to domestic and domestic to international transfer of presorted containers has not been clarified.

6.7.13   A clarification regarding the same being applicable to more than one leg of an international flight should also be issued. E.g. if a presorted container of customs cleared shipments needs to move from Bangalore to Paris via Mumbai and Delhi then the same requires transfer at two locations i.e. at Mumbai and at Delhi and hence the same should also be clarified as hub operations require movement on spoke sectors from hubs for onward transmission. Version 1.5 should compliment electronic declaration pre arrival of flight for seamless and smooth transshipment if the vision of Aviation Industry to create air cargo hubs in India to come true.

6.7.14   Clarification regarding topping up of containers for optimum utilization of aircraft space: Cargo flights operate to multiple destinations and the shipments are sorted destination wise. At times one container is only partially filled up when the aircraft makes a halt at an international gateway port. The container remains half empty and cannot be offloaded even though there is shipments on the ground that need to reach that destination. While there is no prohibition on offloading the container and topping it up under customs preventive supervision, there are no clear guidelines for the same. There are similar guidelines for sea freight for LCL cargo however there is no circular for air cargo. WG recommends that the CBEC examine this aspect and issue a circular clarifying a uniform procedure for all stations.

6.8   Simplified process for managing overages and shortages

6.8.1   Often extra or non-manifested shipments arrive which are not listed on the IGM or some get left behind and arrive later. This is a global problem for all international airlines, as a few extra shipments do escape being manifested at the origin or some shipments get left behind. If the contents of the shipments are not restricted or prohibited for imports a formal declaration should be allowed to be filed directly with no specific approvals, delays and administrative penalties on express operators for such overages.

6.8.2   Similarly shortages should be permitted to be brought back at the same airport or reconciled if brought at another port in India. Clear guidelines for regularization of overages and shortages accepting the same as an average miniscule industry error are required to be issued by the Customs.

6.8.3   Other than Customs there are number of agencies that are responsible for smooth operations in the cargo handling and movement which include Carriers, Custodians, Air freight operators, CHAs, BCAS and other cross border inspection agencies. In what follows, process/procedural issues that are common to all of them are discussed in the following paragraphs:

6.9   Practice of tendering Cargo during peak hours – a strain on infrastructure and resources

6.9.1   One of the common causes across the airports of the country is the fact that a large part of the cargo is tendered at the Terminal only in the peak hours. While operating hours start at approx 1000 hrs in most locations, the cargo is brought in only close to the closing hours and about 60% of the cargo is tendered in a span of 2 to 3 hours causing a rush and putting tremendous strain on the resources.

6.9.2   Facilities are not uniformly utilized throughout the day from the transactions hours commencing at 1000 hours, bringing avoidable strain on the existing resources. Packages of one consignment get mixed up with those of another and are "missing" for the original carrier they were to be loaded on till the time the other carrier discovers the packages that do not belong to them and notifies the authorities. Besides, the situation leads to gross under utilization of available capacity at the cargo terminals and other resources.

6.9.3   Analysis shows that the delay in bringing the export cargo to air cargo complex is mainly on account of the fact that the agencies concerned continue to work as per the same old office schedule, that they were used to all these years. Rapid growth witnessed in the trading activity during the last few years definitely calls for early work schedule on the part of exporters, custom house agents, freight forwarders etc. This would imply that they too need to switch over to at least two shifts work schedule by hiring additional manpower which does not appear to have happened.

6.9.4   In general, there is perceived lack of willingness to invest in trained manpower on the part of Freight forwarders, Custom House Agents and others for carrying out their respective tasks in the supply chain involved in the air cargo movement. Unless, all the agencies engaged in international trade are prepared to invest in augmenting the manpower for carrying out the work connected with exports/imports, peak hour congestion in the terminals and warehouses leading to 'strain on the available resources' will continue to remain, causing delays.

6.9.5   Presently, export cargo is being bunched in the evening hours by the trade, causing severe congestion in the cargo terminal which is avoidable. If these agencies augment their own personnel for carrying out their tasks in the airport and advance their operations in the morning hours much of the problems of congestion could be avoided.

6.9.6   MIAL has submitted that most of the transactions (60%) are bunched in the afternoon window of 3 to 4 hours leaving almost 50% of the operational time grossly underutilized resulting in severe mis- utilization of human and machine resources. They are of the view that despite incentivizing there has been no noticeable improvement in utilizing the resources and infrastructure during non-peak hours and transactions continue to be bunched in a window of three to four hours in the post noon session especially in import. They have observed a marginal improvement in export clearance, where 40% of cargo is admitted by 1400 hours starting from 0800 hours, trade need to rework their work schedule.

6.9.7   Few members of the WG are of the view that freight forwarders/Custom House Agents and the trading community needs to be sensitized to ensure that documents are filed in time and duty paid in time in imports clearances. Filing of documents, payment of Customs duty and custodian charges are required to be carried out expeditiously by the trading community and the agents operating on their behalf. It has been commented by an Airport operator that on an average Bill of Entries are not filed within seven days for about 16% of Import Cargo. This situation must change. If self regulation does not work, mandatory requirements in terms of staff strength, training levels, working hours etc. will have to be resorted to.

6.9.8   Further, MIAL has commented that special products such as perishable, fresh vegetables, pharma and food items are allowed to stay for an inordinately long time at the airport facility and such shipments are taken delivery keeping in view the consumption/marketing requirements of the consignee despite the Customs facility of RMS being made available to such importers.

6.10   Lack of close supervision during cargo offloading at truck dock

6.10.1   The floor area at the truck dock is the first entry point for offloading the cargo before shifting for clearance. Lack of close supervision at the entry stage at the truck dock coupled with the fact that there are inexperienced and unskilled loaders handling the consignments, is responsible for the packages to be misplaced. The cargo is carted into the bonded area where the cargo is at the mercy of the unskilled laborers in the absence of strict supervision in this area.

6.10.2   The loaders, who are often recruited from unassociated areas of work, are not subjected to any training for shifting the packages properly at the airport. Such loaders do not understand the chaos they are going to create by storing only part consignments at a particular location or by mixing up locations and consignments. The net result is that at the time of loading the cargo the Carrier's staff deployed for building the pallets is unable to locate the complete cargo of a consignment. The part cargo could be lying in some other location, or worse may have been palletized by some other carrier and loaded onto / flown on another aircraft. There is an inadequate supervision at various stages of the clearance.

6.10.3   From the time that the goods are offloaded at the truck dock, and through all the stages to build up, there are very few supervisors who can give direction and prevent mix ups that are the source of missing packages. Across the good airports of the world, operators are skilled and only physical loading is outsourced. In India, however in some airports, cargo operations are perceived as labor intensive and hence outsourced to various agencies who can supply manpower.

6.10.4   Another fact, which contributes to the state of confusion to some extent, is that neither the vehicles carrying the shipments (exports) are of international standards or any other standards nor packages are of uniform sizes and shapes under the same Airway bill.

6.11 Packaging is another area that requires improvement

6.11.1 Packaging needs to be as per international standards. Post customs clearance (LEO) the shipments are being handled by multiple agencies and are shifted to their respective area of unitization from a common admittance area. Also it has been reported that there is a tendency for accumulating the delivered cargo at times for want of vehicle or to wait till getting full truck load. Trucks and vehicles should maintain good standards and be properly maintained and in good condition. In many cases it has been said that shipment has not been uplifted due to non-availability of trucks. Use of non-standard vehicles should be avoided at all costs as this causes not only delays but also damage to goods while loading /unloading. Trade and agents who operate on behalf of the trade should take note of these concerns and take necessary remedial action to rectify the situation. Otherwise, this area of activity will face stiff penal action from authorities.

6.11.2 Multiple agencies involved in the customs clearance, not present at the air cargo complex: There are numerous allied agencies that need to work in tandem with customs – like Drug Controllers, Port Health Officer, Food Safety and Standards Authority of India under the Food Safety and Standards Act, 2006, Animal and Plant Quarantine authorities, etc. Such agencies covered by the Allied Acts, having a mandated role in clearance of cargo through their certification, do not have offices at the air cargo complex. Many of these agencies are located far away from the airport.

6.11.3 This often leads to delays in export and import clearance, which leads to congestion at the airports. In fact, in certain locations (like Bangalore, Hyderabad) there are no exclusive offices for testing. Hence the availability of the officers decide the clearance time of cargo that are edible in nature (PHOs), Pharmaceuticals (ADC), products of plant or animal nature (Plant or Animal Quarantine Authorities). Normally, even to locate and make the officers available, takes time, not to consider the processing time for completion of certification. This defeat the very purpose of airlifting of cargo as speed is of essence.

`Table 14: Deployment of officers/ distance** of their offices from Terminal of international airports

Airport/Facilities	Delhi	Mumbai	Chennai	Bangalore
Drug Controller	On site	½	1	No lab facility hence import requiring ADC clearance not allowed
Wildlife Officer	3 days a week on site	½	8	½
Jewellary Appraiser	20	6	1	40
PHO	On site	12	40	NA
ASI	20	25	20	50
Plant Quarantine*	1	1	1	40

Note: *In Cochin PQ Station is located in Wellington Island office located at a distance of 40 KMs.

** Distance in KMs; Data Source: Submission of the Sub-Group to the WG

6.11.4 Cochin international airport is taken up here as a case study for highlighting operational difficulties in enforcing an important Cross-Border regulation pertaining to plant quarantine. The import of plant and plant material is regulated in accordance with the provisions of the plant quarantine regulation orders issued under the Destructive Insects Pests Act, 1914.

6.11.5 Similarly, exports of plant and plant material is also regulated through inspection and certification of materials by Plant Quarantine Directorate, Ministry of Agriculture, Govt. of India through the plant quarantine stations located at various international airports / sea ports / ICDs etc. across the country .

6.11.6 Such a certification is a mandatory requirement by the importing countries for all the perishables being exported from India without which export consignments of perishables are liable to be rejected and the concerned exporter from India is also likely to be black-listed. At Cochin international airport, the volume of perishable exports is about 35-40 metric tonnes per day. Most of the perishable cargo is handled during evening hours as perishables for exports are tendered for shipment from 3pm – 10pm every day.

6.11.7 Despite allotment of space for PQ officials way back in May, 2006, the PQ station continues to function from its office at Wellington island which is about 40km distance from the Cochin international airport. While inspection is being done at the Air Cargo complex of the airport, certification is being issued from the wellington island office of the PQ Directorate.

6.11.8 A number of representations made by the airport authorities since 2006 to permanently deploy officials of PQ Directorate at the Air Cargo complex for inspection and certification of perishable exports have not yielded results. The officer continues to function from wellington island office and the inspection is carried out by a staff of PO Directorate from 2 pm to 5 pm. Such restricted working hours for inspection is not conducive for promoting exports.

6.11.9 The member representing MIAL has submitted that at Mumbai almost regulatory agencies are provided required space in Air cargo complex and are efficiently operating from the said complex. There are examples where despite having fulfilled all formalities by the airports and having provided the office space for plant quarantine authorities, some airports are awaiting the functioning of the plant quarantine office. Enquiries reveal that the Plant Quarantine Directorate is short of staff and thus could not spare staff at the airports. These agencies need to be advised to augment their staff strength in consultation with international airport operators.

6.12 Multiple handling of the packages by various agencies working at the airport

6.12.1 There is multiple handling of the packages by the various agencies working at the airport (CHA, outsourced loaders of ground handler, ground handler, customs, custodian, and screening team) during different stages of clearance. Various bottlenecks are created at different stages of the clearance, due to procedural issues. This creates the background for chaos particularly in a situation, where there is no strict adherence to clearly defined line of responsibility among these various agencies. The flow of channels of service needs to be very well defined in order to have a complete smooth operation.

6.13 Restricted working hours leads to delay in cargo clearance

6.13.1 Limited working hours of concerned agencies at the Cargo terminals is one of the key reasons for the delay in clearance of international cargo. Restricted working hours coupled with bunching of holidays lead to pile up of cargo. When the operation starts next working day it puts tremendous pressure on the operations and delivery system. In many countries overseas, cargo clearance on 24X7 basis is adopted. India also requires similar process, given the vibrant imports and exports activity in the country to various destinations covering different time zones.

6.13.2 Given the extensive documentation and procedures of the Indian Customs and other regulatory agencies, the fast pace of growth of the economy and trade, all cross border regulatory agencies and other stakeholders in cargo operations should begin with at least two shifts of work at the air cargo complexes /express terminals of all international airports, to ease congestion and to reduce delays in clearance.

Table 15: Operating hours of Cargo Terminals at international airports

Airport	Cargo Handled (mmtpa)	Operating hours
Hong Kong	4.6	24 x 7
Dubai	3.0	24 x 7
Incheon	2.7	24 x 7
Shanghai Pudong	2.6	24 x 7
CDG, Paris	2.0	2 Shifts
Changi, Singapore	1.7	24 x 7
Schiphol, Amsterdam	1.6	2 Shifts
Suvarnabhumi, Bangkok	1.3	24 x 7

Source: Websites of Airports, AAI, KPMG analysis

6.13.3 Evidence available suggests that a large number of airport cargo terminals have already moved over to a 24x7 operating schedule across most of the leading airports across the world. The whole process of releasing of cargo whether for export to airside or for import on city side needs to be re-looked and re-examined. Currently even if the cargo is custom cleared and duty paid, such custom cleared cargo can only be released by Gate custom officer. Similarly for export cargo, releasing of export ULDs to airline requires the presence of custom officer.

6.13.4 Their absence at these locations ensures that cargo cannot be released even if there is no custom duty involved. This procedure needs to be reviewed. Customs have appointed custodian from whom they have taken bank guarantee and security deposit for value of duty payable for cargo stored in custodian warehouse. Make the custodian responsible for the release of cargo in such cases especially in the case of import cargo where deliveries are made during night time. Note that in most cases, there are restrictions on truck movement during the peak hours of the day. Such a procedure would enable cargo to be delivered quickly and fast. Even if 24x7 operations cannot be implemented immediately, such procedural changes can be considered for adoption.

7   Key Challenges-Automation/IT Adoption

7.1   Overview

7.1.1   Much of the challenges discussed in the earlier sections could be addressed if appropriate technologies are adopted for improving efficiency. That does not appear to have happened although attempts have been made in recent years to move forward in this crucial area. Technology has been a powerful enabler of innovation and progress within the logistics industry. World over, airlines and freight forwarders adopt technologies to provide better information, management, co-ordination and package tracking.

7.1.2   Automation and mechanization are not widely used in the Indian airports to the extent that it is available and should be used. Technology like Warehouse Management System (WMS) Radio Frequency Identification Devices (RFID), Automatic Storage and retrieval Systems (ASRS) should be leveraged to increase automation to facilitate quicker and more efficient operations leading to decongestion at the airports.

7.2   Warehouse Management System (WMS)

7.2.1   Warehouse Management System (WMS)is considered a must for efficient cargo operations. The primary purpose of a WMS is to control the movement and storage of materials within a warehouse. A WMS is a key part of the supply chain and primarily aims to control the movement and storage of materials within a warehouse and process the associated transactions, including shipping, receiving, put away and picking. The systems also direct and optimize stock put away based on real-time information about the status of bin utilization.. Once data has been collected, there is either batch synchronization with, or a real-time wireless transmission to a central database.

7.2.2   The database can then provide useful reports about the status of goods in the warehouse. The objective of a warehouse management system is to provide a set of computerized procedures to handle the receipt of stock and returns into a warehouse facility, model and manage the logical representation of the physical storage facilities (e.g. racking etc), manage the stock within the facility and enable a seamless link to order processing and logistics management in order to pick, pack and ship product out of the facility.

7.2.3   With the WMS, one can look at utilizing Auto ID Data Capture (AIDC) technology, such as mobile computers, wireless LANs and potentially Radio-frequency identification tags (RFID) to efficiently monitor the flow of products. The ASRS consist of a variety of computer-controlled methods for automatically placing and retrieving loads from specific storage locations. Space savings, increased productivity/reduced labor, increased accuracy and reduced inventory levels are some of the primary benefits. The equipment required for an ASRS includes a Storage & Retrieval Machine, or SRM, that is used for rapid storage and retrieval of material. SRM are used to move loads vertically or horizontally.

7.2.4   Radio Frequency Identification Tags are extremely useful for the real-time tracking of cargo bins within the warehouse. In addition to scanning, the industry should focus on improving information flow between different parties in the logistics chain through electronic messaging and other EDI protocols. One Airport Operator has contested by saying that there appears to be no need for a single warehouse management system because the existing IT systems are in full sync with the Indian customs 1.5 version of EDI. Table 16 shows the technology and automation gaps at air cargo complexes in India against global best practices.

Table 16: Comparison of air cargo automation in India with global best practices

Global benchmarks and best practices	Cargo Operations in India
Warehouse Management System (WMS) is must at most terminals	Only some of the new terminal operators have WMS facility in place
Efficient utilization of terminal space through multi-level storage	Only ETV Systems installed and that too at a few terminals
Increase in productivity, through unmanned vehicle and better accuracy in handling	Labor intensive operations at most of the complexes
Only physical loading outsourced	Most aspects of Cargo operations outsourced to 3rd parties
Use of RFID to track cargo shipments	Nothing significant in India
Use of handheld devices to facilitate real time updates	Only few cargo terminal operators are using handheld devices
Use of web/IT applications to improve customer service e.g. collection time for cargo	Agents /forwarders need to physically wait at the cargo terminals for their shipments to be cleared.

Source: AI-SATS submission to WG

Box3: Air Freight Terminal Automation – SATS Freight Terminals, Changi Airport, Singapore

Automated Material Handling Systems:

- 3690 ULD storage positions

- 15 Elevating Transfer Vehicles

- 12 Transfer Vehicles

- 63 workstations

- 4 bridge vehicles

- 13 bypass vehicles

- 9 stacker machines

• Real Time tracking of Cargo bins within warehouse is facilitated through 1600 units of RFIDs.

Source: AI-SATS submission to WG

7.3 Flow of information is not seamless

7.3.1 Historically there has been a compartmentalized approach to technological development within each industry segment, as also Government, particularly for EDI. There are too many stages between the shipper's door and export uplift, or vice versa from arrival of flight till the delivery to final consignee. An overall industry overview, establishing an integrated approach, and adopting a common platform is essentially needed. Some of the key EDI issues which are blocking the seamless movement of the information are:

i. All relevant Governmental agencies are yet to be interconnected

ii. Processes vary at different airports, as there is no standardization. Each custodian is embarking on its own proprietary custodian systems. As a result, the trade has to contend with multiple systems and lack of standards of data exchange across various airports for the same functionality.

iii. Data cannot be easily shared owing to manual processes and paper documentation. Even where shippers have their own automated processes / ERP systems, they must yet provide paper inputs to the authorities / intermediaries.

iv. Same commercial, customs and transportation data is entered multiple times during the logistics flow, resulting in high administration costs and scope for manual errors.

v. Lack of shipment visibility requires constant follow-up with carriers, shippers and custodians, results in increased communication costs, penalties and delays, and finally customer dissatisfaction.

8   Recommendations of the Working Group

8.1   Initiatives needed from Ministries/Departments of Government of India

8.1.1   Integrated framework of Air Cargo Logistics Policy

8.1.1.1   Air Cargo is becoming an increasingly important aspect of Indian external sector. Though some improvements have been witnessed in the recent past, numerous bottlenecks continue to bedevil the chain of air cargo sector. As a result, the turnaround time for exports/Imports at gateway Indian airports is significantly longer compared to other major air ports in the Asian region. This compromises the competitiveness of Indian industry and also compromises Indian trade potential and thus it needs to be addressed on priority. Given the critical need to enhance efficiency of Air Cargo operations in Indian Airports and to meet challenges of growing needs of business and industry for their air freight operations it is essential to lay down a comprehensive policy framework governing air cargo operations in the country.

8.1.1.2   The policy inter-alia shall recognize the criticality of air cargo/air express industry to the economic progress. Following objectives are considered critical to the formation of India's air cargo policy:

i)   The contribution of air cargo sector needs to be adequately and appropriately recognized so that India's fast growing International and domestic trade by air is facilitated, enabled, integrated and expanded.

ii)   Air Cargo Policy and Regulatory Framework governing Air Cargo operations should be enabling and facilitating India's International and domestic trade for ensuring efficient, secure, safe and streamlined air cargo services to and from every part of the country so as to achieve competitive positioning with efficiency, value addition and yield.

iii)   Structured and inclusive planning and timely/ effective implementation of setting up world class infrastructure for air cargo operations at and off airports with full facilitation to achieve greater throughput efficiency, reduced dwell time and maximization of   the installation capacity

iv)   Global benchmarking of all aspects – infrastructure, regulations, processes and procedures including documentation, communications, use of technology and an effective yet conducive security regime

v)   To establish an integrated approach with an industry overview and by adopting a common platform involving a transparent consultative process among various cross border regulatory agencies and all other stakeholders as against a compartmentalized approach with multiple systems. This requires creation of a mechanism which will enable collaboration amongst key stakeholders and act as an enabler for efficient investment in the creation and operation of air cargo logistic infrastructures including appropriate rail and road links.

vi)   The Policy shall incentivize investments in this crucial area of logistics which is vital for National development

vii) The policy shall strive to promote effective and sustainable competition in the air cargo operations in all its aspects

viii) India has great scope to handle transit tonnage as an International hub. The policy shall therefore aim to make at least four International Cargo Hubs among the major Gateway airports of India and achieve ten million tons of International Cargo throughput at Indian Airports by 2030

ix)   To establish processes and procedures to identify key benchmarks of service level across the entire supply chain which should be monitored and standards which should be complied with against these benchmarks. Identification and vigilant monitoring of key performance standards with timely review of regulatory norms as required should be an on-going process.

x)   Policy shall actively promote and facilitate aviation cargo education and training infrastructure to ensure availability of adequate number of skilled/trained personnel at all levels for meeting the growing needs of the industry

(Action: Ministry of Civil Aviation, Government of India) (Timeline: 3 Months)

8.1.2   Industry/Infrastructure Status to Air Cargo logistics Sector

8.1.2.1   The requirement of infrastructure based on assessment of cargo traffic in future is likely to be much more than what is presently available. On top of that if service levels benchmarked with global standards are to be expected from the air cargo logistics industry, the quantum of investment will need to be stepped up by the Cargo Terminal Operators, be it Airport Authority of India or private entities.

8.1.2.2   Latest technologies such as Automatic Storage and Retrieval System (ASRS), Elevated Transfer Vehicle (ETV), Radio Frequency Identification Devices and Terminals (RFID) etc. are required to be deployed in the Cargo Terminals besides augmenting other equipments such as X-ray machines for cargo screening. Further, temperature sensitive cargo such as Pharmaceuticals, Perishables and dangerous goods etc needs highly specialized facilities with latest technology and equipments. Therefore the investment needs of the industry are very high. Private promoters bring in a very low equity and thus debt / equity ratio is extremely high. Financing high and growing investments needs remains the most critical issue in the context of high interest rate environment.

8.1.2.3   The air cargo logistics sector in India has not been accorded any industry status and presently it is being handled by multiple Ministries at the centre such as Ministry of Civil aviation, Ministry of roads, Ministry of Commerce & Industry etc. The lack of industry status poses problems for the under-capitalized freight forwarders/integrators/Cargo terminal operators/air express operators who find it difficult to raise funds through organized banking or financial channels. Therefore, it is virtually impossible for them to invest in modern equipment and technology to increase efficiency and reduce transportation costs. When the sectors are organized, industries develop on account of uninterrupted flow of resources for development.

8.1.2.4   Thus, providing industry status to Air Cargo logistics sector would assist in the development of the sector and bring down the current logistics costs. "Industry" status if accorded to Air Cargo logistics sector would facilitate easier access to finance through availability of organized financing/banking and establishment of insurance norms, robust regulatory mechanism and certainty. Industry status to Air Cargo logistics sector also encourages Private Equity funds participation as they are clear that Government policy will not change frequently once the status of Industry is accorded.

8.1.2.5   Further a number of industry specific incentives- fiscal and other benefits are provided by Governments both at the center and the States for development. In the absence of the status of Industry, Air Cargo logistics sector is not in a position to avail or seek such benefits which other sectors are receiving. Therefore, Government should consider the long pending demand of air cargo logistics sector to grant it Industry status, along the lines already in place for all modes of surface transport in India. This will help them in getting necessary institutional support to strengthen their business.

8.1.2.6   Infrastructure status to industries is another important instrument that is used to incentivize investments in a particular sector. While airport is considered as infrastructure eligible for Income Tax benefits, under Section 80 I (A) apparently, air Cargo terminal enterprises are excluded from the same. This anomaly needs to be corrected immediately. Further it is considered necessary to accord Infrastructure Status to the Air Cargo logistics industry located both within and outside Airport premises. Restrictions in extending the benefits to Air Cargo infrastructure entities may have to be reviewed so that the objectives behind the policy are achieved.

8.1.2.7   Note that already airports are covered under infrastructure status for Income Tax purposes[30]. Restriction of the benefits to "New' infrastructural facility under the said Income Tax section needs to be relaxed because in most of the existing airports undergoing modernization/up gradation, requirement for modernization and expansion for augmenting cargo infrastructure is real and urgent. Either by way of according appropriate infrastructure status to the air cargo logistics sector or otherwise, it is recommended that these entities responsible for the cargo terminal operations may be allowed to issue tax free infrastructure bonds. Such bonds attract public investment especially from high tax band investors at relatively lower interest rates and thus help raise funds for capital intensive projects of public importance.

(Action: M/o of Commerce and Industry, Central Board of Direct Taxes, M/o Finance)

(Time line: 3 Months)

---

[30] For an infrastructure company, Section 80-IA of the Income Tax allows deduction of 100% profit from its income during initial five years of operation and then 30% deduction of profit from income during another five years.

8.1.3 **Air Cargo Logistics Promotion Board**

8.1.3.1 Evidently there are a number of agencies both in Government and outside Government involved directly or indirectly in operations relating to air cargo. A range of Ministries and Departments in Government of India and in the States besides local bodies are connected with the air cargo sector. For any meaningful co-ordination among all the agencies, there is need for an Inter-Ministerial Group that can steer through the reforms suggested in this report for achieving the goals and objectives set out for the future of the sector. This Board has to be duly empowered to guide the respective Ministries and Departments to take policy decisions relating to Air Cargo logistics Sector.

8.1.3.2 Following are the major areas where the Board would engage themselves in arriving at key decisions and monitor the implementation. Ministry of Civil Aviation, Government of India being the nodal Ministry for providing Air port and related infrastructure and for Air Transport services, the Board shall be chaired by the Secretary Ministry of Civil Aviation, GoI. The Board shall comprise of members from the following Ministries/Departments of Government and other agencies:

- Ministry of Commerce and Industry (Department of Commerce)

- Central Board of Excise and Customs

- Ministry of Road Transport & Highways

- Ministry of Railways

- Ministry of Environment & Forests (Wild Life)

- Ministry of Health & Family Welfare (Office of Drug Controller)

- Ministry of Agriculture and Co-operation (Plant Quarantine)

8.1.3.3 The Board may co–opt other Secretaries to the Government of India and top officials of financial institutions, banks and professional experts of Industry and Commerce and representative from state governments as and when necessary. The main functions of the Board could be laid down on the following lines:–

- To lay down policy guidelines for setting up of Air Freight Stations on the lines of ICD/CFS and to ensure expeditious clearance of the proposals for the same.

- To lay down policy guidelines for Public Private Partnership model of development of Air Cargo facilities at Airports and at Off Airports and to ensure expeditious clearance of the proposals for the same

- To review periodically implementation of the proposals cleared by the Board

- To review, on a continuous basis the general and sectoral policy regimes governing Air Cargo Logistics operations with a view to remove bottlenecks to efficiency

- To resolve Inter-Ministerial issues that affect the air cargo logistics operations in the country and to achieve better efficiency

- To completely restructure and monitor the functioning of Cargo Facilitation committee that are headed by Airport Directors of AAI and other private/JV airports with a view to review the effectiveness of these bodies

- To co-ordinate with the State Governments on inter-alia issues relating to Inter-Modal connectivity

- To monitor implementation of Quality of Service parameters by various stakeholders in the air cargo logistics supply chain

- To review the progress on development of major gateway airports as Cargo hubs through facilitating transshipment

- All proposals for approval of air cargo terminal operator under the custodianship rules etc. shall be vested with the proposed Air Cargo Logistics Promotion Board. This will ensure that policy implementation is uniform across the country, which is very important from every stakeholder's perspective.

(Action: Ministry of Civil Aviation, GoI)   (Time line: 3 Months)

8.1.4   Augmentation of Off Airport Cargo logistic facilities

8.1.4.1   Air Freight Station: There is clear and strong case for augmenting the Off Airport facilities for cargo processing and handling for clearance. Irrespective of the all future proposals by the air terminal operators/Custodians to enhance / improve cargo handling facilities, demand will outgrow supply in the near future. Cargo village[31] concept can work where the airport has enough land in an area where the cost of land is not expensive. Otherwise rental will become detrimental to trade.

8.1.4.2   For cargo village concept to work, the airport cargo handling terminal should be declared customs free zone. All cargo processing both on import and export side should be done only at cargo village at the forwarder's facility. This in fact becomes the customs station like the CFS is for the seaport terminal. Further, Cargo village should be not more than 2 km radius from the cargo handling terminal of the gateway airport. All export related activities can be technically done including palletization and security examination.

8.1.4.3   On import all custom related activities from break-bulk to assessment, examination and payment of duties can be done over there. In the absence of adequate land in the vicinity of airport premises, which is the case with almost all airports recourse must necessarily be made to the concept of Air Freight Station.

Report of Working Group on Logistics, Government of India, Planning Commission has highlighted inter alia the importance of augmenting the off airport facilities for decongesting the airport premises and for reducing the delay in the movement of air cargo. Some extracts of the Report pertaining to Air Cargo issues are given below:

"Wherever land is available within the Airport, land should be demarcated for the creation and the 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 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…..In the case of Off Airport Air Cargo Village, any Logistics operator may setup the facilities."

---

[31] Ideally, the term invokes the gains of efficiency represented by collocating the cargo operations of airlines (both passenger and cargo), freight forwarders, ground-handlers, trucking (both local delivery and line haul) and federal inspections

8.1.4.4   Air Freight Station is an off-airport cargo terminal station having facilities such as Customs documentation/examination, Cargo acceptance check, security checks and palletisation. This is the counter part of Inland Container Depot and to a great extent Container Freight Station for maritime cargo. Services offered for Imports include Hand over by Airlines, Bonded trucking operations from Airport to AFS, Documentation, De-stuffing at AFS, Segregation, Customs examination, detention, bonded warehousing and delivery. Services offered for exports include documentation, Cargo acceptance, Customs examination, X-ray Screening, Warehousing, Palletisation, bonded Trucking operations from AFS to Airport and Hand over to air lines.

Air Freight Station (AFS) has the following advantages:

- ❖ It is an integrated chain that offers Customized logistics solutions with better accountability and minimal logistics cost
- ❖ Shifts / distributes the space requirements outside the boundaries of Airports
- ❖ Will drive availability of more covered storage
- ❖ Equipments will be placed at various locations as per demand
- ❖ Deployments of manpower is spread over locations
- ❖ Due to availability of space, traceability is made easier
- ❖ De-vanning of Unit Load Device (ULDs) will be faster and thus availability of cargo sooner
- ❖ AFS can be located at less congested / and road restriction free areas
- ❖ Due to distribution of cargo to various locations, congestion can be reduced
- ❖ Greatest advantage will be a safe and secure airport as ULDs are shifted on landing from a sensitive place like the airport to far off locations capable of creating required safety standards.
- ❖ AFS becomes a business model by itself with willing investors creating competition that would pave way for reduced cost and increased efficiency.
- ❖ In short an AFS is an innovative solution that would complement an Air Cargo Terminal.

8.1.4.5   Proof of concept is already there in India in the movement of containerized maritime cargo from gateway ports to ICDs and CFS serving the gateway ports in the respective regions. Nav Sheva the largest container Port of the country with 3 terminals and a through put of four Million TEUs is a striking example of innovation conquering infrastructure constraints with about 20 off dock Container Freight Stations.

8.1.4.6   Another success story is Chennai Container Terminal which is being served by about 30 Container Freight Stations in a radius of 30 Kms of the Port. In a span of 7 years the volume of cargo handled surged by five times to reach 1.5 Million TEUs. Due to competition there is quality in service and affordable tariffs. Chennai has now been served with a second terminal for the past one year and the volume is ever increasing. The discipline is that the terminals will be transit points and not handling / storage areas.

8.1.4.7   This Working Group is of the view that augmentation of off airport facility like the ICD/CFS for maritime Cargo should be taken up on priority and barriers if any for operationalizing the policy initiatives of the Government in this regard should be removed without any further loss of time. On the 1st November 2007 Chennai Air Commissioner issued a Public Notice PN 130/ 2007 notifying Central Warehousing Corporation facility at Virugambakkam, Chennai as the first ever Air Freight Station in India and there was expectation that this would decongest air cargo complex and pave the way for smooth transit of cargo at reduced time and cost.

8.1.4.8   A private enterprise run ICD near Chennai was also declared as Air Freight Station by the Commissioner Customs at Chennai. Similarly, Customs Commissioner of Mumbai declared CFS at Mulund run by Container Corporation of India in 2010 as a facility to handle air cargo.(Facility Notice No. 11/ 2010 dated 18th Dec 2010 issued by the Commissioner of Customs (I), Air Cargo Complex, Mumbai. AFS was also approved in 2009 at Ahmadabad. However, it has been reported that none of these AFS is yet to become fully functional.

8.1.4.9   Deliberations in the Working Group and feedback from interactions with stakeholders in gateway airports reveal that there are certain barriers in making it operative at the ground level and these include:

❖   Customs administration is yet to create an enabling provision in their 1.5 version of EDI system to accept data inflow in respect of export and import cargo from and to AFS

❖ Reluctance on the part of Carriers in not entering into agreement with AFS operators because of the extended accountability for the custodianship of imported cargo

❖ Absence of an enabling provision in the security regulation of BCAS to permit ULD scanning of consignments meant for exports coming from AFS

8.1.4.10 The Air Cargo Promotion Board proposed elsewhere in this report should ensure that these issues are sorted out so that AFS becomes a reality to users from trade and industry and thus the ever increasing congestion is eased.

Action points: Lay down guidelines for approving proposals for setting up Air Freight Station or in making use of the same facilities of existing ICD/CFS as AFS also. Air Cargo Promotion Board should be empowered to consider proposals for this purpose and recommend the same based on laid down guidelines. Existing ICDs/CFS in the country are any way Customs notified areas for maritime cargo. At least in the hinterland of major Gateway airports such as Mumbai, Delhi, and Chennai to begin with these can also be notified to be the Air Freight Stations subject to the condition that owners of such facilities are willing to include AFS operations. While it is a matter of choice for the user to make use of AFS or the cargo terminal, it is important to mandate that if cargo is not cleared within the free period, then cargo has to be taken out to AFS so that the precious space in the warehouse inside cargo terminals is made available to others willing and capable of clearing imported cargo within the free period. Also it could be considered if the Gateway Airports could be accorded priority if they wish to set up AFS in their catchment area.

(Action: Central Board of Excise and Customs, M/o Finance, M/o Civil Aviation, M/o Commerce Industry)

(Time Line: 6 Months)

8.1.5   **Service Levels for Key Performance Indicators**

8.1.5.1   Users of the cargo facilities at the airport have strongly pleaded for laying down appropriate performance standards relating to quality, continuity and reliability of service in respect of the cargo operations in the airport cargo terminal. This is an essential and just requirement considering that the users pay for such services and they are entitled to demand appropriate levels of services.

8.1.5.2   Further, there is a chain of responsibility in the cargo handling and movement across the supply chain namely Carriers, Custodian, Customs (other cross border regulatory), freight forwarders/custom house agents. Therefore, it is important to ensure accountability is fixed on each one of these agencies for delivery of services as per standards. Presently service levels are not mandated.

There is a regulatory gap in this respect which needs to be filled. Services relating to Cargo at an airport and the Cargo facility at an airport are covered under "Aeronautical Service" as defined in Section 2 of The Airports Economic Regulatory Authority of India Act 2008. Section 13 (d) of AERA Act provides for monitoring "the set performance standards relating to quality, continuity and reliability of service as may be specified by the Central Government or any authority authorized by it in this behalf". ESCAP report[32] has emphasized the need for quality regulation with respect to airport services the extracts of which are reproduced below:

"Elements related to quality of service must be closely supervised. Quality regulation is needed in order to overcome problems of inadequate or incorrect information being available to airport users, airlines etc. In practice, regulators can undertake quality assessments at airports by inter-alia establishing standards and measuring performance".

Planning Commission[33], Government of India has a word of advice in this matter which is reproduced below: "It is also critical to establish definite, measurable performance parameters at every stage in the flow of cargo, documents and information"

---

[32] The Economic Regulation of Transport Infrastructure Facilities and Services-Principles and Issues, ST/ESCAP 191/UN, NewYork, 2001
[33] Report of the Working Group on Logistics, Government of India, Planning Commission

8.1.5.3   One of the major gate way airport operators is of the view that Airport cargo terminal throughput capacity in India can be further enhanced by70% of its existing capacity by expeditious clearance of cargo at Indian airports which needs to be further bench marked after augmenting process timelines by various stakeholders in line with the international standards.

8.1.5.4   To begin with, for all the major airports, MoCA should lay down quality of service standards for key performance indicators in respect of cargo handling and movement (both international and domestic) and notify the same for all the stakeholders to comply with. Scope, responsibility and liability for every agency in the entire supply chain should be clearly defined consistent with the legal framework governing these operations. Service standards should be mandated for various stakeholders in the chain such as Carriers, Custodians, Ground handlers, Customs, Freight forwarders, Custom House Agents. The quality policy shall also spell out the quality standards required from the air cargo complex for respective industries such as pharmaceuticals, perishables, electronics etc.

8.1.5.5   However, before undertaking this exercise it is advisable to study the technicalities involved in a thorough and comprehensive manner by engaging expert agencies and by going through a process of consultation amongst the stakeholders. International benchmarks may also be kept in view while laying down standards for key performance indicators. Benchmarking could be modeled on various best –in – class operations prevalent at leading airports across the world.

(Action: M/o Civil Aviation, Central Board of Excise and Customs,)

(Time Line: 6 Months)

8.1.6 **Models for Facility Development at Airports**

8.1.6.1 During interactions with stakeholders at major gateway airports, they strongly suggested the need for facility development for air express/ cargo operators adopting innovative methods. There are several models of undertaking such facility development. Delhi International Airport Ltd has formed Joint venture partnership with specialized cargo operators such as Celibi and CSC. Similar such arrangements exist in other airports like Hyderabad and Bangalore.

8.1.6.2 Similar models or modified version of such collaborative ventures or any other viable form of Public Private Partnership models could be undertaken by Airports Authority of India also, in places like Chennai, Ahmedabad, Nagpur, Lucknow, Aurangabad, Raipur, Guwahati, Raipur etc. These airports have witnessed robust growth of cargo through put domestic/international during the past seven years.

8.1.6.3 In Chennai, for example, the manufacturing hub emerging in and around Sriperumbudur hosting large sized automotive and electronic units is driving the growth of cargo through put. Adequate and appropriate facilities are therefore required to be created in a time bound manner taking the user community in to confidence in planning and execution. While AAI is embarked upon expansion and modernization of cargo complex on its own in their airports, the speed of execution is a major issue with that.

8.1.6.4 Airports such as Chennai and Ahmedabad currently have numerous unused facilities (such as the perishable shed and adjacent buildings at Chennai, and the old international passenger terminal at Ahmedabad). Many of these facilities deteriorate as they are lying unused for many years. The space allocated to an air express operator in 2010 at Kolkata is a case in point. One major Air express operator leased this dilapidated space from AAI, and restored this facility which is now fully functional as its operations facility at Kolkata.

8.1.6.5 One proposal could be to have the airport authorities carry out an audit of allotted facilities at the airports and allocate these unused facilities to serious players in the air cargo and express industry. The facilities can be developed in collaboration with the major users or a consortium of users of air cargo/express operators in the respective stations and it can remain the assets of the airport operator. The facility can be leased to the air express/air cargo operator on a long term basis (10 – 20 years with options for renewal) .

8.1.6.6   The uncertainty of access and space serves only to deter long-term growth plans of operators. The advantage of such a model is that efficient and cost-effective facilities can be made available at airports to attract air express/air cargo operators without the corresponding high cost of investment on the part of the airport operator. The consortium of users on the other hand, can build a facility suited to their common model specifications and long term growth plans. It would be a win-win model for both the airport operator as well as users who are serious about developing modern, efficient and cost-effective air transportation in the country. Finally, the customer would benefit with access to a speedy and cost-efficient mode of transportation that would facilitate his access to markets and make him more competitive.

8.1.6.7   Any form of a viable collaborative model of facility development for air cargo/air express industry including domestic common user terminal would be welcome as any delay in developing the required facility is likely to adversely impact of growth of industry and commerce. Proposals for such investment could be considered by the Air Cargo Promotion Board that has been separately recommended to be set up in MoCA.

(Action: M/o Civil Aviation, Airports Authority of India)

(Time Line: 6 Months)

8.1.7   Promote key gateway airports as Cargo Transshipment Hubs

8.1.7.1   Air cargo growth worldwide will be driven by Asia over the next two decades. With intra-Asia growth expected to dominate world air cargo growth, creating a stronghold on the air cargo market is critical for the gateway airports of India. Transshipment cargo is crucial for cargo hub growth. Indian airports are suitably located to act as a transfer hub for various intercontinental routes like Europe → Australia and Europe → South East Asia. These routes, at present are dominated by European, Middle Eastern and South Eastern Asian carriers. In spite of geographical advantage of Indian airports, they have not been able to successfully compete in the market to capture such intercontinental traffic.

8.1.7.2   It is generally acknowledged that potentially Indian hubs could easily capture 20% - 30% of the existing traffic along routes mentioned above. Discussions with industry and trade representatives suggest that at least there could be 4 air cargo transshipment Hubs in India by 2020 if adequately focused upon. The Comprehensive Economic Agreements and other trade agreements entered in to by Government of India with South Eastern Countries are expected to substantially improve trade and business integration with these nations.

As more and more Indian Carriers fly out to International destinations, the transshipment segment has significant market potential. Note that, other Asian hub airports vie for the same business further highlighting the need for India to maintain attractive policies and excellent airport infrastructure. Hub airports in the region like HK, Dubai, Singapore, Incheon have ensured not only adequate investments but are continuously striving to improve standards by streamlining their processes and procedures.

"Hong Kong's pre-eminent position in world air cargo handled is largely due to the success of its airport facilities. HKIA, also known as Chek Lap Kok Airport, was opened in 1998. Built on a 1248 hectare manmade island in the vicinity of Chek Lap Kok Island, it remains one of the largest civil engineering projects in history. In 2009 the airport handled approximately 46.1 million passengers and 3.35 million tonnes of cargo. There are 59 terminal stands, 38 remote stands and 34 cargo stands. Four main cargo operators based at HKIA are: Hong Kong Air Cargo Terminals Ltd; Asia Airfreight Terminal Company Ltd; DHL's Central Asia Hub; and Hong Kong Post's Air Mail Centre. Cathay Pacific will operate the new cargo terminal which has an expected completion date of 2013."[34]

8.1.7.3   The current trend indicates movement of transshipment cargo to be a mere 2 % of the total cargo movement in India. International evidence available suggests that increased Transshipment cargo activity in Cargo hub airports results in better utilization of assets and thus overall reduction in the cost of providing service to all cargo users which again stimulates demand for services in such airports. It is a virtuous cycle.

---

[34] Alexander McKinnon,'A**ir cargo** industry and transhipment in Hong kong-Challenges, Opportunities and Global competitiveness, CITY UNIVERSITY OF HONG KONG August 2011

8.1.7.4   Handling and clearance of Transshipment Cargo requires involvement of three key agencies to be working in tandem, namely – Carriers, Customs and Cargo Terminal Operator (Custodian). Each of these agencies shall have to adopt a holistic approach by fully understanding the extent of interdependencies among each other to achieve this objective of promotion of transshipment cargo at key gateway airports as cargo transshipment hubs.

8.1.7.5   Certain processes related to Transshipment Cargo have been observed to be creating bottlenecks in swift and streamlined movement. It is important that these are resolved. These issues include, Process automation to quicken and streamline Customs clearance of Transshipment cargo, i.e. making provisions in Customs EDI System for making application and granting approval; Uniformity of Customs Clearance processes across all cargo airports in India; Facilitating ramp to ramp transfers of Transshipment Cargo; Amending SEZ Act 2005 to make Airport-specific FTWZ (Free trade & Warehousing Zone) Rules.

8.1.7.6   Globally, product life spans are decreasing and the predominance of online businesses necessitates the fast and economical delivery of goods. It is a global practice, to transform a cargo terminal of airport into a transshipment hub, like Hong Kong, Dubai, etc.

8.1.7.7   Freighter aircraft play a vital role in increasing the cargo throughput of a country. There is a need for robust operations infrastructure and policy assistance which can ensure efficient freighter operations. These include making available dedicated facilities and parking bays in close proximity to improve operational efficiency. Air express operations entail ramp transfers of loads between aircraft. Hubs entail handling of a number of cargo air craft at single airport from various origins simultaneously with a quick interchange of loads. This can happen only if there are sufficient cargo bays that are positioned practically.

8.1.7.8   Other process oriented reform measures suggested in the earlier part of the report for promoting Transshipment cargo and Hub development are also relevant and they need to be implemented particularly by Customs Administration on priority.
(Action: Central Board of Excise and Customs, M/o Finance, M/o Civil Aviation,)

(Timeline: at least one Cargo hub within a year)

8.1.8   **Promote dedicated Freighter operations**

8.1.8.1   Incentivize freighter aircrafts through conducive regulatory policy changes and provision of dedicated freighter facilities: Freighter aircrafts play a vital role in increasing the cargo throughput of the country. There is no consistent policy for allotment of dedicated facilities at any of the airports for air freighter operations.

8.1.8.2   Restriction on night operations and high cost has made setting freighter aircraft operations a costly proposition. There is a need for robust operations infrastructure and policy assistance, which can ensure efficient freighter operations in the country.

8.1.8.3   Some key initiatives needed are: i) Ensure that freighters are provided with dedicated facilities and parking bays in close proximity to improve operational efficiency. ii) While framing noise abatement measures, for any other major airport the regulator may consider and compare the regulations in place in emerging economies in our part of the world, including countries like China, Russia, Taiwan, South Korea, Thailand and the UAE. India is a developing economy and there will be an increasing demand for air cargo transportation to fuel growth.

8.1.8.4   Also it would be useful to draw up a phase out plan of such aircrafts over a period of time providing sufficient time for freighter operators to induct new capacity in a staggered manner so as not to impose any undue cost burden on the operators or be detrimental to the competitiveness of Indian business. iii) In the absence of pool of available commanders for induction into express airlines coupled with the fact that training is a long drawn process, a liberal approach is suggested so that restrictions for FATA for expat commanders do not constrain the augmentation of capacity to meet demand. iv.) Slots in congested airports which also happened to be gateway airports need to be earmarked for freighter aircrafts
(Action: MoCA and Airport operators, DGCA)

8.1.9   **24X7 Operations in Air Cargo complex**

8.1.9.1   One of the major causes of significantly higher dwell time in Indian airports for Cargo operations and the resultant congestion thereof is attributed to limited number of hours of working by various agencies including Customs Administration. True that every other agency involved in the enforcement of cross border regulations such as plant quarantine directorate, office of Drug Controller etc are also confining their operations to regular office hours of 10 a.m. to 6 p.m. Stakeholders other than govt. agencies such as freight forwarders/custom house agents among others are also limiting their cargo operations to normal office working hours.

8.1.9.2   As a result, cargo operations do not happen round the clock and also during holidays. This working environment seen in cargo terminals is way below international standards. Implications of the work environment described above are that it leads to gross under utilization of the capacity created for handling cargo. Besides under utilization of capacity, it results in significantly higher operating costs and unacceptably high transit time at the airport. Productivity benefits and efficiency enhancement in international cargo operations are compromised to unbelievable levels. Evidence available suggests that dwell time at major gateway airports in India are nearly ten times that are seen in other major cargo hubs in the region. Peak seasons and peak hour clearances and periods of breakdowns of computer systems etc add further delay to the process.

8.1.9.3   It is in this context 24x 7 operations have been suggested for long. But that has not materialized. Reasons are not far to seek. No single agency can be attributed for this state of affairs. Visits to Air Cargo Complex and interaction with the stakeholders suggest that all the five major agencies namely carriers, custodians, customs, security agency and freight forwarder/custom house agent are to share the blame equally. For instance the cargo is brought for clearance close to the closing hours and about the 60% of the cargo is tendered in a span of two to three hours causing a tremendous strain on resources. It emerges very clearly that there is a need to a) align the working hours of all the agencies government related and other than government related b) invest adequately in developing human resources for cargo operations both skilled and semi skilled c) arrive at a uniform holidays schedule for the entire year based on consensus.

8.1.9.4   Government agencies such as Customs have shown the willingness to operate in extended hours in the past in one or two major locations to clear the cargo rush during peak seasons. But to what extent this can be sustained as a permanent feature is debatable. Feedback from Customs agencies reveals that the trade and other agencies connected with cargo operations were not willing to augment additional staff for moving over to multiple shifts.   Industry sources is of the view that, deployment of customs manpower beyond the regular working hours on a sustainable basis does not appear to be realistic given the shortage of Customs personnel reported from time to time.

8.1.9.5   Lack of trained manpower in adequate numbers on the part of carriers and custodians is no different from that of Customs. In short, every agency engaged in Air Cargo operations shall be made to plan for augmenting their human resources in order to cope up with the emerging needs of cargo growth in future. Unless this issue is sorted out, delays and congestion will continue to figure as the most pressing issue facing air cargo operations in India.

8.1.9.6   Working Group is of the view that immediately the system should move over to two shifts working in the air cargo sector and every agency should gear themselves up to meet the requirement of working in two shifts. This should be implemented in major gateway metro airports beginning from 6 months from now. From one year thereafter we should move over to 24X7 operations in all the major gateway airports. Time schedule for implementation shall be closely monitored by MoCA.

8.1.9.7   Custodians have in the past attempted to offer differential tariffs for cargo brought for clearance where in non-peak period of the day attracts lesser rates so that rush and congestion could be minimized and the utilization of infrastructure is evenly spread. Because, there are multiple agencies involved in the cargo operations, there is tendency on the part of every one to pass on the blame from one to another. Absence of service levels across the supply chain also contributes to the chaos.

8.1.9.8　Free period (3 days from the touchdown of the air craft) after which demurrage charges start building up is a regulatory instrument used by MoCA generally to address issues of piling up of cargo and congestion in the warehouse. One section of the industry is strongly against using this instrument to address problems of congestion/delay particularly in the absence of regulations on service levels defining time limits for clearance at every stage in the supply chain.

8.1.9.9　Another section of stakeholders are of the view that demurrage system is used by the custodians as a source of revenue which needs to be discouraged. Yet another section is of the view that, free period is used to store the goods in the cargo terminal warehouse which is against all norms of international practice besides causing congestion in the warehouse.

8.1.9.10　This working Group is of the view that MoCA should lay down service levels inter-alia defining time limits for every agency in terms of hours (as against days) and that should be linked to payment of demurrage charges by the defaulting agency be it Carrier, Custodian, Ground handlers, Freight forwarders, Customs, Cargo agents or any other agency involved in handling. Once this is streamlined, free period can be brought down to international levels in a phased manner.

(Action: Customs, Custodians, Ground Handlers, Carriers, Air Freight Forwarders/Custom House Agents/BCAS, MoCA)

(Time Line: 6 months for two shift operations at air cargo complex)

8.1.10 Promote Air Cargo educational and professional training program for capacity building

8.1.10.1   There is an acute shortage of trained manpower in the air cargo sector. Air cargo logistics operations require skilled manpower, proficient with the knowledge of customs procedures and IT systems. Warehouse management, logistics and freight forwarding are separate subjects in themselves and require specialized training. Currently, most employees learn on the job itself. This has resulted in unsustainable situation, where it takes much longer for any new employee to become productive.

8.1.10.2   The vision of world class air cargo infrastructure hinges on skills and competency of its workforce. To overcome the skills crisis in the air cargo sector, it is important to infuse skill and educate existing and the prospective employees, through setting up a vibrant world class cargo training institute. Government should promote professional training program to ensure that the industry nurtures a continuous supply of well trained and skilled personnel.

8.1.10.3 Proposed National Aviation University by MoCA shall take into account the current realities and the future potential for growth and frame regulatory standards for education and training courses relating to Air Cargo logistics in the country. Air Cargo Promotion Board shall also monitor such capacity building initiatives by Custodians, Carriers, Air express operators, freight forwarders/CHAs etc and include this as one of the areas for quality of service regulation.
 (Action: MoCA and all other stakeholders)
(Time line: 1 Year)

8.2   Initiatives needed from Air port operators and Custodians

While the major policy aspects have been covered in the previous section, the following issues are also equally important mainly from the point of view of Air port operators and Custodians to focus upon for facilitating unhindered growth of the Air Cargo logistics.

8.2.1   **Air Cargo Infrastructure Development at Airports**

8.2.1.1   Cargo continues to have relatively low priority in planning, allocation of space, budget and human resource as also the timing of developmental built up. Barring the Green filed airports there has been a lack of planned and integrated development of cargo facilities at Indian airports including standardization and benchmarking of deliverables. Implementation of approved plan for air cargo has been inadequate and inconsistent.

8.2.1.2   There is a strong need for rationalizing available space and facilities between agencies as also functionalities.   International Benchmarks[35] in this regard are evolved based on two parameters: the Annual throughput and the extent of Covered area for warehouse in the cargo complex.

Table 17: International Benchmarks for Air Cargo Warehouse

Annual Throughput (Tonnes)	Throughput per Sq.meter of Covered area (Tonnes)
Less than 50 thousand	5
50 thousand to 100 thousand	8
100 thousand to 250 thousand	10
More than 250 thousand	17

Source: World Bank

---

[35] Air Freight Market Study, Transport Papers, World Bank, August 2009, Washington DC

8.2.1.3   Characteristics of Air port warehouses relative to throughput are explained in detail for each of the categories in the document cited for guidance. Based on these and other parameters, requirement of area for cargo terminal should be evolved and should become mandatory requirement of the national air cargo policy. Capacity should be planned for projected cargo growth for at least next 10 years with modular expansion possibility to meet future demand thereafter.

8.2.1.4   Often, express Cargo and general Cargo require special handling facilities for temperature sensitive cargo such as Pharmaceuticals, perishable and dangerous goods. Therefore there is a need for clear guidelines regarding minimum infrastructure that an airport must mandatorily have for handling such shipments. All airports must have adequate facilities for General Cargo, Express cargo, Perishable cargo, Valuable cargo, and Common Domestic user terminals, dangerous goods with radioactive material storage facility, live animals, Baggage and postal mail. Besides these, there should be facility for quarantine, inspection lab for foods items, etc.

8.2.1.5   Provide sterile warehouse for transshipment consolidations: Currently the Transshipment cargo goes through the entire process of imports, de-stuffing and then exports, resulting in increased dwell time. There is a need for separate warehouse / designated area for transshipment cargo (both international and domestic). All transshipment cargo will arrive in this area, where it will be segregated, transferred, unitized much faster to reduce the processing time. Smooth transshipment can be facilitated if dedicated transshipment storage areas are developed and if domestic and international cargo terminals are in contiguous areas and are well connected to facilitate transfer of cargo from one aircraft to another.

8.2.1.6   A number of cross border regulatory agencies such as customs, Drug Controller, Public Health Organization, Archaeological Survey of India, Plant Quarantine Directorate, BCAS responsible for the clearance of specified international cargo at the International airports are required to be housed appropriately under one roof in the vicinity of the air cargo terminal. The concerned departments may be issued advisories to allocate sufficient staff to be posted at the air cargo terminals.

8.2.1.7   Reports have been received from certain airports that despite making available adequate space for the Plant Quarantine office, the Directorate is not deploying officers to airports. This is said to cause lot of hardship to trade and transaction cost on this account is going up.

8.2.1.8   Airside and City side Access with adequate dock facilities is the most crucial factor in planning express infrastructure at airport. This should be incorporated in the airport Master Plan in the planning stages itself after seeking feedback of users regarding their present and future requirements.

8.2.1.9   Expand truck dock area: Enhancing the truck dock area and reducing dwell time by introducing a slot system for entry of goods could also be a solution to reduce or overcome the pile up at the export terminals. Cargo that is pre-booked would have a time slot with the concerned custodian and failure to deliver in the appointed time slot would mean that the booking should be considered as lapsed and one has to again request for another slot that would be allotted on FCFS basis. This will ensure that trucks enter the airport with a pre booking and do not un-necessarily congest the airport area. Access points will be much freer and movement of vehicles smooth. There is a need to monitor the extent of over booking of export cargo by airlines that at times adds to the congestion.

8.2.1.10   Increase number of X-ray machines and the staff for screening: Number of X-Ray machines and the staff engaged in the clearances should be increased. Advanced X-Ray machines sufficient to screen big lots should also be installed. This will ensure expedited clearances at truck dock and shifting of shipments to desired locations. The number of X-ray screeners needs to be increased so that the machines are manned for longer hours by different personnel. Further, on-site engineers must be introduced so that they can provide immediate solutions and reduce the down time of these machines. The dinner/lunch breaks of the screening personnel and the other agencies at the airport must be coordinated in order to ensure that breaks impact the processes only at one time of the day, for all activities. This will bring in more certainty to the processes and more discipline among the workers.

8.2.1.11   Improve security in general through increased CCTV coverage, adequate lighting and recording: Increased CCTV coverage and recording especially at the truck dock area on receipt of goods, transfer of goods to the bonded area and at pallet build up, would go a long way in minimizing incidence of pilferages at the airport terminals. There must be a provision for bright and adequate lighting at all locations particularly in the area where imported cargo is first unloaded before taking them into warehouse and in the truck dock area for exports.

8.2.1.12 Lack of terminal space and facilities for Express Airlines offered by some Airport Operators are reported to be key concerns that need to be addressed on priority. As there is no clear cut policy on the obligations of the airport operators to provide dedicated facilities for air express enterprises, the existing facilities provided them in some airports are reported to be inadequate to support any long term growth. It is also brought to the notice of the WG that facilities leased to them are also for a short time frame of one to three years. Such uncertainty can potentially inhibit long term planning as large investments are required to make such facilities functional and suitable for air express requirements.

8.2.1.13 The Ground Handling Policy was suitably modified keeping in mind the special needs of express Airlines permitting self handling of their own flights and operations. Hence express airlines require adequate and appropriate space on a long lease of at least 10 to 20 years to be able to develop state of the art facilities and self handling facilities. The provisions of the Ground Handling Policy cannot be implemented till such time that suitable instructions are issued to airport operators to provide adequate space on a long term lease to Express Airlines so that they can self handle.

8.2.1.14 A clear policy directive in accordance with the Ground Handling Policy making it obligatory for airport operators to allot space to Express Airlines and to permit them to self handle their flights and dedicated express facilities needs to be issued. This allocation should be based on the specific requirements of Express Airlines which are unique and include landside and airside action, proximity to cargo bays and adequate connectivity to arterial city side roads with adequate parking space and docking stations for trucks.

8.2.1.15 Optimizing utilisation of available, unused infrastructure at airports by allocating them to serious operators would go a long way in addressing this challenge which would benefit both the airport operator and the user.

8.2.1.16   Ministry of Civil Aviation may issue suitable guidelines to airport operators to ensure that all express airlines are provided space on a dedicated self handling basis on a long lease to implement the Ground Handling Policy provisions relating to express airlines. Master Plans of all major airports should be shared among the users indicating present space available and plans to accommodate needs for future expansion based on growth. It should be made mandatory for stake holder consultation to be a part of the master planning and approval process related to infrastructure development at airports. A system of maintaining a database of infrastructure requirements at all major airports should be initiated to ensure a match between development and requirements of the industry.

8.2.1.17   Domestic Cargo segment is witnessing unprecedented growth in recent years and it is set to maintain higher rates of growth in future too. However, Infrastructure available for that is said to be woefully inadequate for the volumes being handled and projected growth. There is a genuine need for adequate space at terminal facility for Domestic Air Cargo to conduct consolidation operations and for office administrative use. Dedicated airport facility with air side and city side access together with Ground Handling facility is the model to be implemented in the medium term. Cargo Village facility could be created and made available for this purpose where ever the land is available. Other key infrastructural facilities required for efficient functioning of domestic cargo operations include mechanized handling, Floor Weighing Systems, Automatic inline volume/weight calculators and RFID. Upon modernization and expansion and operationalisation of new terminals, the Old terminal buildings of Airports owned and controlled by AAI should be converted into modern domestic common user terminals.

8.2.1.18   There is no clear policy on various approvals that are required for setting up of cargo complex. There is need for clearly spelling out the jurisdiction for setting up airport cargo complex as a number of agencies are involved in the matter. National Building standard codes, does not have in its standard, air cargo terminal building and its specification. Again Customs procedure for approval is different for different airports. It is therefore proposed that there should be Central single body clearance system for clearance of all building proposal for air cargo complex which should clear the proposal on following account:-

A.   Building structural design and approval

B.   ATC and AAI clearances

C. Custom approval

D. Fire safety clearance

E. BCAS clearance

8.2.1.19 Further all proposals for approval of air cargo terminal operator under the custodianship rules etc. shall be vested with the proposed Air Cargo Logistics Promotion Board. This will ensure that policy implementation is uniform across the country, which is very important from every stakeholder's perspective.

8.2.1.20 Master Plan by the Airport Operators in the country is required to be prepared for long term planning. As a matter of principle, the master plan shall accord adequate priority and budget for space, infrastructure and enabling processes including housing all required service providers and regulators. The master plan shall be prepared based on the assessment of existing and projected growth volume combined with the benchmarked rate of throughput.. Airport operators should involve the community of users of cargo infrastructure while drawing up the Master Plan.

8.2.1.21 Train and recruit staff: One of the major factors affecting the efficiency of cargo handling services has been the dearth of skilled manpower. Custodians need to provide training to its staff for capacity building.

   i. The workers to be employed by the Custodian should be skilled personnel with experience in airport operations and must be reasonably literate for the tasks.

   ii. In addition there must be adequate training given to operators, as well as to the general loading staff, so that instances of keeping goods at wrong locations can be minimized. This will also help ensure that all pieces of a particular shipment are located at one place.

   iii. A higher number of DG trained and experienced staff must be enrolled and handling of DG should be highly encouraged in order to increase the confidence levels of the staff at custodians and carriers as also the freight forwarders handling the cargo.

   iv. The Supervisor to Loader ratio must be reviewed and significantly improved by the custodians.

   v. Colour codes and pictorial representations must be additionally used for the illiterate loaders to be able to locate the proper locations where full lots can be kept

8.2.1.22 Reduce congestion through differential pricing incentive scheme: Usually 60% of the cargo is reported to be tendered in a short span of 2 to 3 hours causing huge rush and putting tremendous strain on the resources. Terminal operators could consider offering incentives in the form of discounted tariffs for acceptance and delivery of cargo during non-peak hours. This can help reduce the congestion at the gates during the morning rush hour.

8.3   Initiatives needed from Central Board of Excise and Customs

Customs regulations play a key and direct role in defining the regulatory framework and environment for air Cargo logistics operations. Speedy and efficient customs clearance translates in to efficient air cargo logistics operations resulting in productivity enhancements for the business enterprises all of which would go a long way in pushing up the competitiveness of Indian trade in general.

In the interest of brevity and for better readability, it is not proposed to go into the details of legal framework governing Customs operations and the various steps taken by the Central Board of Excise and Customs during the last few years to improve efficiency in the system by simplification of procedures and processes. Key issues pertaining to Customs operations that directly or indirectly impact the congestion levels at airport premises and those that promote efficiency in general have been identified by the Working Group and the required action points have also been suggested.

These are discussed in the ensuing paragraphs:

8.3.1   **Customs Cost Recovery Issue**

8.3.1.1   Handling of Cargo in Customs Area Regulations, 2009 provide for a mechanism for handling of goods in a customs area and set out the terms and conditions for all facilities where customs cargo is handled. It also provides for the conditions and responsibilities of the persons handling import or export cargo in Inland Container Depot (ICD[36]) or Container Freight Station (CFS) or seaport or airport or Land Customs Stations (LCS).

---

[36] Customs Manual 2011 defines ICD/CFS 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 transit by any applicable mode of transport placed under Customs control. All the activities related to clearance of goods for home use, warehousing, temporary admissions, re-export, temporary storage for onward transit and outright export, transshipment, take place from such stations."

8.3.1.2   The said regulations require Custodians/Cargo service providers inter-alia to bear the cost of the customs officers posted by the Commissioner of Customs on cost recovery basis and to make payments at such rates and in the manner specified by the Government of India in the Ministry of Finance unless specifically exempted by an order of the said Ministry; Some Custodians have represented saying that in their view, cost recovery should not be mandated when officers are deployed in common user facility.

8.3.1.3   The contention of the Cargo service providers appears to be valid on the following grounds:

❖ Enforcement of Customs Act is a statutory and a sovereign function for which cost of rendering services by public servant should not be recovered.

❖ A cross-border trade transaction incurs various services delivered by public or quasi-public agencies mandated to perform the service on behalf of the administration. There are a number of other border regulatory agencies that are involved in international movement of passengers and cargo through airports and if cost is recovered for all such services from users of such services then trade and travel will be seriously impeded.

❖ Payment of Cost recovery fee to customs is a financial burden on many Common user Cargo terminals

❖ Initially cost recovery of customs was sought to be justified on the ground that deployment of Customs administration was for a single dedicated unit/enterprise. Subsequently, this is extended to Common user Cargo services terminal which is not acceptable as it is neither fair nor justified.

The United States – Customs Users Fee panel which went into this issue of Cost recovery ruled that the service has to be a direct and immediate service "…rendered to the individual importer in question"[37]. This ruling made it clear that Common user services terminals that are not dedicated to any single user should not be subjected to Cost Recovery.

---

[37] **Trust Fund for Trade Facilitation Negotiations, Technical Note No. 2 Disciplines on the levy of fees and charges, Jan.2011, UNCTAD**

8.3.1.4   This Working Group is the view that extending the cost recovery concept to be applied in situations of Common User Cargo Terminal is not justified and therefore Customs administration may be asked to exempt application of Cost recovery to such Common User Cargo terminals. Powers to exempt is already vested with the Ministry of Finance, Government of India. Further MoCA should review their own Greenfield Airports Policy which specifies that the applicant for setting up of a Greenfield airport will obtain clearance from the Department of Revenue for provision of Custom services and the cost of providing these services will be borne by the Airport Company.

8.3.2   Reduce delay in processing of Export Cargo out of cargo terminals-

8.3.2.1   A number of suggestions have been made by the trading community as also by the Custodian and airline representatives to reduce the delay in processing of export cargo. These are explained in this section. Often export shipments are held up or delayed on account of clearance delays. For import, as facilitation measure there is a system driven Risk Management System (RMS). This facility eliminates human intervention and allows free passage of cargo subject to certain in built safety mechanisms. This has helped to cut down transaction time and has resulted in faster clearances.   Members are of the unanimous view that such a facility should be extended for Exports as well. This needs to be addressed on priority.

8.3.3   Introduction of post audit for exports

8.3.3.1   Expeditious export clearance on self declaration basis and post audit instead of waiting for export documentation to be completed which is dependent on multiple processing at various levels. ii) All export clearance must be done online at Customers premises rather than being processed at the airport. Customs system should be able to identify export package meant for examination and those that are not to be examined, so that they can directly be moved to warehouse for built up. Based on pre-alerts, shipments may be marked for examination and the rest be permitted to be exported on post audit basis.

Action Points: Time bound introduction and implementation of post audit scheme for exports. Non drawback shipments should be treated on a fast track with requirement for examination on the basis of Risk Management System (RMS) or specific intelligence. System to be modified to identify packages meant for examination based on product of export, scheme applied and other parameters. System link to be established with Custodians to convey the packages so identified to eliminate human intervention and facilitate Custodian to plan rest of the cargo to warehouse.

8.3.4 Introduce digital signature to reduce paper work

8.3.4.1 All entries submitted to Customs must be authenticated with digital signatures. Generation of Export Promotion Copies is a cumbersome and wasteful exercise as much as not being an eco friendly process. These documents have outlived their relevance for their physical existence and should be replaced with electronic mode. The condition of Printers at all the Major Customs Air Cargo Complexes are much below par and their maintenance pathetic. Hence there should be a way out of relying on printing of documents.

Action Point: Customs started a procedure that required registration of digital signature few years back as a serious endeavor and half way through dropped the entire exercise. It is preferable that this is taken up again seriously to make digital signature mandatory to transact business with Customs. Once this is established, print out of all manual documents – Bills of Entry, Shipping Bills, EP Copies can be eliminated saving precious time for both Customs and the Trade.

8.3.5 Decongestion of warehouse

8.3.5.1 To decongest the warehouse, the WG proposes Build up Pallets (BUP) concept for Exports and Imports. This is considered as one of the major requirements of the industry/trade. With the introduction of (BUP) by the shipper, forwarder, major reduction can be achieved in damage, pilferage and faster acceptance compared to individual boxes and multiple handling. We can start with non-sensitive destinations initially. Customs may be requested to permit taking out the ULDs (unit load device) for build up at shipper and forwarder's facility. BUP concept is well known worldwide & the entire process is also acceptable as per BCAS policy. This is one of the important means to reduce dwell time and decongest the warehouse.

Action Points: Shipper Built Units (SLU) on Export to be permitted and system for clearance of SLU in Import to be introduced for at least RMS/ACP importers. Wherever the there is a single invoice, Single Airway bill and coming from a single source there should be no problem in introducing this for RMS/ACP importers. In any case back to back guarantee is given by the Carriers for empty containers.

8.3.6   Facilitate Transshipment

8.3.6.1   Trans-shipment cargo movement is a key factor for success of any international airport. Cargo should come and go in few hours not days. In spite of best efforts by all the trade partners, still the total volume of transshipped cargo in Indian airports is only 2% as compared to over 50% in airports like SIN, FRA, DXB, HKG. Customs facilitation procedures with respect to transshipment cargo still needs further clarity and simplification. Customs policies for transshipments and export / import procedures differ at various airports. There is an urgent need for standardization of policy / procedures for gateway operations. As more and more Indian carriers fly out to International destinations, the transshipment segment has significant market potential. Since all the issues have already been covered in the earlier section on regulatory hurdles, it is not proposed to repeat the same here in this section.

8.4   Initiatives needed from Bureau of Civil Aviation Security

8.4.1   Update BCAS circulars and existing security practices to make them consistent with new technological developments: BCAS must review all order and circulars pertaining to security of air cargo shipments and should issue consolidated updated circular repealing old circulars. In particular, procedures for cargo movement from AFS to airport for export need to be reviewed afresh in the light of the fact that all processing including cargo examination will have to be done at AFS.

8.4.2   Provide clarity on the role of parallel security organizations: In view of a parallel examination process imposed by the CISF, clarity on the roles of various security organizations, including the CISF, is essential, so as to ensure trouble-free and effective implementation of the established rules and procedures. The manifest check by CISF before cargo is moving out of the warehouse facility is an extra burden as ultimately risk and responsibility rests with the carrier or custodian.

8.4.3   Simplify procedures without compromising security regulations and align / standardize the application of security regulations for cargo across all airports: Security consideration instead of facilitation has become more of a hindrance for the cargo processing. There should be balance between facilitation and security from the customs and other government agencies. Effort can be taken to create a nodal agency for security to reduce multiplicity of agencies verifying various aspects, though each of these agencies may have a specific role to perform.

8.4.4   Prevent pilferages and discourage miscreants: Instances of pilferages also account for missing cargo. There are instances where valuable freight and sometimes vulnerable items like mobiles, laptops are reported missing from the packages and cause shortages on delivery to be reported. Poor and inadequate lighting can be said to be one of the major causes that fails to dampen the spirit of the miscreants.

8.4.5   In addition, we see that the ratio of security men to passengers is very high at the passenger terminals and passengers are subjected to repeated frisking and security checks. However the same scenario does not exist in the case of cargo. The number of security personnel deployed per consignment is very low and there is a dire need to seriously enhance the number of security personnel at the cargo terminals.

8.4.6   All airport cargo terminals should be necessarily covered by 24x 7 security camera, capturing images of all the places in the cargo terminal and storing at a central control room. This control room should be linked to airport security system or airport police control room. As mandatory measures, entry into proper cargo terminal area should be restricted to authorized personnel of the cargo terminal operators only especially in cargo storage areas.

8.4.7   There are far too many people coming to the cargo terminal since most of the customs processing is happening in the cargo terminal rather than at shipper or consignee location. For better security of the cargo terminal area, customs processing has to be moved out of the cargo complex. Even the terminal operator has to ensure that number of people being deployed is kept to the minimum necessary and their credentials are periodically checked. For better control over security in order to avoid theft and pilferages, the security of the whole cargo terminal should be in the hands of the cargo terminal operator than any other agencies. This includes X-ray and examination of export cargo.

Action points: i) Clear responsibility and accountability must be defined in the area of the no-man's land. Once the cargo is pulled off the aircraft, an adequate number of security personnel must escort the cargo till the time it is deposited with the custodian. The responsibility for any mishaps in this duration needs to be clearly defined and assigned.

ii) Further, there must be a provision for bright and adequate lighting at all locations, particularly the no-man's land. A high mast security must be introduced in such areas across airports, so that security personnel can get an overview of the vulnerable areas of the airport and keep strict vigil. The ratio of security personnel to the number of consignments must be studied and increased to ensure that an adequate number of security staff are available to safeguard the cargo and prevent pilferages.

iii)The frisking of individuals and checking of vehicles etc. must be more vigorously enforced. This will not only prevent pilferages but also help maintain stricter security. This comes from the premise that if something can go out from the airport something can – via the same route – also come into the airport, which is so much more of a security threat.

iv)Increased CCTV coverage and recording, especially during offloading of cargo from aircraft, movement to the terminal, waiting at the no-man's land, and finally at the flight check and segregation and movement to location.

8.4.8   Clear timelines are required to be notified for processing of various requests such as processing time for application for Regulated Agent, issue of BCAS permanent AEPs, security clearance for foreign maintenance staff and issue of temporary passes in case of emergencies and for maintenance work. Often when an aircraft is parked with a technical problem and specialized technicians are flown in from aboard, it takes days to get an airport pass for a foreign employee of the airline. The process entails verification from the Home Ministry which takes 6 weeks for permanent passes and permission from BCAS for temporary passes.

8.4.9   If the aircraft is technical on a weekend then BCAS offices are closed and there are no clear guidelines if in such emergencies the airport operator can issue temporary passes to foreign nationals for undertaking repair and maintenance work on the aircraft.   Clear guidelines prescribing time frame for processing and laying down procedure for the same should be issued in respect of these issues. For emergency situations such as when aircraft is technical then the airport security department should be empowered to issue passes with an escort holding a permanent pass and BCAS can be informed subsequently.

8.4.10   Alternately there should be a BCAS representative at the airport 24 X 7 to cater to such emergencies. Similarly for Airport Entry Passes for Indian employees of airlines the verification process can take up to 6 months. Often selected employees cannot perform their job as the security verification takes 6 months. As a result they are issued temporary passes every 3months or of shorter duration. This adds to the workload of an already over burdened BCAS and instead of focusing on strengthening security they end up spending time renewing AEPs most of the time. A streamlined procedure will help them focus more on security and less on issuing passes.

Action Point: BCAS to study above issues and issue suitable notification clarifying the same and resolving the problems outlined above.

8.5   Initiatives needed from Airports Economic Regulatory Authority of India

8.5.1   **Non-discriminatory treatment to all users**

8.5.1.1   ICAO principle requires non-discriminatory charges for access and charges for that access. Discounts of 15% landing charges applicable on domestic flights for prompt payment of airport charges are not extended to Scheduled Cargo operators. Most of the airport operators including AAI are said to be providing facilities treating Express delivery companies at par with duty free shops as they are required to undergo a system of bidding for space rather than direct allotment. While such a system would be considered appropriate for non aeronautical facilities, it is important to appreciate the role of air express operations and express cargo as a whole being a key aeronautical activity and not an ancillary non aeronautical activity akin to duty free shops. There is thus a clear need for regulatory intervention with a solid regulatory framework recognizing Express Cargo as an integral aeronautical activity with due importance being given to it based on its role as a catalyst. Discriminatory charges for x-ray screening: Charges for using the equipments such as X ray machines cannot be discriminatory. Differential rates for using the equipments may have to be reviewed specifically to ensure that discriminatory treatment is not allowed to continue.

8.5.2   **Need for Consistent policy on allotment of facilities**

8.5.2.1   There is no consistent policy for allotment of common user and dedicated facilities and they are leased facilities for a short timeframe of 3 to 5 years and given short extensions annually with demands for huge escalations. This leads to lack of clarity and inability to budget future investments for development of world class infrastructure. Lease rentals are said to be arbitrary and demands are made for an increase in rentals contrary to all norms. The lease rentals for dedicated and common user facilities given to EDS operators should be regulated and subject to tariff control orders.

8.5.3   Monitoring and enforcement of service levels

8.5.3.1   Service levels to be mandated by MoCA, as envisaged in the AERA Act, need to be monitored by AERA.

8.6   Initiatives needed from Carriers, Air freight operators/CHAs and others

8.6.1   **Active co-operation from Carriers for promoting Off-Air port Facilities**

8.6.1.1   It is widely acknowledged that space is a serious constraint in most airports and for cargo handling and movement, congestion is becoming a serious issue. With the limited possibility for terminal expansions in most airports there is a need to find answers outside. Under such circumstances, and given the prospects for future growth potential projected, cargo terminals can only be a transit point. In that context, there was widespread support for Air Freight Station not only in the Working Group but was also the opinion of many participants in the field level meetings. Be it AFS or Cargo Villages, technically and legally the arrangement is between the carrier and the custodian.

8.6.1.2   Even for cargo to be handled in Air Cargo Terminals, the agreement is between the carriers and the custodian. Unless effort is taken by Carriers to promote AFS it could never be a reality. While the Trade may desire for an alternative, effectiveness can be determined only by the carriers and they have to enter in to an arrangement with the AFS as Custodian. Involvement of the Carriers is considered vital if we have to implement the proposals for strengthening arrangements for Off-Air port cargo logistic operations such as AFS. Reluctance on the part of any stakeholder in the community of air cargo trade and regulatory agencies could only hamper the growth of air cargo industry and thus the competitiveness of the industry and the economy in general.

8.6.1.3   Airlines may have to support this initiative by positioning ULDs (pallets and Containers) at AFS's premises for clearance/unitization (exports) or de-unitization/clearance (imports). At present only a few airlines provide a limited connectivity between inland terminals and gateway airports by road transport to ferry sector freight. This can be significantly enhanced.

8.6.2 **Uplift Capacity and Handling Capability**

8.6.2.1 Especially from the gateway airports, airlines should ensure that they provide adequate uplift capacity which is optimally utilized such that the airlines achieve cost efficiencies to keep freight rates competitive, as also to ensure that shipments are carried as booked without delays and offloading. Related to this is the practice of overbooking resorted to by airlines whenever they perceive uncertain situations for clearances including Customs etc during peak seasons.

8.6.2.2 With better planning and booking systems, airlines should able to anticipate cargo submissions, and have a back-up plan in place so that no shipper / shipment suffers the consequences of offloading. Also related to this is the capacity of the airlines to handle different types of cargo, particularly the special handling/storage needs of Dangerous goods, Valuable cargo, Perishables, etc. Airlines must streamline their airport warehouse and ramp operations such that the handling, unitizing (build-up of ULDs), transfers and loading of outbound shipments on each flight are achieved with maximum efficiency.

8.6.2.3 The present rampant problems of short-shipments, missing / untraceable packages, mishandling / damage to packages, pilferages, etc must be significantly eliminated with the co-operation of all other related agencies. Likewise, flight checking after flight arrivals, segregation of shipments and depositing with custodians / transfers for transshipments, etc must be managed within benchmarked time frames and without error / delay. Towards this end, steps should be taken to augment trained personnel and to introduce knowledge-based management, effectively integrated systems of warehouse management and inventory management.

8.6.3 **Investment in Human Resources**

8.6.3.1 It is clear from the discussions with various stakeholders and from the field trips made to cargo terminals in the country, that there is lack of willingness on the part of every stakeholder to invest in trained manpower for carrying out their respective tasks in the supply chain involved in the air cargo movement. Presently, export cargo is being bunched in the evening hours by the trade causing severe congestion in the cargo terminal which is avoidable. If these agencies augment their own personnel for carrying out their tasks in the airport and advance their operations in the morning hours much of the problems of congestion could be avoided.

8.6.3.2   When it comes to making additional investment to cope up with pressures of growth the needed enthusiasm is missing on the part of all the agencies in the value chain. This must change. Enterprises small and big must make adequate investment in human resources. This is an important area which requires immediate attention because, the future growth of the industry is crucially dependent upon availability of skilled manpower, as air cargo movement/handling entails familiarity with automation, sophisticated equipment handling and compliance with various regulations of Cross-Border agencies including security regulations.

8.6.4   The trade should commit to basic infrastructure / equipment as a pre-requisite to qualify as a legal service provider e.g. IT connectivity, Roller Bed Trucks for BUPs, closed Body secure Trucks for known shipper compliance etc. their input could be brought under a regulation by a competent Authority if on a review situation does not improve. Lack of training schools and institutes for imparting knowledge and skill in the air cargo operations has also resulted in substandard manpower quality employed by the industry. This is a matter of serious concern. National Aviation University that is being planned by MoCA should take into account this crucial aspect of aviation education.

8.6.4.1   ICAO has made it mandatory to have Dangerous Goods Regulation certificate from DGCA and IATA approved training institute. It is often reported that there is poor response to the training courses offered by the accredited training institutes which is a reflection of the importance attached to investment in human resources by the trade and industry. This needs immediate corrective action by the trade and industry.

8.6.4.2   Minimum educational qualifications and training must be defined and made mandatory for operational staff of all stakeholders so as to bring uniformity, derive the benefits of investments in automation and IT and drive improvement in efficiency in the entire supply chain. The trade including freight forwarders, custom house agents and exporters / importers should be mandated to deploy a minimum number of Airport staff depending upon the volume of Cargo / documents handled by them.

8.6.5 Integrated working Hours

8.6.5.1 It is important to ensure that the working hours and the Break time are integrated among all the agencies in the Cargo eco system so that available resources are effectively utilised. Often it is seen that lunch break hours for different agencies are different. This can cause inefficiency in the system which is man-made. This need not necessarily be uniform for the entire country. Each airport can have their own. However, for every airport the working hours in the Cargo terminal should be common to all agencies including the Customs, Carriers, and Freight Forwarders/CHAs among others.

8.6.6 Timely filing of documents

8.6.6.1 It is the law of the land that IGM should be filed by the Carrier (or any other person authorized to issue Delivery Order) prior to arrival of the air craft. Presently precious time is consumed in filing of IGM (normally on arrival) by the Carriers taking away the advantage of advance filing of Bills of Entry. Therefore, it is considered necessary in the best interest of efficient operations, that filing of Declaration with Customs by the Carrier should be at the time of wheels up of the Aircraft at origin Airport. Further if Declaration is filed electronically on the take off of the Aircraft from the origin Airport, Customer gains time to process documents. This system is followed in many European Countries and the US for security reasons. Timely filing of documents is equally important to other stakeholders such as importers / exporters / custom house agents. The trade should take advantage of the advance filing documents by airlines. It is important to encourage and increase the quantum of clearance under the RMS scheme. It is said that at Mumbai Airport on an average about 50% of the import delivery is under RMS.

Annex: I.

F. No. AV. 13011/13/2011-ER
Government of India
Ministry of Civil Aviation

"B" Block, Rajiv Gandhi Bhawan,
Safdarjung Airport, Aurobindo Marg,
New Delhi, Dated 17.01.2011

ORDER

Subject: **Setting up of a Working Group on Air cargo/Express Service Industry under CAEAC.**

In pursuance of the decision taken in the First meeting of Civil Aviation Economic Advisory Council held on 13.12.2010 and keeping in view the projected rapid growth in the air freight, it has been decided to set up a **Working Group** on Air Cargo/Express Service Industry under Civil Aviation Economic Advisory Council (CAEAC) in the Ministry of Civil Aviation to address the issues related to Air Cargo/Express Service Industry.

2. The Working Group on Air Cargo/Express Service Industry is constituted hereby with the following composition:

1.	Representative from Air India Ltd.	Member
2.	Representative from Jet Airways	Member
3.	Representative from Singapore Airlines	Member
4.	Representative from Lufthansa Cargo	Member
5.	Shri J. Krishnan, President ACAAI	Member
6.	Shri Snehal Parikh, Past President ACAAI	Member
7.	Shri Cyrus Guzder, Chairman AFL Group	Member
8.	Ms. Tulsi Nowlakha Mirchandaney, Managing Director, Blue Dart Aviation Ltd.	Member
9.	Shri R. K. Saboo, Chairman, Express Industry Council of India	Member
10.	Shri Vijay Kumar, CEO Express Industry Council of India	Member
11.	Representative from Air Bus	Member
12.	Representative from Boeing Company	Member
13.	Shri Y. K. Goel, General Manager (Cargo), AAI	Member
14.	Shri Rajiv Jain, MIAL	Member
15.	Representative from DIAL	Member
16.	Representative from FIEO	Member
17.	Representative from Customs	Member
18.	Shri Alok Sekhar, Director, M/o Civil Aviation	Member
19.	Shri M. Kannan, Economic Adviser, M/o Civil Aviation	Chairman & Co-ordinator

3. The Terms of Reference for the Working Group are as under:

   1. The Group shall prepare and present the current snapshot of the industry and assess its future growth potential in India.

   2. The Group shall study the existing system of Air Cargo/Express Delivery Services handling in India and identify areas that require further improvements to seize the emerging opportunities in the international trade and in the context of faster pace of economic growth in India.

   3. The Group shall establish priorities of issues and recommend policy initiatives to address issues of significant importance to the Air Cargo/Express Service industry in India.

   4. The Group shall advise on the action plans to aid implementation and monitor impact of implementation.

4. This Working Group will be serviced by the Ministry of Civil Aviation.

5. The Working Group shall keep the long term perspective in view and not guided by the day-to-day issues of some stakeholders while making recommendations to the Ministry of Civil Aviation. While making recommendations, the Working Group shall also document the best international practices in the Air Cargo/Express Service Industry and their suitability in the Indian context.

6. The Working Group may co-opt any other experts/authorities to contribute to the Working Group as per requirement under intimation to the Ministry.

7. The Working Group shall submit its first report on this subject by 17.03.2011 to the Ministry of Civil Aviation.

8. This issues with the approval of Secretary, Civil Aviation.

(Sarwesh Kumar Arya)
Under Secretary to the Govt. of India

To

1. Chairman and Members of the CAEAC
2. Members of the Working Group

Copy forwarded to-
   (i)   PS to HMCA
   (ii)   PS to Secretary
   (iii) AS & FA/JS (N)/ JS (P)/JS(S)
   (iv)   Director, Media and Communication
   (v)   NIC with a request to upload on the website of Ministry of Civil Aviation

Annex: II

List of Members of Working Group on Air Cargo / Express Service Industry & other Experts / Special Invitees

S.No	Name & Designation	Organization	I Meeting*	II Meeting*	III Meeting*	IV Meeting*	V Meeting*	VI Meeting*	VII Meeting*
1	Ajay Mehra, Managing Director	AirBus	√	√	X	√	√	X	√
2	Alok Sekhar, Director	MoCA	X	√	√	X	X	X	X
3	Amitabh Khosla, Country Director	IATA	X	X	√	√	X	√	√
4	Anita Khurana, SBU Head Cargo	Air India	√	X	√	X	X	X	X
5	Arvind M. Nayak, President	DACAAI	X	X	X	√	√	X	X
6	Avik Bhattacharya, Director	Boeing	√	√	√	X	√	√	X
7	S.K. Bhatnagar, CA	BCAS	X	X	X	X	√	√	X
8	Cyrus Guzder, Chairman	AFL Group	X	X	X	X	X	X	X
9	Gaurav Ghuwalewala, Vice President	DACAAI	X	√	√	√	X	√	√
10	Gauri Shankar Sinha, OSD (Customs)	Customs	X	√	√	√	√	√	X
11	Y.K. Goel, General Manager (Cargo)	AAI	√	√	√	√	√	√	√
12	K. Govindarajan, Vice President Cargo	MIAL	√	X	√	√	√	X	√
13	Jay Shelat, Vice president	Jet Airways	√	√	X	X	X	X	X
14	J. Krishnan, Past President	ACAAI	√	√	√	√	√	√	X
15	Piyush Singhal, Manager Sales & Services	Singapore Airlines	√	√	X	√	√	√	X
16	R. G. Panicker, CEO	Cargo Service Center	X	√	√	√	√	√	√
17	Raghu Shankar, Expert on Customs	ACAAI	X	X	√	√	√	X	√
18	Rajiv Jain, President	MIAL	X	X	√	X	X	X	X
19	H. Rana, E.D. (Cargo)	Air India Ltd.	X	√	√	√	√	√	√
20	Ranjit S. Walia, Aviation Law Expert	FEDEX	√	√	√	√	√	X	√

Annex: II

S.No	Name & Designation	Organization	I Meeting*	II Meeting*	III Meeting*	IV Meeting*	V Meeting*	VI Meeting*	VII Meeting*
21	R.P. Singh, Director (Customs) CBEC	Department of Revenue	√	X	X	X	X	X	X
22	Sanjiv Edward, Head of Cargo	DIAL	√	√	√	√	√	√	√
23	Shakti Yadav	Jet Airways	X	X	√	√	√	√	√
24	Snehal Parikh, Past President	ACAAI	√	√	√	X	X	X	√
25	Taarok Hinedi, Managing Director	FEDEX	√	X	X	X	X	X	X
26	Tirthankar Ghosh, Managing Editor	Cruising Heights	X	X	√	√	√	X	X
27	B.S. Tiwary, Deputy Commissioner	BCAS	X	X	X	√	X	X	X
28	Tulsi Nowlakha Mirchandaney, MD	Blue Dart Aviation	√	X	√	√	√	√	√
29	Vijay Kumar, COO	EICA	√	√	X	√	√	X	√
30	Vipan Jain, Regional Manager	Lufthansa Cargo	√	√	√	√	X	√	√
Experts / Special Invitees								
31	Deepa Das, Sr.International Legal Adviser	Federal Express	√	√	√	√	√	√	√
32	Arun Ahlawat,	Blue Dart	X	√	√	X	√	√	X
33	Puneet Walia	Kale Logistics	X	√	√	X	X	X	X
34	Amar More, Vice president	Kale Logistics	X	X	√	X	X	X	X
35	Dushyany Mulani,	BACHAA	X	X	√	X	X	X	X
36	Suraj Aggrawal, General Secretary	DACAAI	X	X	X	√	√	X	√
37	S. Hari,	Indigo Airlines	X	X	X	√	X	X	√
38	Sunil Chopra	IATA	X	X	X	√	X	X	X
39	Paul J. Kocheril	CIAL	X	X	X	√	√	√	X
40	Will Yko	AISATS	X	X	X	√	X	X	X
41	Rajiv Ramanathan	SATS	X	X	X	√	X	X	X
42	Keshav Tanna	ACAAI	X	X	X	√	√	X	√
43	Poupard Maththieu	AirBus	X	X	X	X	√	X	X
44	Deixonne Olivier	AirBus	X	X	X	X	√	X	X
45	Mathachan P.J., Manager	CIAL	X	X	X	X	√	X	X

Annee: II

S.No	Name & Designation	Organization	I Meeting*	II Meeting*	III Meeting*	IV Meeting*	V Meeting*	VI Meeting	VII Meeting
46	R.D. Gupta	BCAS	X	X	X	X	X	√	X
47	Sanjay khanna, CEO	Celebi Delhi Cargo Terminal	X	X	X	X	X	√	X
48	Prithviraj Rautela, Regional Air Freight Manager	DHL Lemu Logistics	X	X	X	X	X	√	√
49	Sanjeev Sikka, Chairman (N.R.)	ACAAI	X	X	X	X	X	√	X
50	Venu Bangera	CSC	X	X	X	X	X	√	√
51	S.P. Singh, Deputy Commissioner	BCAS	X	X	X	X	X	X	√

* I = 14.02.11, II = 19.02.11, III = 04.03.2011, IV = 26.03.2011, V = 16.04.2011, VI = 21.05.2011, VII = 23.07.2011