

Air Cargo Shipment in India: Policies and Strategies

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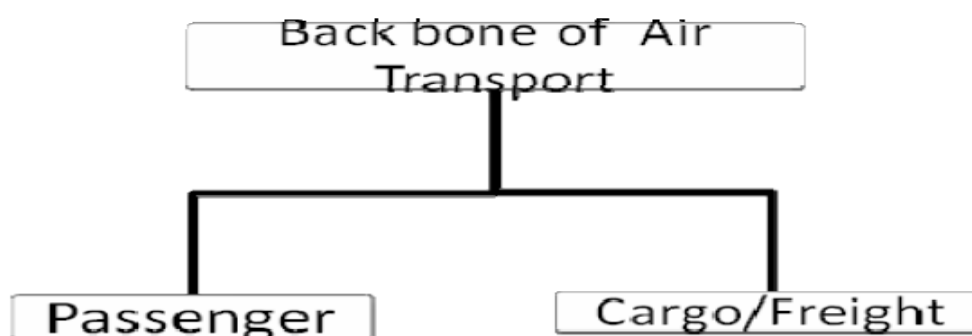
Abstract:

Since liberalization and opening up of the Indian economy to global markets in 1990, logistics and transportation industry has received great impetus and attained ample momentum. Foreign Direct investments, innovation, free market mechanism has brought in complete change of India's international trade and business relationships. Emergence of private and low cost airlines has also played a very important role in the entire process. Considerable investments are being made in modernisation of airports, cargo handling facilities, connecting infrastructure and air space management. The demand for cargo transportation has increased over the years due to short product life cycles and rapid increase of demand. Change to business models to "Just-in-Time" approach and global outsourcing have increased demand for air cargo by leaps and bounds. In this paper, I will discuss the scenario of air cargo in India. The first part will deal with description and analysis of air transport and aviation industry as a whole in the country. The second will focus on air cargo specifically.

Key Terms: AAI, Air Way Bill, GDP, WTO, SAFTA, NACCS

Air Transport in India

One of the greatest developments of the 21st century in the transportation sector has been the aviation industry which has changed the face of India. It is the fastest and safest mode of transport for long distance passengers and for goods with high value to weight ratio. It offers a lot of advantages over the traditional and conventional sea transport which still dominates the world market. Air transport is mostly used for international transport and in case of emergency rather than in normal times. With the advent of globalisation, emergence of modern technology and opening of the domestic economy to world market, it has become necessary for fast, easy and safe movement of goods across national borders. Air transport is mostly used for perishable goods, goods having high value to weight ratio and light goods.

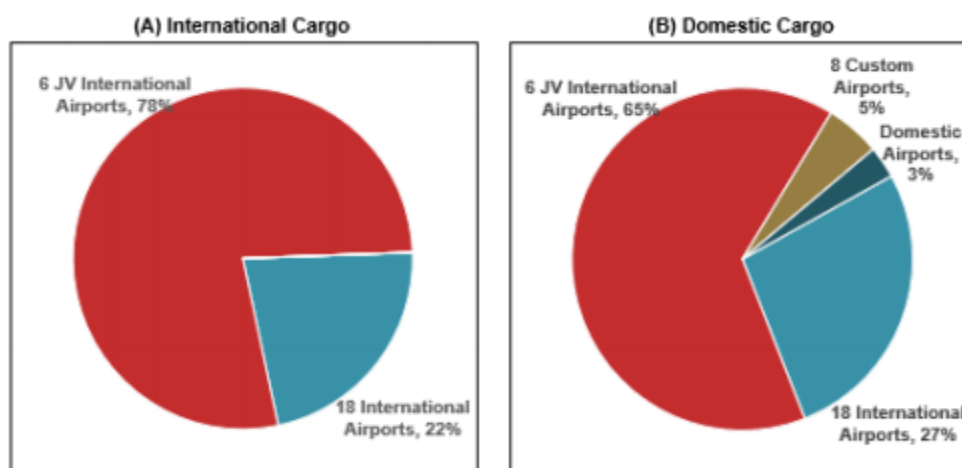


Picture 1: Backbone of Air Transport

According to picture 1, the air transport industry consists of two segments. One is the passenger transport segment and the other is freight carrier segment. Owing to globalisation, Indian aviation industry has seen emergence of several new private players and decline of government monopoly resulting in a large number of low cost airlines. Growth of aviation sector demands considerable investment in various areas such as development of airport infrastructure, modernisation of cargo handling facilities and air traffic management.

Airports in India

Airports act as the centre and play the most important role in shaping the economy's health, competitiveness and inflow of foreign investment. In India, most of the airports are maintained by the "Airports Authority of India (AAI)". It was formed on 1st April 1995 by merging the "International Airport Authority of India" and the "National Airports Authority". This led to development, modernisation and expansion of operational, terminal and cargo facilities at the airports confirming to the international standards.



Picture 2: Concentration of cargo at major airports

Picture 2 shows the average concentration of domestic and international cargo at different types of airports in India. We can see that 78% of the international cargo is handled by the 6 top Joint Venture international airports of the country mainly Delhi, Mumbai, Bangalore and Hyderabad. In case of domestic cargo too, these JV airports handle the bulk percentage of 65%. The other international airports handle only 22% of the international goods and 27% of domestic goods respectively.

Classification of Indian Airports

India, at present is in the 7th position in the international aviation market and is expected to be at the 3rd position by 2026. It has 454 airports out of which 125 are owned and maintained by the AAI. There are 11 international airports, 86 domestic ones and 28 civil enclaves.

International Airports

These can accommodate international flights and have customs and immigration facilities. They are large in size, have longer runways and facilities for international flights catering to international passengers and cargo. Some examples are Chennai, Kolkata, Ahmedabad and Srinagar.

Domestic Airports

They handle only flights within the country. They are comparatively smaller and do not have customs/immigration facilities.

Joint Venture International Airports

They are joint venture airports maintained by AAI and a private company. They can handle international flights and have customs/immigration services. E.g. Delhi and Mumbai.

Customs Airport with limited international operations

They have customs and immigration facilities for limited international operations for national and foreign flights and cargos.

Model Airports

These domestic airports have a minimum runway length of 7500 feet and adequate terminal capacity for Airbus 320 type aircraft. They can support limited international flights too, if necessary. E.g. Guwahati, Imphal etc.

Air Cargo Logistics

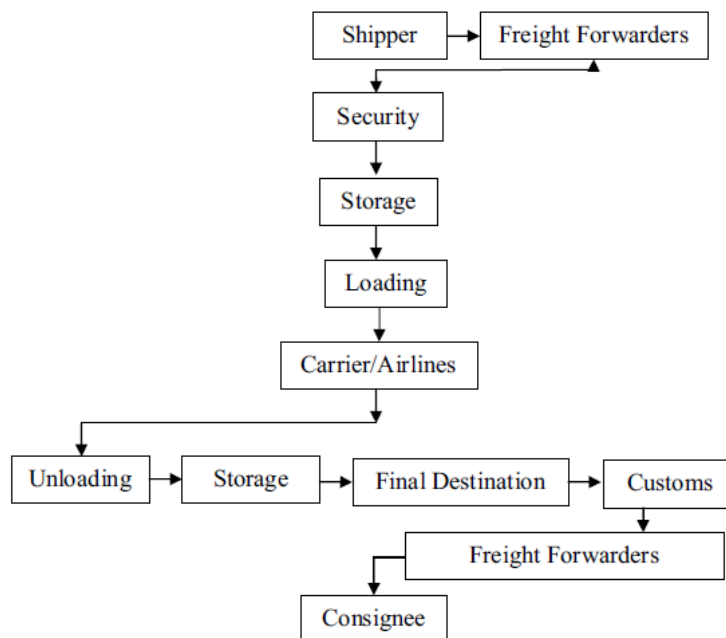
Air cargo helps ship goods that have high value to weight ratio, time sensitive and are perishable. Globally around one-third of the world's shipment is transported by air. Air cargo is expensive but is compensated by reduced inventory and warehousing costs.

Air Cargo Logistics Process and stakeholders

The process consists of various stakeholders such as:

- Airports / Custodians / Ground Handling Agents
- Airlines / Express operators / Non-scheduled operators
- Customs and other ancillary Govt. Regulatory Agencies (Drug Controller, FSSAI, WCCB, Plant & Animal Quarantine etc.)
- Freight Forwarders

- Customs Brokers
- General Sales Agents
- Security Agencies (BCAS)
- Importers / Exporters
- Air Freight Stations
- Banks
- Road transporters
- Bonded truckers
- Insurance companies
- Chambers of Commerce
- Other Government and regulatory agencies like APHO, Drug Controller, WCCB, FSSAI & Animal & Plant Quarantine, DGFT & DGCA



Picture 3: Air Cargo Logistics Process

Picture 3 shows a graphic flow of Air Cargo Logistic. The shipper first hands over the cargo to freight forwarders. They manage the security of the goods and store them. Then they are loaded into the main carrier that transports the cargo to another location. Then they are unloaded and stored before being inspected by customs of the importing country. After passing the customs verification, they are handed over to freight forwarders who deliver them to the consignee.

Process of Air Cargo Transportation flow:

- The request for transport is sent by the shipper to the forwarder and the latter makes arrangement for transportation.

- The freight forwarder books cargo space in the carrier.
- The customs broker manages the customs clearance. In case of clearing and forwarding agents, both the customs and booking of cargo space is managed by the agents.
- The shipper transports the cargo to the destination airport.

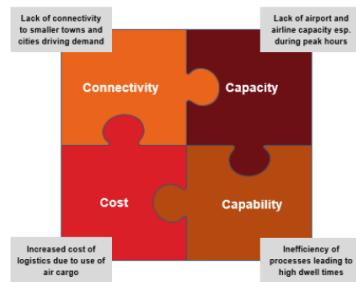
Facts and Figures about Indian Air Cargo

- Air Cargo comprises of around 10% of the airline industry's total revenue of which around 35% of the cargo is sent overseas. Hence it has considerable contribution to GDP of the country and is indicative of economic growth. As demand of goods and services increase, air cargo traffic also increases automatically.
- The Indian economy is in a growth phase. Due to exponential increase in international trade and business, the demand for Indian goods abroad is also high. The opportunity cost of not being able to meet the demands timely is quite high.
- Cost is a major concern as it costs around 4 to 5 times that of road transport and 12 to 16 times that of sea transport. These values however depend upon the country, season and product shipped. As demand for air cargo increases, there is a tendency to move from combination carriers to cargo carriers owing to its increased capacity.
- Different companies have different business models. Some companies prefer using cargo carriers while others use the integrated combination carriers so as to increase profits and diversify the risks.
- Express Delivery Services have emerged as an alternative to conventional general air cargo services. Express Delivery Services are rendered through passenger flights and are called Air Express Operators. They have their dedicated freighters and unique requirements based on customer demand, volume handled, etc.
- Express Delivery Services industry is both domestic and international. Its main features are Speed of service, door to door delivery including all cross border regulatory requirements, cargo tracking, delivery proof, reliability, security and access to global customers.[3]
- The Express Delivery Services in India is largely fragmented. The organised sector controls nearly two-third of the total revenues. It includes international players like DHL, FedEx, TNT and UPS. Domestic market is dominated by Blue Dart, First Flight, DTDC, Skypak, Overnight, Professional Couriers etc. Blue Dart is an important player having three types of carriers: Combination carriers, conventional cargo carriers and express carriers.
- There are more than 500 air cargo players in India in the domestic sector with 75 at national and regional level providing employment to around a million people in India.

Forecast of Indian Air Cargo Sector

According to the latest National Foreign Trade Policy, international trade of the country till 2020-21 would increase to around \$900 million. This would be golden opportunity for air cargo to capture around 35% of this international trade. The National Civil Aviation Policy 2016 predicts air freight handled at Indian airports could reach 10 million metric tons by 2027.

Problems and inefficiencies in the system



Picture 4: Challenges in the air cargo sector: The 4 Cs

According to picture 4, the various challenges of air cargo are described below

➤ Importers/Exporters

- Shortage of shipment visibility
- Lack of transparency and high transaction costs
- Communication costs are high

➤ Forwarders

- High administrative and data entry costs
- Lack of transparency
- Frequent follow ups are required with carriers, shippers and custodians
- High communication costs
- Customer dissatisfaction
- Frequently changing compliance standards

➤ Carriers

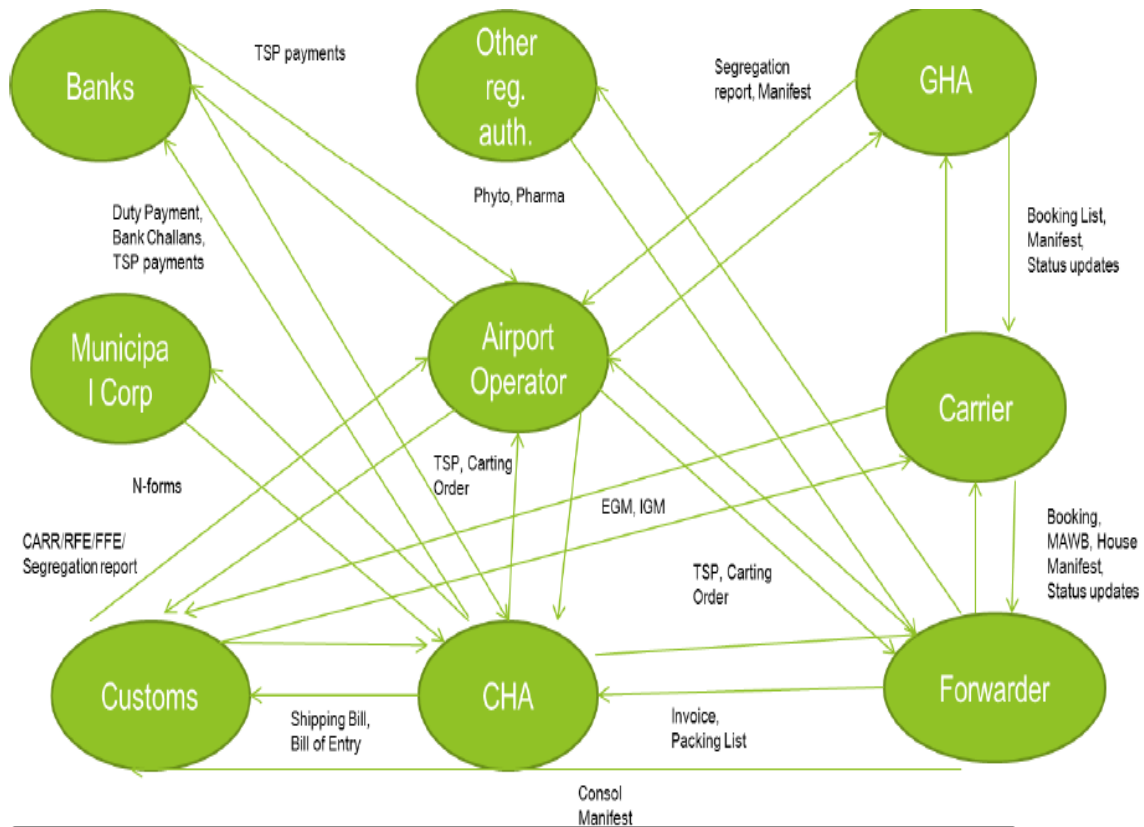
- Excessive paperwork
- Inefficient booking and documentation process
- Lack of operational planning
- Revenue leakages
- Increasing compliance costs
- Security problems

➤ Custodians

- Lack of proper infrastructure
- Excess paperwork
- Lack of planning
- Manual actions
- Lack of vehicular management

➤ Customs

- Duplicate and incorrect ICEGATE entries
- Multiple data entry points
- Lack of mobile visibility
- ICEGATE performance issues post consolidation of systems

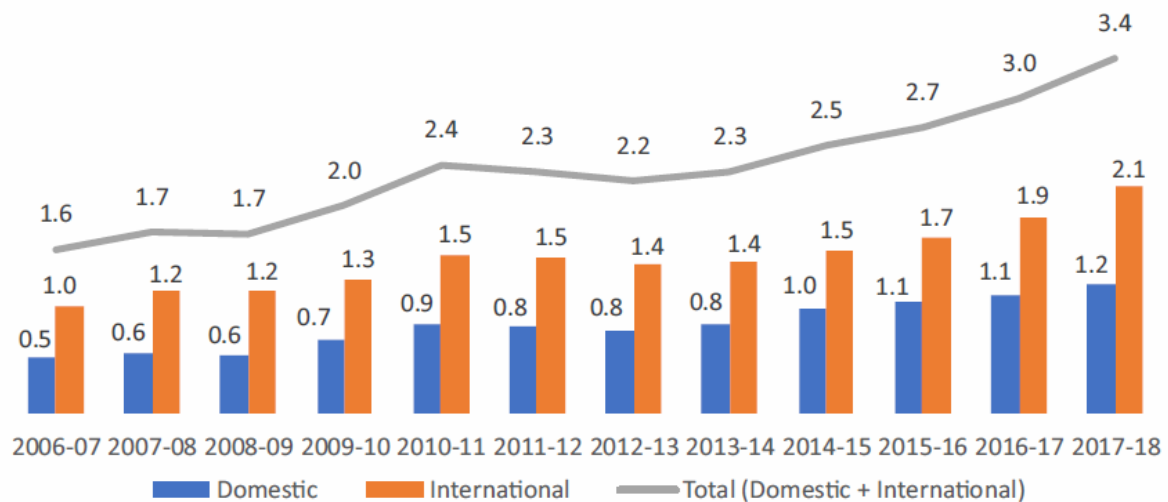


Picture 5: Network of Stakeholders

Picture 5 shows how the different stakeholders of air cargo sector are related and interconnected with each other and their unique roles and functions.

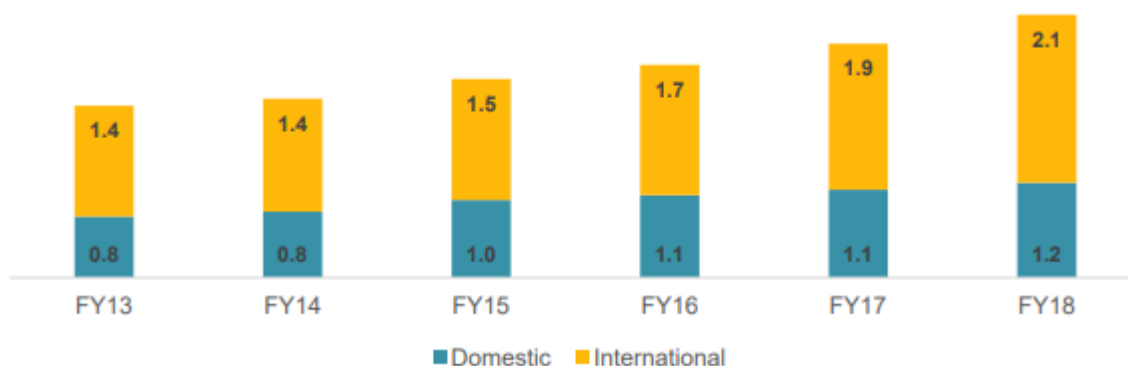
Recent Industry Trends

- During the period 2013-14 to 2017- 18 Indian air cargo industry grew exponentially with a CAGR of 10.0%. International cargo comprising of 60% of total air cargo tonnes handled in India grew at 15.6% in 2017-18. Domestic cargo grew by over 8%, which reflects the skewed modal mix in which roads account for over 60% of cargo transportation as compared to the global average of around 30%. Indian express industry is one of the fastest growing markets in the world, but with a small share of about 2% of the global market. This industry grew at 17% CAGR over the past few years and was estimated to be INR 22,000 crore in 2016-17. Domestic express industry a key constituent of the Indian express industry is estimated to be worth INR 17,000 crore. International express is estimated to contribute INR 5,000 crore (23% by value) to the Indian express industry. Trans-shipment cargo which constitutes about 60- 70% of total volumes handled by some of the leading global airports is quite low in India.



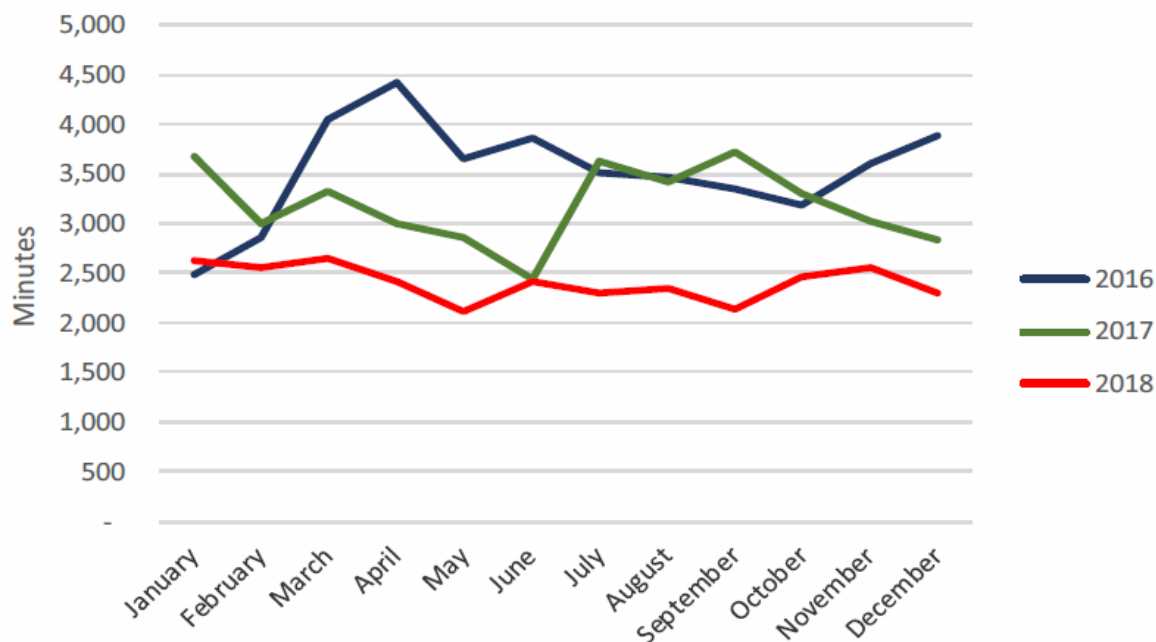
Picture 6: Air Cargo Growth (in million metric tonnes)

- Picture 6 illustrates the growth of air cargo volume in India from 2006-07 to 2017-18. It has increased from 1.6 million metric tonnes in 2006-07 to 3.4 million metric tonnes in 2017-18. So there has been an increase of 112.5%.



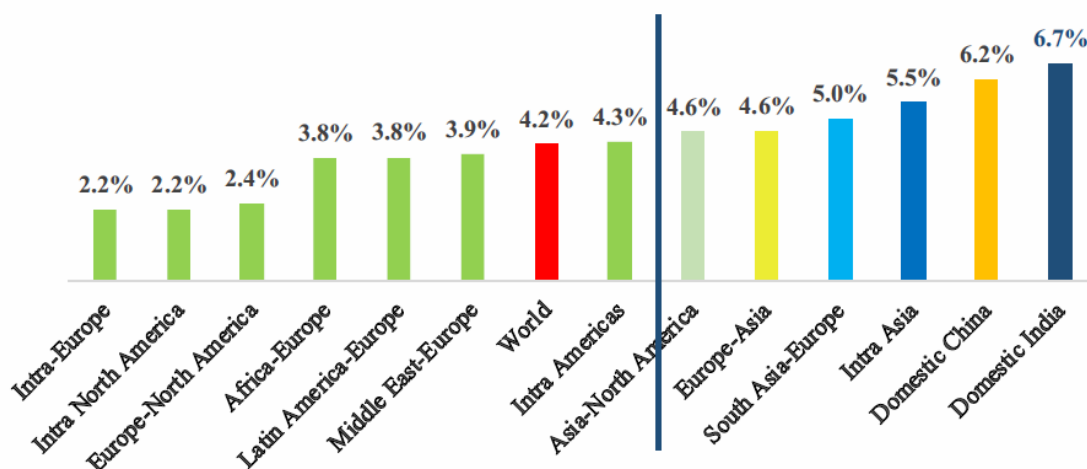
Picture 7: Freight traffic growth in India (in million metric tonnes)

- Picture 7 illustrates the freight traffic growth in million metric tonnes in India from FY13 to FY18 both for domestic and international cargo. The domestic cargo has increased from 0.8 MMTs to 1.2 MMTs from FY13 to FY18. So there has been an increase of 50%. Similarly the international cargo has increased from 1.4 MMTs in FY13 to 2.1 MMTs in 2018 thereby also increasing at 50%.
- The ministry has taken several steps to tackle the increasing cargo load and bring the cargo industry of India at par with global standards. Based on a study, it has successfully managed to reduce the “Dwell Time” from 72 hours to 52 hours in 2017. In 2018, according to IATA estimates, in 11 major airports the dwell time has been reduced to 39 hours.[1]



Picture 8: Dwell Time statistics

- The above Picture 8 shows the variation in “Dwell Time” from 2016 to 2018. We have seen there has been a sharp decline of dwell time in these two years duration thereby reducing the time of warehousing and reducing storage costs.
- Logistics cost in India is still 13-14% of GDP as compared to 7-8% in developed countries. This has retarded the growth of air cargo industry to a large extent. However a strong impetus was given by “National Civil Aviation Policy (2016)” which aimed at increasing the cargo volume to 10 million tonnes by 2027. “Open Sky Policy” for air cargo and improved international connectivity along with improved infrastructure have helped in the sustained growth of the industry in India in the last few years.[1] According to Boeing 20-year Forecast, global air cargo would reach 509 billion revenue tonne kilometres by 2035 at an annual average rate of 4.2% with the Asian market leading the growth with China, Intra-Asia and India market expanding at 6.2%, 5.5% and 6.7% p.a. respectively.



Picture 9: Growth Rates of various economies

- Picture 9 shows the growth rate of air cargo in various economies in recent times. We can see that growth of domestic air cargo in India (6.7%) has been much more than several other countries and even exceeds the world average (4.3%). The rates exceed that of Western Europe and North America.
- With the new government's schemes such as "Make in India" and "Digital India" getting impetus along with appropriate policies in logistics, regulatory and skills, simplification, modernisation and harmonization of export-import process have taken place as well as advancement of end to end domestic supply chains. The WTO's "Trade Facilitation Agreement (TFA)" includes several steps ensuring fast track movement, release and clearance of goods and also lays down measures for effective communication between various stakeholders. India has adapted a WTO-Plus plan of action to implement commitments of TFA.

Regulatory policies supporting cargo Growth

- **National Integrated Logistics Policy (NILP)**
This policy focuses on increasing storage and warehousing capacity. It also emphasises developing multi-modal logistic parks at district levels.
- **EXIM Policy**
"The Foreign Trade policy 2015-20" focuses on making India a player of global importance by the year 2020. It aims at doubling the export volume of the country to about \$900 by 2020 and also to increase India's share of world exports to 3.5%.
- **Preferential and free trade agreements**
 - Multilateral, Plurilateral and Bilateral agreements in World Trade Organisation (WTO), South Asian Free Trade Agreement (SAFTA) and BIMSTEC.
 - Reduction or removal of trade barriers.
 - Cross Border Management
 - Exposure of local goods to international markets
 - Development of trade routes and shipping corridors with major trading partners.
 - Helping in customs clearance
 - Solving problems related to directional imbalances of export and import.

India's Air cargo Development and Marketing Strategies

- Global top 5 air freight market by 2025
- Among top 5 globally based on e-AWB penetration by 2025
- Among top 25 globally based on Logistics Performance Index
- Construction of trans-shipment hubs at all major airports by 2025
- Regional warehouses and hubs connected to regional airports for E-commerce cargo, agro and other perishable cargo.
- To invest further in emerging economies such as Africa and South-East Asia.
- Exploring new markets and analysing which products can be delivered through air.
- Understanding special handling requirements for all types of cargo.
- Understanding local products that can have an influence on global trade.
- Understanding customer behaviour and changes in demand patterns. Export/Imports depend on it to a great extent and so does air cargo movement.

- Improving connectivity between regional and national carriers to improve domestic connectivity.
- Improve connections between national and international carriers to enhance global contacts.
- Establishment of regional distribution centres due to increase in B-B and B-C transactions.
- Help in the development of last mile/first mile connectivity program.
- Encourage code sharing/inter-line agreements between foreign and national carriers.
- Focus on infrastructure development plans in every region.
- Promote use of air freight by regional and national air cargo aggregators.
- Help take orders from small SMEs
- Each state of India should have atleast one airport for air cargo operations under RCS
- Improve connectivity of small markets to airports through RFD
- Consult with various ministries to establish development plans for multimodal integration projects
- Obtain State and Central government support to develop city master plan to offer multimodal connectivity to new and upcoming airports.
- To establish and develop effective trans-shipment hubs.
- To support establishment and functioning of AFS and guidelines to be followed.

Security Strategies

- Risk Management System (RMS) needs to be improved in order to scan, identify and recommend physical inspection of only those goods where security is a primary concern.
- Establishing a Consignor Programme and strengthen the Authorized Economic Operator Programmes.
- Compulsory pre-loading Advance cargo information for imports.
- Implementation of Latest Cargo Screening Technology.
- Ensuring international standards are followed in security declarations.

Safety Strategies

- To ensure that all operatives follow industrial best practices for operational safety.
- All entities handling cargo should implement safer measures including Risk Management System (RMS).
- Policies regarding use of lithium batteries should be established in compliance with international regulations.
- An incident database should be created, maintained and regularly updated.
- There should be proper supervision on safety trainings of personnel involved in handling of dangerous goods.
- Increase of Unit Load Devices (ULD) safety measures to reduce incidents and damage to aircrafts and cargo.
- To ensure that enough ULD storage facilities are available.
- To ensure that CCTV and other monitoring facilities are properly installed and available.
- Proper use of industry safety and performance standards such as Cargo IQ and Cargo Service Quality Measurements.

Technology and Innovation

- Ensuring Global Electronic Messaging standards and adapting data sharing platforms. This helps in seamless flow of information across the supply chain and removes printing papers.[4]
- Developing an Unified National Air Cargo Community System (NACCS)
- Help in integration of all airports with the NACCS architecture
- Integrating cargo stakeholders to NACCS architecture
- Integrating with the National Logistics Portal which will help ensure ease of trading in domestic and international markets.
- Developing dedicated digital e-freight corridors to help promote national and international e-cargo and develop technologies for e-booking of cargo.
- Ensure proper development of business continuity and disaster recovery plans.
- Implement Remotely Piloted Aircraft Systems for domestic and international cargo
- Ensure state of art handling equipments and technologies to comply with packaging standards and proper handling operations.

Sustainability Measures

- To encourage investment in alternative fuel sector such as Bio-Fuels to reduce carbon emissions.
- Fast adaptation of global industrial sustainability standards.
- ACLPB will adapt a policy of best practices for sustainable development related to use of renewable energy resources, avoid use of plastics and other environment friendly green measures. This is known as “Green Logistics”.

Human Capital Development

- Development of career training programs for human resources.
- Develop retention and training courses for the workforce.
- Organize regular awareness programs on Industry best practices, handling of lithium batteries and other dangerous goods that fall under category 6 and category 9. Also create awareness about wildlife trafficking.
- Executing the annual plan to ensure skill development of people involved in air cargo logistics.
- All job allocation should be based on qualifications and competencies.
- Ensuring adequate number of seats at National Aviation University (NAU) and other universities for air cargo studies.
- Formation of cargo core committees at regional levels consisting of airline operators, freight forwarders and state governments to solve cargo related problems in that region.
- Ensure development of regional “Aviation Multi-Skill Development Centres (AMSDC)” to enhance air cargo skillsets holistically.

Performance Benchmarking

- Physical documents from the supply chain needs to be eliminated.
- Number of air cargo shipments moved without paper needs to be increased.
- In order to improve efficiency, comparison has to be done between local supply chain performance and established industry KPIs.

- Evaluate performance of Cargo Terminal Service Quality (CTSQ), the smart facility operational audit program and the development of Cargo Service Quality Index (CSQI).
- Ensure reduction of dwell time and fast and efficient processing of air cargo.
- The monitoring Team should supervise the performance of the various cargo facilities by both government and private sector stakeholders.
- Develop an action plan to make policy changes, modify and update the existing ones, identification of gaps and using technology to solve problems in this sector.

Role of Air Cargo Complexes (ACC)

- It is the place where aggregated/segregated goods are exported and imported from.
- There is more demand for reduced “Dwell time” due to the emergence of “Just in time (JIT)” approach so as to reduce warehousing costs.
- Clearance Procedures need to be efficient because goods need to be cleared from warehouses and ACCs need to be evacuated in the minimum possible time without any delay.

Conclusion

Efforts are being made to further modernise the sector and increase the network of existing cargo terminals and also creation of new ones.

- By expansion of existing capacities to meet increasing demand. Delhi airport has decided to increase capacity to 2.2 million tonnes per annum by 2034.
- By capacity creation in smaller towns and cities across the country. For e.g. AAI has already established CUDCT at Coimbatore, Jaipur and Lucknow airports.
- Creation of air freight stations near production centres. This concept reduces traffic and congestion at major international airports.
- Peripheral and Support infrastructure are being developed along with freight capacity. Efforts are being made to improve facilities for express freight, frozen food, air mail and hazardous goods. City roads and lanes connecting the nearest city to the airport also need to be developed.
- The manpower crunch issue needs to be addressed and skill development programs need to be organised as per needs and requirements.
- Processes need to be automated using digitalization and EDI systems. Data analytics and predictive analytics need to be used for estimating load factors. Data generated by machines can also help in proactive maintenance and reduce turnaround time for airlines.

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