

Recent Trend in Indian Air Transport with Reference to Transport Economics and Logistic

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Air transport is the most modern means of transport which is unmatched by its speed, time- saving and long-distance operation. Air transport is the fastest mode of transport which has reduced distances and converted the world into one unit. But it is also the costliest mode of transport beyond the reach of many people. It is essential for a vast country like India where distances are large and the terrain and climatic conditions so diverse. Through it one can easily reach to remote and inaccessible areas like mountains, forests, deserts etc. It is very useful during the times of war and natural calamities like floods, earthquakes, famines, epidemics, hostility and collapse of law and order.

The beginning of the air transport was made in 1911 with a 10 km air mail service between Allahabad and Naini. The real progress was achieved in 1920 when some aerodromes were constructed and the Tata Sons Ltd. started operating internal air services (1922). In 1927 Civil Aviation Department was set up on the recommendation of Air Transport Council. Flying clubs were opened in Delhi, Karachi, Calcutta (now Kolkata) and Bombay (now Mumbai) in 1928. In 1932 Tata Airways Limited introduced air services between Karachi and Lahore.

In 1932, **Air India** began its journey under the aegis of Tata Airlines, a division of Tata Sons Ltd. (now Tata Group). In 1933 another company Indian National Airways was constituted to serve between Karachi and Lahore. In 1938 the Empire Air Mail Service was introduced to carry mail between the empire countries. In 1946, the Government set up the Air transport Licensing Board which granted 11 licenses. At the time of Independence 4 companies were operating their air services (Tata Sons Ltd., Indian National Airways, Air Services of India and Deccan Airways).

Following World War II in 1946, regular commercial service was restored in India and Tata Airlines became a public limited company under the name of Air India. By 1951 there were 4 new entrants: (Bharat Airways, Himalayan Aviation Ltd., Airways India, and Kalinga Airlines). Under the Air Corporations Act of 1953, the Government nationalized the air transportation industry and Air India International Limited was born. In 1960, Air India flew its first international flight to New York via London. In 1962, Air India became the world's first all-jet airline and its name was officially truncated to Air India.

The ownership of these airlines was taken over by the Government in 1953 and two separate corporations were set up-the Air India international to cater for the international air routes and the Indian Airlines for the domestic services.

Ever since the nationalization there has been improvement in all directions of the air transport. The revenue earning of Air India has increased from Rs. 7.56 crore in 1960-61 to Rs. 152.01 crore in 1998-99 while that of Indian Airlines from Rs, 10 crore to Rs. 84.08 9rpre. The number of passengers carried by these airlines rose from 1.25 lakh to 31.66 lakh (for Air India) and from 7.90 lakh to 80.10 lakh (for Indian Airlines) during the same period.

The national flag carrier of India with a worldwide network of passenger and cargo services, **Air India** is the only state-owned airline in the country, having recently merged with Indian Airlines. With its main base at Chhatrapati Shivaji International Airport, Mumbai and Indira Gandhi International Airport, Delhi, Air India connects 146 international and domestic destinations around the world, including 12 gateways in India with Air India Express, a fully-owned subsidiary of Air India. Air India plans to join Star Alliance and has ordered 27 Boeing 787 (+7 options), to be delivered after 2009.

In 2007, **Air India** and **Indian Airlines** merged into one airline, with its name remaining Air India. Air India is now a part of Star Alliance and is supposed to be joined by Alliance Air and Air India Express soon.

Airports

India has international airports besides 87 aerodromes divided into major, intermediate and minor categories. Its 5 major international airports are: Mumbai (Santa Cruz), Kolkata (Dum Dum), Delhi " (Palam), Chennai (Meenambakkam) and Thiruvananthapuram. The operation, management, planning and development of these airports are the responsibility of the International Airports Authority of India. These airports lie on the International Air routes and are used by Air India and foreign airliners. Here landing facilities are of international standard.

There are 22 major aerodromes at Agartala Ahmadabad, Amritsar, Aurangabad, Barapani, Bhubaneshwar, Bhub, Delhi (Safadarjung), Guwahati, HydeVabad, Imphal, (Tuiihal), Jaipur, Khajuraho, Lucknow, Nagpur, Panagarh. Patna, Ranchi, Tiruchchirappalli, Udaipurand Varanasi. These are also equipped with modern air services and landing facilities.

Intermediate aerodromes (22) are located at Belgaum, Bhopal, Bhavnagar, Chakulia, Dibrugarh, Mohanbari, and Gaya. Indore, Jabalpur, Kandla, Junagadh (Keshod), North Lakhimpur (Lilabari), Port Blair, Raipur, Rajkot, Kumbhigram (Silchar), Tirupati (Ranigunta), Vadodara. Vijayawada, Vishakhapatnam and Madurai. Besides there are 43 minor aerodromes located at important cities and towns of the country where landing facilities vary from modern to mere usurfaced airstrips. The Ministry of Defence also maintains some aerodromes for use of defense purposes. There are 20 Flying Clubs, 5 state government flying schools (Patna, Bangalore, Bhubaneshwar, Kolkata and Jaipur) and 8 Gliding Clubs (Ahmadabad, New Delhi, Pilani, Raipur, Nashik, Kanpur, Agra Cantt. and Hyderabad) in the country.

As of 2013, there are 346 civilian airports in India 253 with paved runway and 93 with unpaved runways. 66 are licensed by DGCA in the Public use category while 21 are licensed for Private.

20 International Airports in India.

1. Indra Gandhi International Airport (Delhi)

2. Chatrapati Shivaji International Airports (Mumbai)

Mumbai handled more than a half of the Air traffic in the country.

The International Airports		
S. No.	Name	Location
1.	Sri Guru Ram DassJee International Airport	Amritsar (Punjab)
2.	Indira Gandhi International Airport	New Delhi
3.	Lokpriya Gopinath Bordolio International Airport	Guwahati (Assam)
4.	SardarVallabhbhai Patel International Airport	Ahmedabad (Gujarat)
5.	Netaji Subhash Chandra Bose International Airport	Kolkata (West Bengal)
6.	Chhatrapati Shivaji International Airport	Mumbai (Maharashtra)
7.	Rajiv Gandhi International Airport	Hyderabad (Andhra Pradesh)
8.	Dabolim Airport	Vasco da Gama (Goa)
9.	Meenambakkam International Airport	Chennai (Tamil Nadu)
10.	Bengaluru International Airport	Bengaluru (Karnataka)
11.	Nedumbassery International Airport	Cochin (Kerala)
12.	Trivandrum International	Thiruvananthapuram (Kerala)
13.	Calicut International Airport	Calicut
14.	Jaipur Airport	Jaipur
15.	Dr. Babasahed Ambedkar International Airport	Nagpur (Maharashtra)
16.	Srinagar Airport	Srinagar(Jammu & Kashmir)

Length of Runways	Airports with Paved Runways	Airports with Unpaved Runways
3,047 m(10,000ft) or more	21	1
2,438 to 3,047m (8000 to 10,000 ft)	59	3
1,524m to 2,438m (5000 to 8000ft)	76	6
914m to 1,524m (3000 to 5000 ft)	82	38
Under 914m (3000ft)	14	45
Total	243	93

Greenfield Airports:

Bangalore International Airport:

A Greenfield airport at Devanahalli near Bangalore is being implemented on a Build-Own Operate and Transfer (Boot) basis developed with Public Private Participation. The Government has signed a Concession Agreement with the Bangalore International Airport on 5 July 2004. Other project related agreements have also been signed and financial closure has been achieved on 23 June 2005. The first phase of the project is likely to be completed by mid of 2008.

Hyderabad International Airport:

The Government of Andhra Pradesh (GOAP) have selected a consortium led by M/s GMR Infrastructure Limited with Malaysian Airport Holding Berhad (MAHB) as the developer for Greenfield Airport at Shamshabad near Hyderabad. A Concession Agreement has been signed with the Hyderabad International Airport Ltd. on 20 December 2004. The project achieved financial closure on 22 August 2005. Work is to be completed by mid 2008.

The approximate cost of the Project is Rs.1760 crore. The Committee on Infrastructure under the chairmanship of the Prime Minister approved the development of 35 non-metro plans on airport each at Arunachal Pradesh and Sikkim airports by 2010-11.

Training Centres:

Indira Gandhi Rashtriya Uran Akademi:

The Indira Gandhi Rashtriya Uran Akademi located at Fursatganj (UP) is an autonomous body under Ministry of Civil Aviation, Government of India. The Akademi has been established to train pilots to achieve higher standards in flying and ground training.

The Akademi is equipped with modern and sophisticated trainer aircraft, flight simulators, computer based training system (CBI), own ATC, runway with modern navigational and landing aids like DVOR/DME & ILS and own airspace.

It has various audio-visual training aids and other facilities for imparting effective flying and ground training by the most qualified personnel. Flying training is conducted on 13 Trinidad TB-20 single engine, 6 Zlin and 2 King Air C-90A twin-engine turbo-prop executive class aircraft, fitted with modern instruments and avionics. Ab-

initio to Commercial Pilots License (CPL), PPL to CPL courses with multiengine aircraft endorsement and Instrument Rating are conducted on a regular basis.

Flying Training School at Gondia:

The Ministry of Civil Aviation has proposed to establish a premier pilot training institute at Gondia, Maharashtra to augment the ongoing efforts of Flying Training Schools for increasing the number of qualified and well-trained pilots, to tackle the huge demand for pilots in the industry. The Planning Commission has approved the proposal "in principle" for setting up of a Premier Flying Training Institute at Gondia, Maharashtra during the Tenth Five-Year Plan period.

The Airports Authority of India (AAI) has taken over the existing land measuring 321.54 hectares from the State Government of Maharashtra on 31 December 2005 at Gondia. Additional land measuring 84.38 hectares has also been taken over on 31 December 2005 from Maharashtra Government by AAI on payment basis. The terms and conditions of payments would be finalised in the MoU to be signed between AAI and Government of Maharashtra.

Air Services

The air services are provided by Civil Aviation and are managed by two public sector corporations. Air India Limited is the major international carrier of the country. It has bilateral air services Teements with 100 countries of the world and provides air services to the USA, Europe, the Russian Confederation, the Middle East, East Asia, Far East and Africa. Air India owns a fleet of 37 aircraft consisting of 7 B-474-200, two B 747-300 (Combi), Six B 747-400, three A 300-B4 and eight A 310-300 aircrafts.

It also has joint-venture services with three foreign carriers and seven 'Block Space' and 'Code Share Arrangements' with other foreign airlines. During 2004-05 Air India carried 4.45 million passengers as against 2.91 million in 1996-97. Besides Air India, a number of foreign companies also operate in the country on international routes. Recently the Government has decided to disinvest Air India shares to make room for private and foreign companies.

Indian Airlines is the major domestic air carrier of the country. It also provides services to 14 countries, viz.. Pakistan, Maldives, Nepal, Sri Lanka, Malaysia, Bangladesh. Thailand, Singapore, UAE, Oman, Myanmar, Kuwait, Qatar and Bahrain. Its operations cover 77 destinations including 19 abroad. It owns a fleet of 67 aircrafts consisting of ten A-300 s, thirty A-320s, twelve B- 737 and three DO-228 aircrafts. All Boieing 737 aircrafts are operated by its wholly-owned subsidiary Alliance Air.

Besides Indian Airlines there are two private scheduled airlines which provide regular domestic air services. In addition there are 41 non- scheduled operators providing air-taxi/air transport services. Private operators presently cater to nearly 41.4 per cent of the domestic air traffic. The number of passengers availing of private air services has increased from 15,000 in 1990 to 49.14 lakhs in 1998. On the other hand the increase has been marginal in case of Indian Airlines (from 78.66 lakh in 1990-91 to 80.10 lakh in 1998-99).

Pawan Hans Helicopters Limited has been providing helicopter support services to the petroleum sector including ONGC, Oil India Limited, and Hardy Exploration at Chennai. It also provides services to certain state governments and public sector undertakings and in the north-eastern states. The company presently has an operational fleet of 20 Dauphin helicopters, three Bell 206 L4, two Bell 407, two Robinson R 44 and three Mi 172 helicopters. The fleet has flown approximately 18,500 hours during 1997-98.

The Government under 'Open Sky Aviation Policy' is allowing private operators to fly in the Indian skies and transport passengers and freight. Currently four major private airlines-East-West, Damania, Modilut't and Jet Air are in operation.

Air India:

At the end of 1947, Air India submitted a plan to the Government for the formation of Air India International Limited with Government participation to operate international services. The plan was approved and Air India International launched its first service to London via Cairo and Geneva on 8 June 1984 with Constellation aircraft.

In 1952, the Planning Commission recommended the nationalisation of Air Transport Industry, which was effected on 1 August 1953, with the creation of two nationalised Corporations – Air India International Limited which retained its identity and international flag carrier status and Indian Airlines, to operate domestic services.

On 1 May 2002, Air India Limited was incorporated as a Public Limited Company under the Companies Act, 1956 with the main object of succeeding the undertaking of Air India. The undertaking of Air India was transferred to and vested in Air India Limited with effect from 1 March 1994 in pursuance of the air Corporations (Transfer of Undertakings and Repeal) Act, 1994. Air India owns a fleet of 115 aircraft consisting of Eight B777-200 LR, Nine B777 300 ER, Twenty A 320, Nineteen A 319.

Network:

Air India operates 173 flights per week serving 59 stations (45 international and 14 domestic). Air India also has code-share agreements with 12 airlines to offer its passengers more destinations and convenient connections.

Subsidiaries:

Air India has four subsidiary companies viz. Hotel Corporation of India Ltd. (HCI), Air India Charters Ltd. (AICL), Air India Air Transport Services Ltd. (AIATSL), and Air India Engineering Services Ltd. (AIESL).

(i) HCI:

The Hotel Corporation of India Limited (HCI) is a Public Limited Company wholly owned by Air India Limited and was incorporated in 8 July 1971 under the Companies Act, 1956 when Air India decided to enter the Hotel Industry in keeping with the then prevalent trends among world airlines.

The objective was to offer to the passengers a better product, both at the International Airports and a other places of tourist interest, thereby also increasing tourism to India. However, in 2002-2003, three properties of HCI viz. Indo-Hokke Hotel Limited (Centaur Hotel, Rajgir), Centaur Hotel, Juhu Beach and Centaur Hotel, Mumb airport were sold of the remaining units of IHCI are Centaur Hotel, Delhi Airport, Centaur Hotel, Lakeview, Srinagar and Flight Kitchens at Delhi and Mumbai.

(ii) AICL:

Air India Express, a budget carrier which was launched under the aegis of AICL, successfully completed one year of operation on 29 April 2006. With induction of new B737-800 aircraft, its fleet size has gone up to 7 planes. These aircraft have a seating capacity of 189.

The Air India Express is planning to add new Indian stations like Tiruchirapalli, Managlore, Chennai and Amritsar, in addition to existing Kochi, Kozhikode and Thiruvananthapuram. Till winter '05, the airline's network was restricted to only Gult destinations like Dubai, Sharjah, and Al Ain. Muscat and Salalah.

The Company will be expanding its operations to SE Asia with the start of a daily service between Chennai and Singapore/Kuala Lumpur. Indian Airlines was set up under the Air Corporations Act, 1953 with an initial capital of Rs.3.25 crore with its Corporate Headquarters at Delhi. In 1994, the air corporation Act of 1953 was replaced with view to monopoly of Air Corporations on Scheduled services. Since 1990 private Airline companies were allowed to operate air taxi services, Resulting in establishment of Jet Airways. And Air Sahara.

Change in the Indian Aviation Policies resulted in the share of private airline operators in domestic passenger carriage to 68.5% in 2005 from a meager .04% in 1991. The undertaking of Indian Airlines was transferred to and vested in Indian Airlines Limited with effect from 1 March 1994 in pursuance of the Air Corporations (Transfer of Undertakings and Repeal) Act, 1994. The Indian Airlines Ltd. has been merged with Air India Ltd. The Consolidated Company is named as National Aviation Company of India Ltd. It operates as under Govt. AI as well as IC code. Air India has a subsidiary low cost carrier Air India Express.

Pawan Hans Helicopters:

The Pawan Hans Helicopters Ltd.(PHHL) is one of India's leading helicopter companies and is known for its reliable helicopter operations. The company was incorporated in 1985 with the objective of providing helicopter services to the petroleum sector, linking inaccessible area of the country and operating charters for promotion of tourism.

Since its inception the company has operated number of helicopters by offering wide range of services to its clients through well balanced fleet of 45 helicopters consisting of Bell 206L4, Bell 407, Dauphin SA 365N, Dauphin AS 365N3 and Ni-172 PHHL is the only aviation company India being awarded ISO 9001: 2000 certification for its entire gamut of activities. The company has also developed two bell 407 helicopters for operations at Katra for Mata Vaishno Devi from April 2008 ourselves.

Directorate General of Civil Aviation:

Today the Directorate General of Civil Aviation operates the Civil Airports of India except the International Airports. It is also responsible for the air navigation and services including air traffic control and services for regularity and safety of aircraft operations. In 1953 on the recommendation of Planning Commission Air transport was nationalised and two autonomous corporations were set up—Indian Airlines Corporation and Air India International Corporation.

A new policy on domestic air transport services was approved in April 1997 according to which barriers to entry and exist from this sector have been removed; choice of aircraft type and size has been left to the operator, entry of serious entrepreneurs only has been ensured and equity from foreign airlines.

Later on after liberalisation of the economy, number of private scheduled airlines and air taxi has emerged. Indian Airlines, Alliance Air (subsidiary of Indian Airlines) and other private airlines provide domestic air services. Indian Airlines operations also extend to the neighboring countries like Nepal, Pakistan, South East Asia and Middle East. Air India provides international air services. Pawan Hans renamed Pawan Hans Helicopters Limited provides helicopter services to ONGC in its shore operations and to inaccessible areas and difficult terrains. The Government has ended the monopoly of Indian Airlines and Air India on the scheduled operations by repealing the Air Corporation Act 1953. There are the present two private scheduled airlines operating on the domestic network rendering the passengers a wide choice of flights. Apart from this 47 Air Taxi operators are providing non-scheduled air services. Air India placed over order for more than 68 jets from Boeing for US \$ 7.5 Billion in 2006 while India Placed Orders for 43 jets from Airbus US \$ 2.5 Billion in 2005.

Low cost carriers entered the Indian Market in 2004-05. Major new entrants included are:-

1. Air Deccan,
2. Air Sahara,
3. Kingfisher Airlines,
4. Spice Jet,
5. Go Air,
6. Paramount Airways,
- 7 Indigo,

In 2007, Air Sahara and Air Deccan were acquired by Jet Airways and Kingfisher Airlines.

Paramount Airways ceased operations in 2010 Kingfisher Airlines shutdown in 2012. Etihad Airways Agreed to acquire 24% stake in Jet in 2013. Air Asia is proposed Low Cost Carrier Scheduled to operate as a joint venture between Air Asia and Tata Sons. As of 2012-2013, Indigo is the only Indian carrier generating Profit. Total fleet size of commercial airlines in India was 371 by 20 February 2013.

Air Cargo

Air cargo is an important aspect of air services. The total cargo handled at AAI airports was 12.80 lakh tons in 2004-05 which is roughly seven times than that of 1980-81 (1, 78,700 tons). Most of the important cargo consists of perishable goods (meat, fish, fruits, vegetables, flowers etc.), readymade garments, leather goods, machinery, pharmaceuticals, gems and jewellery, professional and scientific equipments. Some mail to principal cities of the country is carried by air. Santa Cruz (Mumbai) airport tops in handling the air cargo, followed by Palam (Delhi) Meenambakkam (Chennai) and Dum Dum (Kolkata).

In order to help the Indian exporters and make their exports more competitive, the Government had introduced in April 1990 an 'open sky policy' for cargo. Under this policy any foreign airlines or association of exporters can bring freighters to the country for upliftment of cargo. The Government has also permitted market forces to determine cargo tariff, with IATA rates as the floor rates.

References –

- 1- Saxena H.K. (1994), Transport Economics, Publication, Place
- 2- Chauhan S.D.S (1998) Transport Economics,
- 3- Sharma ??????
- 4- The Hindu New Paper, 1 July 2013 page 4
- 5- Chhatrapati A.C. – Air Transport In India, Economic Weekly, July 25, 1953

AIRLINES					
BASES	AIR INDIA	SPICE JET	KINGFISHER	GO AIR	INDIGO
Founded	July 1930	1993	2003	2005	2006
Commenced Operation	15 October	5 May 1993	9 May 2005	November 2005	4 August 2006
Hubs	Indra Gandhi International Airport (Delhi) Chhatrapati Shiva ji International Airport (Mumbai)	Chennai International Airport Indra Gandhi International Airport (Delhi) Rajiv Gandhi International Airport(Hyderabad)	Bengaluru International Airport (Bangalore)	Chhatrapati Shiva International Airport (Mumbai)	Indra Gandhi International Airport (Delhi)
Focus Cities	Kempegowda International Airport(Bengaluru) Cochin International (Cochin)	Bengaluru International Airport (Bangalore) Cochin- International Airport (Kochi)	Chennai International Airport Pune International Airport	Kempegowda International Airport (Delhi) Srinagar Airport	Chennai International Airport (Chennai) Bengaluru International Airport (Bengaluru) Sardar Vallabhai Patel International Airport(Ahmadabad)
Airport Lounge	Maharaja Lounge	—	Kingfisher Lounge	—	—
Subsidiaries	Air India Express Air India Regional	—	Kingfisher Xpress	—	—
Fleet Size	112(+18 on Order)	58(+70 on order)	06	17	75
Destinations	90	54	25	21	36
Company Slogan	Your Place In The Sky	Flying For Ever one	Fly The Good Times	Fly Smart	Ours Punctuality Your Destination
Headquarters	Indian Airlines House Parliament Street (Delhi)	Gurgoan, India	The Qube, Mumbai Maharashtra	Worli, Mumbai, Maharashtra India	Gurgoan, Haryana India
Key People	JRD TATA(Founder) Rohit Nandan IAS(CEO) Syed Nasir IRS (JMD)	Employees :- 2,349(2012)	Vijay Mallya (CMD) Sanjay Aggarwal (CEO) Hitesh Patel (EVP)	Jehangir Wadia (CMD) Giogrio DESO (CEO)	Rahul Bhatia,MD Aditya Ghosh, President

OPERATIONAL AIRLINES

AIR LINES	ICAO	TATA	CALL SIGN	COMMENCED OPERATION	HEAD QUARTERS	STATUS
AIR INDIA	AIC	AI	AIR INDIA	OCT. 1932	MUMBAI	NATIONAL CARRIER
AIR INDIA EXPRESS	AXB	IX	EXPRESS INDIA	APRIL 2005	KOCHI	SCHEDULED
AIR ASIA INDIA	-	-	-	2013	CHENNAI	SCHEDEUED
BLUE DART AVIATION	BDA	BZ	BLUE DART	1995	CHENNAI	CARGO
GO AIR	GOW	G8	GO AIR	JUNE 2004	MUMBAI	SCHEDULED
INDIGO	IGO	68	IFLY	AUGUST 2006	GURGOAN	SCHEDULED
DECCAN CHARTERS	DNK	DN	DECC AN	1997	BANGLORE	NON-SCHEDULED
INVISION AIR	-	-	-	MARCH 2011	MUMBAI	NON-SCHEDULED
JET AIRWAYS	JAI	JA	JAGSON	MAY 1993	MUMBAI	SCHEDULED
SPICE JET	SEJ	SG	SPICEJET	MAY 2005	CHENNAI	SCHEDULED
SKYJET AIR	-	-	-	2013	DELHI	SCHEDULED

DEFUNCT AIRLINES

AIRLINES	COMMENCED OPERATIONS	CEASED OPERATIONS	HEAD QUARTER
AIR INDIA CARGO	1954	2012	MUMBAI
AIR DECCAN	2004	2007 MERGED WITH KINGFISHER AIRLINES AND RENDERSAS KINGFISHER RED	BANGLORE
AIR MANTRA	2012	2013	DELHI
AIR SAHARA	1991	2006 MERGED WITH JET AIRWAYS AS JETLITE	MUMBAI
INDIAN	1953	2011 MERGED WITH AIR INDIA	NEW DELHI

JETLITE	2007	2012 MERGED WITH JETKONNECT	MUMBAI
KINGFISHER AIRLINES	2005	2012	MUMBAI
KINGFISHER RED	2007	2011	MUMBAI
PARAMOUNT AIRWAYS	2005	2010	CHENNAI
TATA AIRLINES	1932	1946	MUMBAI
VIJAY AIRLINES	1981	1997	CHENNAI

