

25 Transport

A well-knit and co-ordinated system of transport plays an important role in the sustained economic growth of a country. The present transport system of the country comprises several modes of transport including rail, road, coastal shipping, air transport, etc. Transport has recorded a substantial growth over the years both in spread of network and in output of the system. The Ministry of Shipping, Road Transport and Highways is responsible for the formation and implementation of policies and programmes for the development of various modes of transport save the railways and the civil aviation.

RAILWAYS

The Railways in India provide the principal mode of transportation for freight and passengers. It brings together people from the farthest corners of the country and makes possible the conduct of business, sightseeing, pilgrimage and education. The Indian Railways have been a great integrating force during the last more than 150 years. It has bound the economic life of the country and helped in accelerating the development of industry and agriculture. From a very modest beginning in 1853, when the first train steamed off from Mumbai to Thane, a distance of 34 kilometres Indian Railways have grown into a vast network of 6,909 stations spread over a route length of 63,327 kilometres with a fleet of 8,153 locomotives, 45,350 passenger service vehicles, 5,905 other coaching vehicles and 2,07,719 wagons as on 31st March, 2007. The growth of Indian Railways in the 150 years of its existence is thus phenomenal. It has played a vital role in the economic, industrial and social development of the country. The network runs multigauge operations extending over 63,327 route kilometres. The gauge-wise route and track lengths of the system as on 31st March, 2007 are as under:

Gauge	Route Km	Running Track Km	Total Track Km
Broad Gauge (1.676 mm)	49,820	71,015	93,386
Metre Gauge (1.000 mm)	10,621	11,487	13,412
Narrow Gauge (762 mm and 610mm)	2,886	2,888	3,198
Total:	63,327	85,390	1,09,996

About 28 per cent of the route kilometre, 39 per cent of running track kilometre and 41 per cent of total track kilometre is electrified. The network is divided into 16 Zones. Divisions are the basic operating units. The 16 zones and their respective headquarters are given below:

Zonal Railways	Headquarters
Central	Mumbai CST
Eastern	Kolkata
Northern	New Delhi
North-Eastern	Gorakhpur
North-East Frontier	Maligaon (Guwahati)
Southern	Chennai
South Central	Secunderabad
South-Eastern	Kolkata
Western	Church Gate, Mumbai
East Central Railway	Hajipur
East Coast Railway	Bhubaneswar
North Central Railway	Allahabad
North-Western Railway	Jaipur
South-East Central Railway	Bilaspur
South-Western Railway	Hubli
West Central Railway	Jabalpur

Indian Railways is now reorganized into 16 Zones. Two new Railway Zones viz. East Central Railway, Hajipur and North-Western Railway, Jaipur became functional on 1st October 2002. Five more new Zones viz. East Coast Railway, Bhubaneswar, North Central Railway, Allahabad, South-East Central Railway, Bilaspur, South-Western Railway, Hubli and West Central Railway, Jabalpur became functional on 1st April, 2003. Along with the reorganisation of the Zones, eight new Railway Divisions, viz. Agra on North Central Railway, Ahmedabad on Western Railway, Guntur and Nanded on South Central Railway, Pune on Central Railway, Raipur on South-East Central Railway, Ranchi on South-Eastern Railway and Rangiya on North-East Frontier Railway became operational on 1st April, 2003.

Co-operation between public and Railway administration is secured through various committees including Zonal Railway Users' Consultative Committees and Divisional Railway Users' Consultative Committees. The rolling stock fleet of Indian Railways in services as on 31st March 2006 comprised 44 Steam, 4,793 diesel and 3,188 electric locomotives. Currently, the Railways are in the process of inducting new designs of fuel-efficient locomotives of higher horse power, high-speed coaches and modern bogies for freight traffic. Modern signalling like panel interlocking, route relay interlocking, centralized traffic control, automatic signalling and multi-aspect colour light signalling are being progressively introduced. The Indian Railways have made impressive progress regarding indigenous production of rolling stock and variety of other equipment over the years and is now self-sufficient in most of the items.

The main objectives of railways planning have been to develop the transport infrastructure to carry the projected quantum of traffic and meet the developmental needs of the economy. Since the inception of the planned era in 1950-51, Indian Railways have implemented nine five-year plans, apart from annual plans in some years. During the Plans, emphasis was laid on a comprehensive programme of system modernization. With capacity being stretched to the full, investment of cost-

effective technological changes become inescapable in order to meet the ever-increasing demand for rail transport. Along with the major thrust directed towards rehabilitation of assets, technological changes and upgradation of standards were initiated in important areas of tracks, locomotives, passenger coaches, wagon bogie designs, signaling and telecommunication. Progress of Railway traffic and inputs is shown in table 25.1

PUBLIC UNDERTAKINGS

There are ten public undertakings under the administrative control of the Ministry of Railways, viz. (i) Rail India Technical & Economic Services Limited (RITES); (ii) Indian Railway Construction (IRCON) International Limited; (iii) Indian Railway Finance Corporation Limited (IRFC); (iv) Container Corporation of India Limited (CONCOR); (v) Konkan Railway Corporation Limited (KRCL). (vi) Indian Railway Catering & Tourism Corporation Ltd. (IRCTC); (vii) Railtel Corporation of India Ltd. (Rail Tel); (viii) Mumbai Rail Vikas Nigam Ltd. (MRVNL); (ix) Rail Vikas Nigam Ltd. (RVNL); and (x) Dedicated Freight Corridor Corporation of India Limited (DFCCIL).

The Centre for Railway Information System (CRIS) was set up as a registered society to design and implement various railway computerization projects.

ROLLING STOCK

Over the years, Indian Railways has not only achieved self-sufficiency in production of rolling stock in the country but also supplied rolling stock to other countries and non-railway customers. In order to keep pace with the technology change, Indian Railways has entered into an agreement with M/s. General Motors, USA for transfer of technology for manufacture of 4000 HP, state-of-the-art AC-DC micro-processor controlled, fuel efficient locomotives at Diesel Locomotives Works (DLW), Varanasi and with M/s. ABB for manufacture of 6000 HP, 3 phase electric locomotives at Chittaranjan Locomotive Works (CLW), Chittaranjan. In 2007-2008, DLW achieved an all time high outrun of 222 locomotives including export of 4 locomotives to Sudan, 3 locomotives to Angola Railways and 20 locomotives to Non-Railway customers. CLW manufactured 200 electric locomotives during the year.

Indian Railways has started manufacturing of LHB designed high-speed light weight coaches at Rail Coach Factory (RCF), Kapurthala. During 2007-2008, RCF manufactured 1,480 coaches including 46 coaches for Non-Railway customers/exports. Integral Coach Factory, (ICF), Perumbur, Chennai manufactured 1,291 coaches during 2007-2008 including 40 coaches for Non-Railway customers/exports.

Rail Wheel Factory (RWF), Bangalore manufactured 14,7007 wheels, 52,870 axles and 40,509 wheel sets during 2007-2008.

RESEARCH & DEVELOPMENT

The Research, Design and Standards Organization (RDSO) at Lucknow is the R&D wing of Indian Railways. It functions as a consultant to the Indian Railways in technical matters. It also provides consultancy to other organizations connected with railway manufacture and design.

RAILWAY FINANCE

Since 1924-25, railway finances remain separated from general revenues. They have their own funds and accounts and the Railway Budget is presented separately to

Parliament. However, the Railways contribute to the general revenue a dividend on the capital invested. Quantum of contribution is reviewed periodically by a Parliamentary Convention Committee.

PASSENGER TRAFFIC

Passengers originating had risen from 1,284 million in 1950-51 to 6,219 million in 2006-2007 and passenger kilometre from 66.52 billion in 1950-51 to 695 billion in 2006-2007. Despite constraint of resources, the Railways have been able to cope with increasing demand of passenger traffic. Railways are the premier mode of passenger transport both for long distance and suburban traffic.

FREIGHT TRAFFIC

Rapid progress in industrial and agricultural sectors has generated a higher level of demand for rail transport, particularly in core sectors like coal, iron and steel, ores, petroleum products and essential commodities such as food grains, fertilizers, cement, sugar, salt, edible oils etc. Revenue freight traffic increased from 73.2 million tonnes in 1950-51 to 727.75 million tonnes in 2006-2007. Transport effort measured in terms of net tonne kilometres (NTkm) increased from 38 billion in 1950-51 to 481.0 billion in 2006-2007. Some of the measures taken for improvement are: (i) line capacity augmentation on certain critical sectors and modernization of signalling system; (ii) measures such as unit train operation for bulk commodities like coal; (iii) increase in roller-bearing equipped wagons; (iv) increase in trailing loads to 4,500 tonnes; (v) operation 'UNI-GAUGE' on Indian Railways; (vi) strengthening the track structure by providing heavier and stronger rails and concrete sleepers; and (vii) production of prototype electric locomotive of 5000 HP for freight operation by Chittaranjan Locomotive Works.

ROADS

India has one of the largest road networks in the world, aggregating to about 33 lakh kilometres at present. The country's road network consists of National Highways, State Highways, major / other district roads and village/rural roads. Though the National Highways, which is the responsibility of the Central Government, has about 66,590 km (Annexure-I) length and comprises only 2 per cent of the total length of roads, carries over 40 per cent of the total traffic across the length and breadth of the country.

National Highways/Expressways	66590 km
State Highways	128000 km
Major and Other District Roads	470000 km
Rural Roads	2650000 km

The National Highways have further been classified depending upon the carriageway width of the Highway. Generally, a lane has a width of 3.75 m in case of single lane and 3.5 m per lane in case of multilane National Highways. The break-up of National Highways in terms of width is as under:

Single Lane	32%
Double/Intermediate Lane	56%
Four Lane/Six lane/Eight Lane	12%

Freight movement by Road Transport has been increased from 6 BTK (Billion Tonne km) in 1951 to 600 BTK in 2003-04 and passenger movement by road has risen from 23 BPK (Billion Passenger km) to 3135.4 BPK during the same period. The vehicle population has grown from 0.3 million in 1951 to 72.7 million in year 2004, marking about 240-fold increase. During the same period, the road network has expanded from 0.4 million km to 3.3 million km, i.e. an eight fold increase.

During 10th Plan period, the total outlay for the Central sector roads was Rs. 59,490 crore including Rs. 24,700 crore for the Internal and Extra Budgetary Resources (IEBR). The total amount provided during the 10th Plan at the BE stage was Rs. 62,124.94 crore including Rs. 20,892 crore in IEBR.

NATIONAL HIGHWAYS

The Central Government is responsible for development and maintenance of the National Highways system. The total length of the network, as of today, is 66,590 km. The Ministry is carrying out development and maintenance work of National Highways through three agencies, viz. National Highways Authority of India (NHAI), State Public Works Departments (PWDs) and Border Road Organisation (BRO).

In order to give boost to the economic development of the country, the Government has embarked upon a massive National Highways Development Project (NHDP) in the country. The NHDP is the largest highway project ever undertaken in the country. The NHDP is being implemented by National Highways Authority of India (NHAI).

NHDP Phase I & II: The Phase I & Phase II of NHDP comprises (i) Golden Quadrilateral (GQ), i.e. National Highways connecting four metropolitan cities – Delhi, Mumbai, Chennai & Kolkata having an aggregate length of 5,846 km., (ii) North-South & East-West Corridor (NS-EW) which comprises 4-laning of 7,300 km of National Highways connecting North-South corridor from Srinagar to Kanyakumari with Cochin-Salem spur and East-West corridor from Silchar to Porbandar, (iii) 380 Km length of National Highways are proposed to be upgraded to 4-lane standards for providing connectivity to 10 major ports of the country to NHDP, and (iv) Upgradation of 831 km of other important National Highways. The total estimated cost of the NHDP Phase I & II having a total length of 14,357 km is about Rs.64,639 crore.

NHDP Phase-III: NHDP Phase-III involves 4-laning of 12,109 km of NH having high-density corridor connecting State capitals, important tourist places, economically important areas etc. on PPP basis. The Government has approved implementation of 4,815 km under NHDP Phase-III A. The proposal for implementation of the balance length of about 7,294 km under NHDP Phase-IIIB has been approved recently.

NHDP Phase-IV: Phase IV of NHDP comprising 2-laning with paved shoulders of 20,000 kms of National Highway.

NHDP Phase-V: Phase V of NHDP comprising six laning of 6,500 km of existing 4 lane highways on Design Build Finance & Operate (DBFO) basis was approved on 5.10.2006. This includes 5,700 km of GQ and other selected stretches.

Consultancy works for a length of 1,225 km has already been awarded for feasibility study and bids for 180 km length are under evaluation. Civil works for a length of 148 km was awarded on BOT Concessions and for balance follow up actions are being taken to award the contracts on BOT basis.

NHDP Phase-VI: Government has recently approved the proposal for development of 1000 kms of access controlled four /six lane divided carriageway expressways under NHDP phase-VI on BOT basis at the cost of Rs. 16,680 crores (Rs.7,680 crores as contribution of Government/NHAI for utility shifting, land acquisition etc.).

National Highways Development Projects - Achievements

The overall progress of NHDP as on March 2007 is as under:

NHDP Component	Total Length	Completed Four Lane	Under implementation Length (km)	No. of contracts	Balance for award of civil works
GQ	5846	5556	290	33	-
NS-EW	7300+	1129	5149	147	860
Port connectivity	380	148	211	7	21
Other NHs	945	287	638	16	20
NHDP -IIIA	4815	30	1767	27	3018
NHDP-V	6500		148	2	6352
Total	25786	7150	8203	232	10271

+Out of 7300 kms, 981 kms length is in Phase-I and remaining length is in Phase-II. Against 981 kms, 853kms length was 4 land and 354 kms against phase-II including up to DBM level. Actual length at present excluding 442 kms common length with GQ is 7,274 km. However, this may again change after preparation of DPRs. The original approved length of corridors is 7,300 km

The Way Ahead

The Government has formulated an ambitious plan for investment of Rs.2,35,430 crore for upgradation of National Highways under various phases of NHDP in a phased manner in the years to come. The details of this plan are as under:-

Sl. No.	Phase	Name of Project	Likely Cost (in Rs. Crore)
1.	NHDP Phase-I & II	Completion of Balance work of GQ and EW-NS corridors	52,434
2.	NHDP Phase-III	4-laning of 12,109 km	80,626
3.	NHDP Phase-IV	2-laning with paved shoulders of 20,000 km of National Highways	27,800
4.	NHDP Phase-V	6-laning of 6,500 km of selected stretches of National Highways	41,210
5.	NHDP Phase-VI	Development of 1000 km of Expressways	16,680
6.	NHDP Phase-VII	Construction of ring roads, flyovers and bypasses on selected stretches	16,680
TOTAL			2,35,430

Special Accelerated Road Development Programme for North-East Region (SARDP-NE)

This programme has been framed for improving road connectivity to remote places and places of strategic importance in NE region, envisages improvement of about 3,228 km of National Highways, about 4,388 km of State Roads and Roads of State-

gic Importance. This will also ensure the connectivity of all district headquarters, which are still not connected to the National Highways in the eight North-Eastern States.

SARDP-NE includes the projects on the PPP mode and the projects with 603 km length having the estimated cost of about Rs.3618 crore has been identified on the BOT(Annuity) mode.

Public-Private Partnership

Traditionally, the road projects were financed only out of the budgetary grants and were controlled/supervised by the Government. The road sector has attracted very limited private sector participation in the past. While the traffic has been constantly increasing at a rapid pace, the traditional system of financing road projects through budgetary allocation has proved to be inadequate. It was in this context that the necessity for exploring the innovative means of financing the highly capital intensive road projects was felt.

The beginning of a significant private sector participation in road projects was made with the launching of India's largest road project - National Highways Development Project (NHDP). To encourage private sector participation, several initiatives have been taken by the government; which include-

- ❖ Declaration of the road sector as an industry.
- ❖ Provision of capital subsidy up to 40% of the project cost to make projects commercially viable.
- ❖ 100% tax exemption in any consecutive 10 years out of the first 20 years of a project.
- ❖ Provision of encumbrance free site for work, i.e. the Government shall meet all expenses relating to land and other pre-construction activities.
- ❖ Foreign Direct Investment up to 100% in road sector.
- ❖ Easier external commercial borrowing norms.
- ❖ Higher concession period, (up to 30 years).
- ❖ Right to collect and retain toll.

Projects undertaken by the Ministry under Public/Private Partnership

BOT (Toll) Scheme

- In a BOT project, the concessionaire (private sector) is required to meet the upfront cost and the expenditure on annual maintenance. The concessionaire recovers the entire upfront cost along with the interest and a return on investment out of the future toll collection.
- BOT (Toll) Scheme : As on April 2007 ; 79 projects have been taken up valued about Rs. 2249.0 crore with a length of about 3613 km on Build Operate and Transfer (BOT) basis (Toll based projects). Out of this, 29 projects have been completed and 50 projects are under progress.

BOT (Annuity) Scheme

- In an Annuity project, the concessionaire (private sector) is required to meet the entire upfront cost (no grant is paid by the client) and the expenditure on annual maintenance. The concessionaire recovers the entire investment and a

pre-determined cost of return, out of the annuities payable by the client. The tolling is done by the client.

- BOT (Annuity) Scheme: As on April 2007 ; 24 projects valued about Rs. 9205.61 crore with a length of about 1340 km have been taken on Annuity basis and out of this 8 projects have been completed.

Central Road Fund

The Central Government has created a dedicated fund, called Central Road Fund from collection of cess from petrol & diesel. Presently, Rs. 2/- per litre is collected as cess on petrol and High Speed Diesel (HSD) Oil. The fund is distributed for development and maintenance of National Highways, State Roads, Rural Roads and for provision of road overbridges/under bridges and other safety features at un-manned Railway Crossings as provided in Central Road Fund Act, 2000.

Presently, a cess of Rs. 2 per litre on petrol and high speed diesel is being levied. Out of this the amount of Rs. 1.5 is being allocated in the following manner:

- (I) 50% of the cess on high speed diesel (HSD) oil for development of rural roads.
- (II) 50% of cess on HSD and the entire cess collected on petrol are allocated thereafter as follows:
 - a) An amount equal to 57.5% of such sum for the development and maintenance of National Highways;
 - b) An amount equal to 12.5% for construction of road under or over bridges and safety works at unmanned railway crossing; and
 - c) An amount equal to 30% on development and maintenance of State Roads. Out of this amount, 10% shall be kept as reserved by the Central Govt. for allocation to States for implementation of State Road Schemes of Inter-State Connectivity and Economic Importance to be approved by the Central Government.
- (III) Balance cess of Rs. 0.5 per litre is entirely allocated for development and maintenance of National Highways.

An allocation of Rs.12,830 Crore has been made under the CRF for 2007-08 with the following break-up:

1	National Highways	Rs. 6541.06 Cr.
2	Rural Roads	Rs. 3825.0 Cr.
3	Railways	Rs. 724.69 Cr
4	Grant to State Governments and UTs for State roads	Rs. 1565.32 Cr.
5	Grant to States & UTs for Roads of Inter-State Connectivity and Economic Importance	Rs. 173.93 Cr.
TOTAL		Rs. 12830.00 Cr.

State Sector Roads

Since the State Highways and Major District and Rural Roads are under the responsibility of respective State Governments, these are developed & maintained by various agencies in State and Union Territories. However, the funds are also being pro-

vided from the Central Road Fund (CRF) by the Union Government for the development of State Roads under the following schemes:

Improvement of State Roads from the CRF.

The funds from the CRF are provided for improvement of State Roads other than rural roads. During the year 2006-07, 605 proposals amounting to Rs.1,541.93 crore have been sanctioned for improvement of State Roads under CRF. An amount of Rs. 1,565.32 crore has been allocated for the year 2007-08 for improvement of State Roads under CRF.

Economic Importance & Inter State Connectivity Scheme

To promote inter-state facilities and also to assist the State Governments in their economic development through construction of road bridges of Inter-state and Economic Importance, Central Government provides 100% grant for inter-state connectivity projects and 50% grant for projects of economic importance. This fund is also provided from the CRF.

During the year 2006-07, 14 proposals amounting to Rs.103.32 crore with central share of Rs. 51.66 crore under EI scheme and 41 proposals amounting to Rs. 239.87 crore under ISC scheme have been accorded in-principle approval by the Ministry. An amount of Rs. 173.93 crore (Rs. 164.93 crore for the States and Rs 9.00 crore for UTs) is earmarked under this scheme for the year 2007-08.

Rural Roads

Roads are also being developed in rural areas under the Pradhan Mantri Gram Sadak Yojana (PMGSY). The objective of PMGSY is to link all villages with a population of more than 500 persons with all-weather roads by the year 2007. This is being implemented by Ministry of Rural Development.

Bharat Nirman Yojana

To upgrade rural infrastructure, the Government has formulated a proposal for providing the road connections to more than 38,484 villages above 1000 population and all 20,867 habitations above 500 populations in hilly and tribal areas.

To achieve the targets of Bharat Nirman, 1,46,185 kms. of road length is proposed to be constructed by 2009. This will benefit 66,802 unconnected eligible habitations in the country. To ensure full farm to market connectivity, it is also proposed to upgrade 1,94,132 kms. of the existing Associated Through Routes. A sum of approximately Rs. 48,000 crore is proposed to be invested to achieve this.

Research and Development in Road Development

The main thrust of research and development (R&D) in the roads sector is to build a sustainable road infrastructure comparable to the best roads in the world. The various components of this strategy are improvement in design, modernization of construction techniques, introduction of improved material conforming to latest trends, evolving better and appropriate specifications, encouraging development and use of new technologies etc. The dissemination of these matters is done through the publication of new guidelines, code of practices, instructions/circulars, compilation of state-of-the-art reports and seminars/presentations etc. The research schemes sponsored by the Department are generally 'applied' in nature, which, once completed, would enable them to be adopted by user agencies/departments in their work in the field. The areas covered are roads, road transport, bridges, traffic and transportation

techniques etc. The Department takes the help of various research institutions, academic institutions and universities to implement the schemes. An outlay of Rs 600.00 lakhs has been provided for R&D in 2007-08. Some of the ongoing major schemes are as follows:

(A) Roads:

- (i) Development of GIS based National Highways information system;
- (ii) Guidelines for soil nailing techniques in highway engineering;
- (iii) Pilot study on effect of overloading on road infrastructure;
- (iv) Investigation on field performance of bituminous mixes with modified binders;
- (v) R&D Studies on performance evaluation of rigid pavements on high density traffic corridors using instrumentation supported by laboratory tests.

In addition to the above, the proposal of IIT, Roorkee for establishment of the Ministry's Chair in it in the area of development of Highway System has also been sanctioned.

(B) Bridges :

- (i) Creation of complete range of independent testing facility at Central Road Research Institute (CRRI), New Delhi.

BORDER ROADS ORGANISATION

The Border Roads Organisation (BRO) is a road construction executive force, integral to and in support of the Army. It started operations in May 1960 with just two projects, Project Tusker (renamed Project Vartak) in the east and Project Beacon in the west. It has now grown into a 13-project executive force, supported by a well-organised recruiting / training centre and two well-equipped base workshops for overhaul of plant / equipment and two Engineer Store Depots for inventory management.

The BRO has not only linked the border areas of the north and north-east with the rest of the country, but also developed the road infrastructure in Bihar, Maharashtra, Karnataka, Rajasthan, Andhra Pradesh, Andaman and Nicobar Islands, Uttarakhand and Chhattisgarh.

Functions of the BRO

The BRO was brought into being to construct and maintain roads in the border areas, classified as General Staff (GS) roads, in keeping with defence requirements. GS roads are developed and maintained with the funds provided by the Border Roads Development Board (BRDB), through the Department of Road Transport and Highways.

Besides GS roads, BRO also executes Agency Works, which are entrusted to it by other Central government ministries and departments. Works entrusted by public sector undertakings, state governments and other semi-government organizations are executed as Deposit Works. Over the years, the BRO has diversified into the construction of airfields, permanent steel and pre-stressed concrete bridges and accommodation projects.

Important Milestones

- The construction of nine km long Rohtang Tunnel, related access roads to its portals and a 292 km long alternate route to Leh, at an approximate cost of

Rs.1355.82 crore was entrusted to the Organisation. Length of approach road to South Portal of Rohtang Tunnel is 14.84 km and to the North Portal is 0.975 km. The construction works have so far progressed as per target. The target date of completion of Rohtang Tunnel is March 2014.

- The BRO has been entrusted with the four laning of a stretch of NH-1A from Jammu-Vijaypur as part of NHDP's North-South corridor, on behalf of the NHAI. The cost of this project is estimated at Rs.83.88 crore.
- A part of Phase A of the Special Accelerated Road Development Programme for North-East (SARDP-NE) has been entrusted to BRO. The work involves construction of new roads and improvement of existing roads to double lane under a phased programme. Widening of 492 km of roads with a rough cost of Rs.1400 crore under Phase A and preparation of DPR for the roads earmarked in Phase B have been entrusted to the BRO. The works have commenced in the year 2006-07.
- BRO has been assigned the task of rehabilitation of roads in the tsunami affected areas of Andaman and Nicobar Islands. A team of about 300 personnel and 50 vehicles/equipment/plants have been inducted into Andaman and Nicobar Islands. Rs.10 crore for mobilization advance and Rs.72.11 crore for North-South and East-West road has been deposited by the Andaman & Nicobar administration. The work is in progress.
- Under the Re-construction plan for Jammu & Kashmir announced by the Prime Minister, work of upgradation of 94 km long Srinagar-Uri (NH1A), 17.25 km long Uri-LoC road, double laning of 260 km long Batote-Kishtwar-Anantnag (NH-1B), double laning of 422 km long Srinagar-Leh road via Kargil (NH-1D) and widening of 14.14 km long Domel-Katra (NH-1C) has been entrusted to the BRO. The approximate cost of these projects is Rs.2308.81 crore and the projects are scheduled for completion by 2012.

SHIPPING

Shipping plays an important role in the transport sector of India's economy. Approximately, 90 per cent of the country's trade by volume (70 per cent in terms of value) is moved by sea. India has the largest merchant shipping fleet among the developing countries and ranks 20th amongst the countries with the largest cargo carrying fleet with 8.83 million GT as on 01.06.2008 and the average of the fleet being 18 years. Indian maritime sector facilitates not only transportation of national and international cargo but also provides a variety of other services such as cargo handling services, shipbuilding and ship repairing, freight forwarding, lighthouse facilities and training of marine personnel, etc.

The salient features of India's shipping policy are the promotion of national shipping to increase self-reliance in the carriage of the country's overseas trade and protection of stakeholders' interest in EXIM trade. India's national flag-ships provide an essential means of transport for crude oil and petroleum product imports. National shipping makes significant contribution to the foreign exchange earnings of the country.

INDIAN FLEET

Indian shipping tonnage, which was only 1.92 lakh GT on the eve of independence, now stands at 8.83 million GT and 14.85 million DWI consisting of 872 vessels (282

overseas vessels with 7.89 million Gt and 13.55 million DWT and 590 coastal vessels with 0.5 million GT and 0.99 million DWT). There has been an increase of 1.89 per cent million GT in the tonnage during the last four years due to various facilitative measures adopted by the Govt. especially introduction of tonnage for Shipping Industry from the year 2004-05.

The total quantity of cargo handled at various Indian ports during the year 2006-07 was to the tune 464 M.T. as against 424 MT in 2005-06. It is reported that the share of overseas cargo carried by Indian Flag vessels varied in respect of different categories of cargo. The diversion Cargo carried by Indian flag during the year 2006-07 was around 12.2% comprising mainly of coal, crude oil and petroleum products. The share of Indian Flag vessels in carrying grouped cargo was 3.6%, dry bulk 6.3% and petroleum products, 24.7% respectively during 2006-07.

Coastal Shipping : Coastal shipping is an energy-efficient, environment-friendly and economical mode of transport in the Indian transport network and a crucial component for the development of domestic industry and trade. India, with her 7,517 km long coastline studded with 13 major ports and 200 non-major ports provides congenial and favorable conditions for the development of this alternate mode of transport.

India's Coastal Shipping Tonnage as on 1st June 2008 was 590 vessels with 947734 GRT and 991378 DWT. Action plan for the development of coastal shipping is already on the anvil with the Central Government. With a view to promote coastal shipping and sailing vessel industry, the home trade vessels and sailing vessels have been exempted from the payment of lighthouse dues under the provisions of the Lighthouse Act, 1927. Meanwhile, a study has already been completed by the Tata Consultancy Services (TCS) to assess the potential of coastal shipping and the role of minor ports keeping in view the feasibility of routes and the supporting environment needed for its development. Efforts are being made to develop minor ports, which would, in turn, develop coastal shipping.

Aids to Navigation : Since Independence, India has made rapid growth in aids to Marine Navigation. From 17 Lighthouses prior to Independence, the present strength of aids to Navigation consists of 171 Lighthouses, one Lightship, one Loran-C Chain Stations, 59 Racons, 21 Deep Sea Lighted Buoys 01 wreck marking and 22 installations under Differential Global Positioning System (DGPS). To cater to the needs of light stations in the islands and for maintaining the buoys, the Directorate General of Lighthouses and Lightships is maintaining three launches, one mechanised boat and two large ocean going vessels, M.V. Sagardeep-II and M.V. Pradeep. A major scheme titled Coastal Vessel Traffic Service in the Gulf of Kachch was sanctioned in January 2002 at an estimated cost of Rs 165 crore is likely to be completed by 2008 and will provide efficient navigational service in the Gulf. In the 11th five year plan, 12 new light houses, one national Automatic identification system (AIS) network one proposed to be set up. To improve upon the efficiency local lights, CALL no approved for tracking over of 21 local lighthouses from the maritime states.

Maritime Training : The Director General of Shipping is responsible for creation of the trained manpower required for the merchant navy fleet of the country. This national obligation is being met through the Government training institutes and a number of other approved training institutes in the private sector. The importance of organised

training was recognised in the year 1927 when the Training Ship “Dufferin” was established. Since then many highly skilled Indian seafarers have been trained in India who have earned commendable reputation at home and abroad.

The four training institutes, which were established by the Government are :

1. **Training Ship 'Chanakya'**; which conducts (i) Three years B.Sc. degree course in Nautical Sciences under the University of Mumbai, (ii) Pre-Sea training course for Deck Cadets.
2. **Marine Engineering and Research Institute (MERI), Kolkata**; which conducts four-years degree course in Marine Engineering under Jadavpur University.
3. **Marine Engineering & Research Institute (MERI), Mumbai**; conducts (i) one-year Training Marine Engineering course for graduate Mechanical Engineers and (ii) Three-year B.Sc. degree course in Maritime Sciences (polyvalent degree) under the University of Mumbai.
4. **LBS College of Advance Maritime Studies & Research, Mumbai**, conducts almost 46 post-sea training courses for serving Marine Officers.

In addition to the above, there are about 124 training institutes in the private sector approved by the Director General of Shipping, imparting pre-sea and post-sea training in various disciplines.

In the wake of coming into force of the STCW 95 and the Regulations thereunder stipulated by the International Maritime Organisation in 1997, the maritime training in India has undergone a sea change. New courses are being introduced. In order to meet the competition prevailing elsewhere in the world, the training requires to satisfy the international standards stipulated under STCW 95. With this in view, the Government as a first step towards the formation of a Maritime University has formed the Indian Institute of Maritime Studies registered under the Societies' Registration Act, 1860 and has brought all the four Government Training Institutes under its control. The Government have introduced an Indians Maritime University bill, 2008 in Lok Sabha on 13.3.2007. The Bill envisages that the headquarter of the University shall be at Chennai with its campus at Mumbai, Kolkata, Chennai, Visakhapatnam and such other places within its jurisdiction as it may deem fit.

SHIPPING CORPORATION OF INDIA LIMITED

The Shipping Corporation of India Ltd (SCI) was formed on 2nd October 1961. The present authorised capital of the Company is Rs 450 crore and paid up capital is Rs 282.30 crore. The status of SCI has been changed from a private limited company to Public limited from 18 September 1992. The SCI was conferred 'Mini Ratna' status by the Government of India on 24 February 2000. At present, the Government is holding 80.12 per cent of the share capital and the balance is held by financial institutions, public and others (NRIs, Corporate Bodies, etc.). SCI has been signing Memorandum of Understanding with the Ministry of Shipping and has received "Excellent" rating consistently for 16 years, up to the year 2006-2007. The SCI signed the MOU for the financial year 2008-2009 with the Ministry of Shipping, Road Transport & Highways, Government of India on 27 March 2008.

As on 01.06.2008, the share of SCI in total Indian tonnage in terms of GT is around 31% and in DWT terms 32%. Presently, the SCI's fleet stands at 79 vessels aggregating about 2.7 Million GT (4.8 Million DWT) comprising of Cellular Container Vessels, Crude Oil Tankers (including a Combination Carrier), Product Tankers, Bulk

Carriers, LPG/ Ammonia Carriers, Phosphoric Acid Carriers, Passenger-Cum-Cargo Vessels and Offshore Supply Vessels. The SCI provides Liner and Passengers Services, Bulk Carrier and Tanker Services, Offshore Services and Specialised Services. Additionally, the SCI also mans and manages 53 vessels aggregating to 0.12 Million GT (0.06 Million DWT) on behalf of various Government Departments and other Organisations comprising Passenger-cum-cargo vessels, Bunkers barge, Research Vessels, Offshore Supply Vessels (OSVs), Seismic Survey Vessel, Well Stimulation vessel, Diving Support vessels, Geotechnical vessel and Multipurpose Support Vessels (MSVs). The highly diversified fleet of the SCI includes modern and fuel-efficient ships giving it a qualitative status as also a distinct competitive edge over other fleet owners.

The SCI has maintained a consistent track record of profitability and dividend. The turnover for the financial year 2006-07 was Rs. 4,210.00 crore and the net profit after tax was Rs. 1,015 crore and it has paid a dividend of 85%. The SCI's Turnover for the financial year 2007-2008 is Rs. 4,084 Crore and the Net Profit after Tax is Rs. 814 Crore and it has paid an interim Dividend of 45% for the year 2007-08. The SCI is a pioneer in India with regard to : a) STS operations for crude, POL and dry bulk cargoes, (b) Cryogenic operations (LNG/LPG), (c) Joint Ventures and other type of collaborations in shipping, and d) shipping consultancy services.

The training of personnel acquired a new dimension with the setting up of a Maritime Training Institute (MTI) at Powai, Mumbai. The MTI has extensive modern training facilities so as to ensure that the skill and expertise of the SCI personnel is at international levels. Since June 1988, all the SCI in-house courses are being conducted at the MTI. It is recognised as a branch of the World Maritime University Malmo (Sweden) for conducting International Maritime Organisation (IMO) seminars and short specialised courses in India for the countries of South East Asia and Pacific region. MTI is also recognised as an UNCTAD training centre for shipping management courses. MTI has been awarded the coveted Golden Peacock Award for excellence in Training.

On 8th March, 2007, SCI was awarded MOU Excellence Certificate for the year 2004-05 and 2005-06 by the Government of India, Ministry of Heavy Industry and Public Enterprises, Department of Public Enterprises. SCI was the winner of the best international solution award and the third annual HSBC global payments and cash management partnership award, which was posted in Bangaluru on 5th Nov. 2007. The SCI won the "Shipowner/operator of the year 2007" at the seatriade middle east and Indian sub-continental award 2007, held in Dubai in November, 2007 SCI also won the "Shipowner of the year 2007" at Lloyds list Middle East and Indian sub-continental award, held in Mumbai in November, 2007.

Liquefied Natural Gas (Joint Ventures) : LNG has been identified as the future fuel for India's power plants and as a feedstock for Chemical/Petrochemical industry. SCI has identified carriage of Liquefied Natural Gas (LNG) as one of its thrust and growth area and has its presence in the Petronet LNG project.

India LNG Transport Company No. 1 & 2 Ltd. : These two Joint Venture companies formed at Malta are promoted by the SCI and three Japanese companies viz M/s. Mitsui O.S.K. Lines Limited (MOL), M/s. Nippon Yusen Kabushiki Kaisha Limited (NYK Lines) and M/s. Kawasaki Kisen Kaisha Limited (K Lines) and M/s. Qatar Shipping Company (Q Ships), Qatar. The two JVCs own and operate the two LNG tankers viz SS Disha and SS Raahi respectively until 31.3.2008, both tankers operated

without any off-hires and have carried about 157 cargoes and 120 cargos of LNG each from the inception of the two JVCS, totalling to 18.16 million metric tonnes of LNG.

India LNG Transport Company No. 3 Ltd. : The JVC also formed at Malta is promoted by the SCI and the above mentioned three Japanese companies (Viz MOL, NYK lines, K Lines), M./s. Qatar Gas Transport Company Limited (QGTC) and M/s. Petronet LNG Limited (PLL) to construct, own and operate one LNG Tanker of about 155,000 cbm, chartered under a long-term Time Charter Agreement for 25 years. The tanker is currently under construction and will be delivered in September, 2009. It would be deployed for supplying additional 2.5 million tones of LNG to the Dehaj terminal of PLL, which is being expanded.

Irano Hind Shipping Company (IHSC) : SCI has another Joint Venture in Iran, viz Irano Hind Shipping Company, which continues to operate successfully for over 3 decades. The Joint Venture between SCI & Islamic Republic of Iran Shipping Lines (IRISIL) was established at Tehran, in March 1975. The Joint Venture Company continues to perform satisfactorily and during the Iranian year 1385 (from 21.03.2006 to 20.03.2007) earned a Net Profit after Tax of Iranian Rials 33,336 Billion (US\$ 3,683 Million). The aggregate professional Net Profit after Tax of the Joint Venture and its Subsidiaries for the year ended 20.03.2007, stood at US\$ 18.102 Million. The fleet owned by the Joint Venture together with its Subsidiaries, as at the end of the financial year, stood at 6 ships of about 0.494 Million DWT.

Sethusamudram Ship Channel Project : The Government of India through the Ministry of Shipping decided to set up a "Special Purpose Vehicle" (SPV) in the name and style "Sethusamudram Corporation Limited" (SCL) to raise finance and to undertake such other activities as may be necessary to facilitate creation and operation of a navigable channel from Gulf of Mannar to Bay of Bengal through Palk Bay (Sethusamudram Ship Channel). As per the Government directive, this Project is to be funded by way of equity contributions from various PSUs including SCI. Pursuant to the Government directive; SCI Board decided to participate in the project with a capital investment upto Rs. 50.00 crores. The SCI's total contribution towards equity in SCL as on 22.5.2008 is Rs. 50.00 crores.

The Right to Information Act, 2005 : With a coming into effect of the Right to Information Act on 12.10.2005, SCI has complied with the provisions of the Act and has placed the "Information Request Form" along with a 'List' showing names of Public Information Officers and Assistant Public Information Officers on its website.

COCHIN SHIPYARD LIMITED

Situated in the western coast of India in the city of Cochin, State of Kerala, Cochin Shipyard is the largest shipyard in the country. Incorporated in the year 1972, Cochin Shipyard can build ships upto 1,10,000 DWT and repair ships upto 1,25,000 DWT. The yard has built varied types of ships including tankers, bulk carriers, port crafts, offshore vessels and passenger vessels. The orders executed by CSL in recent past include bulk carriers for M/s Clipper Group, Bahamas, firefighting tugs for M/s ATCO, Saudi Arabia and Platform Supply vessels for M/s Deep Sea Supplies, Norway. The yard's order book position as on 01.07.2008 includes 16 Nos. Platform Supply Vessels for Shipping Companies of Norway, Cyprus, USA and Netherlands and four Nos. Anchor Handling tugs for Shipping Companies of Cyprus. Nominated for the construction of indigenous Aircraft Carrier for the Indian Navy, the yard has undertaken substantial upgradation of facilities with the addition of a 300 T Gantry

crane, additional bay, Marine Coating Shop, Movable Outfit Shop. etc. The yard is also a leading ship-repairer of the country and has repaired more than 1200 ships of all types. These include upgradation of vessels belonging to ONGC, periodical lay up repairs and life extension of ships of Navy and Coast Guard. The yard had been consistently achieving profits for the last several years.

GARDEN REACH SHIPBUILDERS & ENGINEERS LTD, KOLKATA

The Garden Reach Shipbuilders & Engineers Limited was incorporated as a joint stock company in 1934, under the name M/s Garden Reach Workshop Limited (GRW). The Government of India acquired the company in 1960. It was renamed as "Garden Reach Shipbuilders & Engineers Limited (GRSE)" on 01 January 1977. Since then, it has grown and diversified its activities and is now a multiunit shipyard with a Shipbuilding Division and an Engineering and Engine Division. The company builds and repairs warships and auxiliary vessels for the Navy and the Coast Guard. Its present product range includes Corvettes, frigates, fleet tankers, patrol-vessels, fast attack craft, high technology ship borne equipment, portable bailey type steel bridges, turbine pumps for the agricultural sector, Marine Sewage Treatment Plants, Diesel Engines etc. "Mini-Ratna Status Category-I" was conferred on GRSE on 5 September 2006.

GRSE'S significant achievements during FY 2006-07 have been:

- (i) One Landing Ship Tank (Large), INS Shardul and two Fast Attack Craft, INS Batti Malv & INS Baratang, have been delivered to the Indian Navy.
- (ii) GRSE bagged orders for 10 Nos. Waterjet FACs from Indian Navy and 2 Nos. each of 65 Pax & 100 Pax Boats from Andaman & Nicobar Islands Administration.
- (iii) The company has acquired Rajabagan Dockyard with effect from 01 July 2006 from Central Inland Water Transport Corporation Ltd. (A Company under Ministry of Surface Transport).
- (iv) Raksha Mantri's "Award for Excellence" was presented to GRSE for design efforts for FY 2005-06 in respect of Waterjet FACs.
- (v) Engineering Division obtained the 'Patent Rights' on 09 February 2007 for designing and developing the "Double Lane Modular Steel Bridge" effective from 16 January 2003.

In order to reduce the 'build period' of ships for faster delivery, GRSE has embarked on a Modernisation Plan to the tune of Rs 402 crore in phases. The Modernisation Plan is being jointly funded by GRSE and Navy/MOD against the ASW(C) project under progress in GRSE. GRSE's contribution being Rs 184 crore. The overall effect of the modernisation will lead to enhancement of shipbuilding capacity, offer greater flexibility to adopt modern/modular build strategies, provide a framework for significant productivity improvement, with more out-fitting at launching stage and effective connectivity-cum-integration of facilities. The modernisation is expected to be completed in 2010.

HINDUSTAN SHIPYARD LIMITED, VISAKHAPATNAM

Hindustan Shipyard Limited (HSL), Visakhapatnam was set up in 1941 in the private sector and was taken over by the Government in 1952. In 1962, the shipyard became a central public sector enterprise. The shipbuilding capacity of the yard is 3.5 pioneer class vessels of 21,500 DWT each. The maximum size of the vessel that could be built

is 50,000 DWT. The yard has slipways, covered building dock, wet basin and outfit jetty. HSL is the first shipbuilding yard in the country which was awarded ISO:9001 certification by Lloyds Register of Quality Assurance, London for international standard of quality assurance. For ship repairs, the yard has facilities such as modern dry dock, wet basin, repair shops, etc., and it can undertake repairs of submarine, tankers and ships up to 70,000 DWT. HSL has an exclusive offshore platform construction yard capable of constructing two platforms per annum. Other infrastructure facilities include engineering shops, cranes and load-out facilities.

The order book of HSL has increased from about 37,195 DWT to 3,13,255 DWT during the last 3 years. Following is the present order book of HSL:-

- 2 nos. 150 Passenger vessels for Andaman & Nicobar Administration.
- 1 no. Pollution. Control Vessel for Visakhapatnam Port Trust (VPT).
- 1 no. 30,000 DWT Bulk carriers for M/s. Goodearth Maritime Ltd.
- 6 nos. 53,000 DWT Bulk carrier for M/s. Goodearth Maritime Ltd.
- 5 no. Inshore Petrol Vessels (IPV) for Indian Coast Guard.
- 1 no. 32 Ton Bollard pull tug for New Managalore Port Trust (NMPT)
- Modernization & Refit of 877 EKM Submarine "INS Sindhukirit" for Indian Navy.

The value of the above orders (on hand) is Rs. 1599.76 crs. (Approx.)

HSL has plan to further consolidate the production and achieve 4 to 5 ships (of 21,500 DWT each) per annum and productivity at 35-40 Mhrs./DWT and sustain and further grow in the shipbuilding activity. The yard has plans to continue the retrofitting/repair of submarines to Indian Navy and achieve a repair turnover of Rs. 120 to Rs. 150 crores/annum. By improving further the technology and infrastructure, the HSL will make its presence in global market and become a world-class shipyard.

HOOGLY DOCK AND PORT ENGINEERS LIMITED, KOLKATA

Hooghly Dock and Port Engineers Limited (HDPEL), Kolkata became a Central Public Sector Undertaking in 1984. The Company has two working units in Howrah District of West Bengal, one at Salkia and another at Nazirgunge. The installed capacity in shipbuilding is 1,100 tonnes per annum and in ship repairs 125 ships per annum. Apart from a dry dock and a jetty, it has six shipways. The yard is capable of constructing various types of ships (including passenger ships) and other vessels such as dredgers, tugs, floating dry docks, fishing trawlers, supply-cum-support vessels, multi-purpose harbour vessels, lighthouse tender vessels, barges, mooring launches, etc., and undertaking repairs of different types of vessels.

HDPEL at present has orders worth Rs. 201.00 crores for shipbuilding and Rs. 2.60 crore for Ship-repairing. The Shipbuilding orders include 6 no. of Workboats for IWAI besides 1 no. of Hydraulic Surface Dredger, 2 nos. of Self loading Cargo Vessels, 1 no. of floating Dry Dock. HDPEL has secured order for construction of 4 nos. 1000 T Fuel Barges with an option for construction of 2 more Barges from Indian Navy.

PORTS

The coastline of India is dotted with 12 Major Ports and about 200 Non-major Ports. The Major Ports are under the purview of the central while the Non-major Ports come under the jurisdiction of the respective State Governments.

The 12 Major Ports (including the Port of Ennore which is a corporate port set up under the Indian Companies Act, 1956) are evenly spread out on the Eastern and Western coast. The ports of Kolkata, Paradip, Visakhapatnam, Chennai, Ennore and Tuticorin are on the Eastern coast of India while the ports of Cochin, New Mangalore, Mormugao, Mumbai, Jawaharlal Nehru at Jhavasheva and Kandla are on the Western Coast.

The capacity of major ports has increased from 20 Million Tonnes per annum (MTPA) 1951 to 504.75 MTPA as on 31st March, 2007. At the beginning of the 10th Plan, the capacity of the major ports was 343.95 MTPA which has increased to 504.75 MTPA at the end of the 10th Plan (i.e. as on 31st March, 2007) thereby achieving the capacity addition 160.80 MTPA. In all the years of 10th five year plan the capacity at the major ports exceeded the traffic handled. The non-major ports handled a traffic of 185.54 MT in 2006-07 and had a capacity of 228 MTPA at the end of 2006-07.

The total traffic handled at the Major Ports has increased from 313.55 MT at the beginning of the 10th Five Year Plan to 519.67 MT in 2007-08 out of which the container traffic was 73.48 MT. The container traffic in the major ports has increased from 61.98 MT in 2005-06 to 78.87 MT in 2007-08.

In order to improve efficiency productivity and quality of services as well as to bring in competitiveness in port services, the port sector has been thrown open to private sector participation. The Major Port Trust Act, 1963 permits private sector participation in major ports invites Foreign Direct Investment (FDI) upto 100% under the automatic route is permitted for construction and maintenance of ports and harbours. Private sector participation has been allowed in a variety of ports services which includes construction and operation of terminals/berths, warehousing/storage facility, dry docking and ship repair facilities.

Till date 17 private sector projects involving an investment of Rs. 4927 crores has been operationalised which involves capacity addition of 99.30 MTPA. 8 projects are under various stages of evaluation and implementation which involves an investment of Rs. 5181 crores and capacity addition of 75.40 MTPA.

INLAND WATER TRANSPORT

India has about 14,500 km of navigable waterways which comprise rivers, canals, backwaters, creeks, etc. About 50 million tonnes of cargo corresponding to 2.82 billion tonne km was transported in 2005-06 by Inland Water Transport (IWT). Its operations are currently restricted to a few stretches in the Ganga-Bhagirathi-Hooghly Rivers, the Brahmaputra, the Barak River, the rivers in Goa, the backwaters in Kerala, inland waters in Mumbai and the deltaic regions of the Godavari-Krishna rivers. Besides the organised operations by mechanised vessels, country boats of various capacities also operate in various rivers and canals. Data of cargo and passenger movement in unorganised sector (i.e. by country boats, etc.) has not been compiled (for which efforts are on) but it is a fact that substantial quantum of cargo and passengers are transported in the unorganised sector as well. Considering the inherent advantages of this mode in terms of fuel efficiency, environment friendliness and cost effectiveness, the Govt. of India is trying to develop this mode to make it an effect supplementary mode of transportation vis-a-vis rail and road modes.

Inland Waterways Authority of India : The Inland Waterways Authority of India (IWAI) came into existence on 27 October 1986 for development and regulation of inland waterways for shipping and navigation. The Authority primarily undertakes

projects for development and maintenance of IWT infrastructure on national waterways through grant received from Ministry of Shipping, Road Transport and Highways. The head office of the Authority is located at Noida. The Authority also has its regional offices at Patna, Kolkata, Guwahati and Kochi and sub-offices at Allahabad, Varanasi, Bhagalpur, Farakka and Kollam.

National Waterways : The Ganga between Allahabad – Haldia (1620 km) the Sadiya-Dhubri stretch of river Brahmaputra (891 km) and the Kollam-Kottapuram stretch of West Coast Canal along with Champakara and Udyogmandal Canals (205 km) in Kerala have so far been declared as National Waterways and are being developed for navigation by IWAI. Bills for declaration of 3 more waterways viz. Talcher-Darmra stretch of canals; Kakainada-Puducherry stretch of canals etc. and the Barak River as National Waterways have already been introduced in the Parliament.

Centrally Sponsored Scheme : For overall development of IWT sector in the country it is necessary that national waterways as well as other waterways are developed side by side. A large number of smaller rivers from tributaries of National Waterways rivers if developed with IWT infrastructure, many of these smaller rivers can become suitable for navigation by smaller/medium size inland vessels and can act as feeder routes to the main waterways. While the development and regulation of National Waterways is the responsibility of Central Govt./IWAI, the respective State Governments should develop other waterways. However, due to fund constraint, it has not been possible for the States to provide adequate funds for IWT development. Therefore, to encourage the States for IWT development, there was a Centrally Sponsored Scheme (CSS) for IWT sector. Under the CSS, 100 per cent grant is provided for the projects of North-Eastern States including Sikkim and 90 per cent grant to other States. The Planning Commission has discontinued the scheme for areas other than North East Region from the year 2007-08. The scheme has been continued for the North-Eastern regional and classified as a Central Sector Scheme.

Inland Vessel Building Subsidy Scheme : In order to reduce the capital burden on the IWT operators, and to enhance their profitability, an inland vessel building subsidy scheme has been introduced under which 30 per cent cost of an inland vessel is subsidized by the Central Government. This is applicable to both cargo and passenger inland vessels meant for operation in National Waterways, Sunderbans waterways and Indo-Bangladesh Protocol routes. The scheme has ended 31st 2007. However, efforts are being made to extend this scheme for another two years beyond 31st March 2007.

Protocol on Inland Water Transit and Trade : An Inland Water Transit and Trade protocol exists between India and Bangladesh under which inland vessels of one country can transit through the specified routes of the other country. The existing protocol routes are : (i) Kolkata-Pandu-Kolkata, (ii) Kolkata-Karimganj-Kolkata, (iii) Rajshahi-Dhulian-Rajshahi and (iv) Pandu-Karimganj-Pandu.

For inter-country trade, four ports of call have been designated in each country namely, Haldia, Kolkata, Pandu and Karimganj in India and Narayanganj, Khulna, Mongla and Sirajganj in Bangladesh.

With a view to providing an impetus for development for inland water transport mode, the Government of India had approved an Inland Water Transport Policy which includes fiscal concessions, and policy guidelines for rapid development of the mode and to encourage private sector participation in development of infrastructure and ownership and operation of inland vessels.

For exploring possibility of joint ventures and BOT projects in IWT sector, interactions were held with many interested firms and thereafter, some priority projects having potential of Joint Venture projects were short-listed. For some of these projects, bids were invited by IWAI. This initiative of IWAI has succeeded in attracting some private player to IWT sector and four Memorandum of Understanding (MOU)'s have been signed between IWAI and respective successful bidders for setting up and management of jetties at Bandel, Kolaghat and Budge-Budge in West Bengal and for acquisition, operation and management of barges on O-D pairs of Kolkata-Mongla, Kolkata-Dhubri and Kolkata-Pandu. 3 Joint Venture Companies have already been incorporated and the 4th is being incorporated to execute the aforesaid projects.

National Inland Navigation Institute : An institute of national importance, viz. National Inland Navigation Institute (NINI), Patna, became functional from February 2004. This is the first institute of its kind in the country. About 300 trainees have successfully completed the vessel crew training course from this Institute so far.

Central Inland Water Transport Corporation (CIWTC) : The Central Inland Water Transport Corporation (CIWTC) with its headquarters at Kolkata was set up as a public undertaking in May 1967. The CIWTC is mainly engaged in transportation of goods by inland waterways in the Ganga-Bhagirathi-Hooghly, Sunderbans and Brahmaputra rivers. They are operating regular cargo services between Kolkata and Pandu (near Guwahati), between Kolkata and Karimganj (Assam), Kolkata-Bangladesh and between Haldia and Patna. The Government has decided to *disinvest* the corporation and the process for *disinvest* has been initiated.

CIVIL AVIATION

The Ministry of Civil Aviation is responsible for the formulation of national policies and programmes for development and regulation of civil aviation and for devising and implementing schemes for orderly growth and expansion of civil air transport. Its functions also extend to overseeing the provision of airport facilities, air traffic services, carriage of passengers and goods by air, safeguarding civil aviation operations, regulation of air transport services, licensing of aerodromes, air carriers, pilots and aircraft maintenance engineers. The Ministry also administratively controls the institution of Commission of Railway Safety, which is responsible for the safety in rail travel and operations in terms of the provisions of the Railways Act.

India has been a member of the International Civil Aviation Organisation (ICAO) and is also on the Council of ICAO since its inception. The civil aviation sector has three main functional divisions—regulatory, infrastructural and operational. The civil aviation sector in India has seen a phenomenal growth in the recent years. As on date there are a large number of companies providing passenger transport and cargo handling services in the country. The Air Transport Companies are both in the public sector and in the private sector. In the public sector, there are National Aviation company of India Limited (NACIL), Air India Charters Limited and Alliance Air.

Apart from Air India, Indian Airlines, Alliance Air and Air India Charters Ltd., there are at present 08 private scheduled operators, viz. Jet Airways (India) Ltd., Sahara Airlines Ltd., Deccan Aviation (P) Ltd., Go Airways, Kingfisher Airlines, Paramount Airways Pvt. Ltd., Go Airlines (India) Pvt Ltd., and Inter Globe Aviation

Ltd. (Indigo) operating on the domestic sector providing a wide choice of flights and connectivity to various parts of India. One cargo airline viz. Blue Dart Aviation Pvt. Ltd. is also operating scheduled cargo services in the country. During the year 2007, a total number of 5,00,75 flights (Domestic only) were operated by the domestic scheduled operators carrying a total of 32.172 million passengers. In addition to the above- mentioned scheduled airlines, there are at present 86 companies holding non-scheduled air transport operators permit. While NACIL provides international services, as well as it also provides services to neighboring countries in South-East Asia and the Middle East. The Air India Charters also operates to the Middle-East countries. The private Scheduled airlines. Jet Airways has also been operating on various International Sectors. Pawan Hans Helicopters Ltd., a public sector company and a Non-Scheduled Operators permit holder is engaged in providing helicopter services to ONGC for its off-shore operations. Pawan Hans Helicopters Ltd. are also used by the various States Governments especially in North-East Region to provide connectivity to inaccessible areas and difficult terrains.

CARGO

Airports Authority of India (AAI) has established integrated cargo terminals at metro airports, viz. Delhi, Mumbai, Kolkata and Chennai, wherein all the regulatory and facilitating agencies have been housed under one roof in order to facilitate faster processing/movement/clearance of international cargo. The managements of Delhi and Mumbai Airports have been taken over by the two separate JVCs namely Delhi International Airport Limited and Mumbai International Airport Limited respectively, with effect from 3rd May 2006.

In order to reduce the burden on the existing infrastructure available at the metro airports, it would be necessary to develop the alternate infrastructure in and around the airports for processing/handling of international cargo. Therefore, this Ministry is considering the concept of setting up "Cargo Villages" at the International Airports.

AIR SERVICES

India has bilateral Air Services Agreements with 103 countries. Recently, new Air Services, Agreements have been signed with Mexico and Chile. During the period, 1st July, 2007 to 30th June, 2008 bilateral talks were held with 21 countries. Additional capacity entitlements and new points of call were agreed with Uzbekistan, Malaysia, IBSA, Maldives, Hong Kong, Saudi Arabia, Oman, Bangladesh, Pakistan, Ethiopia, China, Thailand, Belgium and Germany. With a view to optimally utilizing our bilateral entitlements. Indian scheduled carriers with at least five years continuous operations in the domestic sector and fleet size of 20 aircraft have also been permitted to operate to many overseas destinations.

LIBERALIZATION OF AIR SERVICES

In accordance with the policy of liberalization in the civil aviation sector and with a view to attract more foreign passengers, the Government continued its overall liberal approach during 2007-08 also in the matter of grant of traffic rights under bilateral agreements with various foreign countries. The India-US and India-UK aviation markets, have registered significant growth after new revised air services arrangements were agreed to with these countries. Similarly traffic rights have been enhanced with various other countries during 2007-08 in order to enable greater

connectivity to/from India. These countries included Singapore, Cambodia, Jordan, UAE (Abu Dhabi, Dubai & Sharjah), Oman, Bahrain, Kuwait, Russia, Uzbekistan, Malaysia, Saudi Arabia, Hong Kong, Thailand, Pakistan, Germany, Bangladesh, China and Belgium. This would not only lead to more flights and better connectivity from these countries from these countries to India but also provide more commercial opportunities to all operating carriers.

TOURIST CHARTER FLIGHTS

The tourist charter guidelines have been further liberalized vide Aeronautical Information Circular No.5/2006. A total of 748 charter flights were operated to India from January to December 2007 bringing in 1,68,714 foreign tourists.

DIRECTORATE GENERAL OF CIVIL AVIATION

The Directorate General of Civil Aviation (DGCA) is the principal regulatory body in the field of civil aviation in India. It is responsible for (i) Regulation of air transport services to/from and within India in accordance with the provisions of the Aircraft Rules, 1937, including bilateral and multilateral agreements with foreign countries and the policy pronouncements of the Government; (ii) licensing of pilots, aircraft maintenance engineers and monitoring of flight crew standards; (iii) registration of civil aircraft; (iv) laying down airworthiness requirements for civil aircraft registered in India and grant of Certificate of Airworthiness to such aircraft; (v) co-ordination of the work relating to International Civil Aviation Organisation; (vi) investigation of minor air accidents and incidents and rendering technical assistance to the Courts/ Committees of Inquiry appointed by the Government; (vii) supervision of training activities of Flying/Gliding Clubs; (viii) licensing of aerodromes and air carriers; (ix) rendering advice to the Government on matters pertaining to air transport including bilateral air services agreements with foreign countries; (x) development of light aircraft, gliders and winches; (xi) processing amendments to the Aircraft Act, 1934 and the Aircraft Rules 1937, and other Acts relating to aviation, with a view to implementing in India the provisions of the Chicago Convention and Annexes thereto and other international conventions relating to aviation; and (xii) type certification of aircraft.

The Aircraft Engineering Division of DGCA is responsible for :

- i) Type Certification of civil aircraft, engines and propellers (Current project : 14 seat transport category airplane "SARAS").
- ii) Continued Airworthiness of already type certificated aircraft (Current project: 12 seat transport category helicopter "DHRUV").
- iii) Type approval of Equipment, instruments and accessories of aircraft.
- iv) Approval of Design Organisations engaged in design/development of civil aircraft and aircraft parts.
- v) Development and updating of applicable Civil Aviation Requirements (CAR).
- vi) Approval of modifications and repair schemes of civil aircraft.
- vii) Airworthiness & Operational monitoring of Cockpit Voice Recorders (CVR) and Digital Flight Data Recorders (DFDR).
- viii) Development testing of indigenous aircraft materials, parts, equipment, etc.
- ix) Laboratory investigation of in-service failed parts/ components of aircraft.
- x) Quality control monitoring of aviation fuel, testing of fuel/oil samples including those from aircraft used by VVIP.

- xi) Human resource development on airworthiness engineering and regulatory aspects through training courses/seminars.

BUREAU OF CIVIL AVIATION SECURITY

The Bureau of Civil Aviation Security was initially set up as a Cell in the Directorate General of Civil Aviation (DGCA) in January 1978 on the recommendation of the Pande Committee constituted in the wake of the hijacking of an Indian Airlines flight on 10th September, 1976. The role of the Cell was to coordinate, monitor, inspect and train personnel in Civil Aviation Security matters.

The BCAS was reorganized into an independent department on 1st April, 1987 under the Ministry of Civil Aviation following the Kanishka Tragedy in June 1985. The main responsibility of BCAS is to lay down standards and measures in respect of security of civil flights at International and domestic airports in India and Indian aircraft operator at foreign airports.

The Bureau of Civil Aviation Security (BCAS) is the regulator for civil aviation security in the country. The Commission of Security (CA), BCAS is the "Appropriate Authority" to ensure development, maintenance, updating and implementation of National Aviation Security Programme for India and fulfill all international obligations in this context. The BCAS has its headquarters in New Delhi and 4 Regional Offices located at Delhi, Mumbai, Kolkata and Chennai airports, each under a Deputy Commissioner of Security (CA), regulating, monitoring and conducting regular security Inspections and audits of the airports in Northern, Eastern, Western and Southern region, respectively.

The BCAS is responsible for laying down the standards for pre-embarkation security and anti-sabotage measures in respect of civil flights and ensuring their compliance through regular Inspections and Security Audits. The aim of BCAS is to safeguard Civil Aviation operations against acts of unlawful interference.

The Bureau is the regulatory authority for discharging all relevant national and international obligations in respect of training of personnel in aviation security responsibilities which include, inter-alia, planning and co-ordination of all aviation security related activities, operational emergencies and crisis management.

The Bureau of Civil Aviation Security has four Bomb Detection and Disposal Squads (BDDS) positioned at International Airports of Delhi, Mumbai, Kolkata and Chennai with latest sophisticated equipment like Robot, Real Time Viewing System (RTVS), Electronic Stethoscope, Explosive Detector, etc. The BDDS units at the four metros are complemented by a dog squad dedicated to the concerned airports. A dog squad has been deployed by BCAS at Srinagar airport also. These squads are used to safely handle sophisticated Improvised Explosive Devices (IEDs) and other explosives and assist local police in explosive investigations from time to time.

AIRPORTS AUTHORITY OF INDIA

Airports Authority of India (AAI) was constituted on 1st April, 1995 by merging erstwhile National Airports Authority (NAA) and International Airports Authority of India (IAAI). The integration of NAA and IAAI was aimed to derive the synergy of merger and build a new organization to take up upcoming challenges in competitive environment. Civil aviation, world over, has gone a sea change and the Airports Authority of India (AAI) is ready to meet these challenges both at national and international levels. The Eleventh Five Year plan has been prepared and growth

targets set for various economic parameters contributing to growth, of civil aviation are encouraging.

AAI maintains and operates 127 airports including civil enclave at Defence airfields for commercial Airlines operations. The International Airports at Delhi and Mumbai have been leased to Joint Venture Companies on 3.5.2006 for modernization etc. as part of the Restructuring being undertaken by the Government for these two International Airports. Greenfield airport developed at Shamshabad near Hyderabad has become operational with effect from 23.3.2008. Similarly, the Greenfield airport developed at Devanahalli near Bangaluru has become operational with effect from 24.5. 2008. AAI provides CNS/ATM services at all the airports in the country which include Indian airspace measuring over 2.8 million square nautical miles.

During the year 2007-08, AAI handled 13.08 lakh aircraft movements (10.59 lakhs domestic and 2.49 lakh international); 116.87 million passengers (87.06 million domestic and 29.81 million international) and 17.14 lakh metric tonnes of air cargo (5.67 lakh metric tonnes domestic and 11.47 lakh metric tonnes international).

TRAINING

AAI imparts training at its own Civil Aviation Training College, Allahabad on various operational areas like Air Traffic Control, Radars, Communication, etc. It maintains the National Institute of Aviation Management and Research (NIAMAR) at Delhi for imparting various aviation management training programmes and refresher courses. In addition there is a Fire Service Training School at Narayanpur near Kolkata and the Fire Training Centre at New Delhi for imparting training and conducting refresher courses on fire fighting rescue services.

GAGAN PROJECT

GPS Aided Geo Augmented Navigation "Gagan" is an augmentation system to enhance the accuracy and integrity of GPS signals to meet precision approach requirements in Civil Aviation and is being implemented jointly by AAI and ISRO in three phases. Technology Demonstration System will be upgraded to a full operational capability system in the second and third phase. Order for ground-based requirements have been placed on M/s. Raytheon. GSAT IV being fabricated by ISRO will carry Gagan payload. The footprint of this satellite will cover a vast geographical area from Africa to Australia and hence would facilitate expansion of the service area of "Gagan" far beyond Indian airspace. When implemented this would replace most of the ground-based navigational aids and it would be possible to provide precision approach and landing guidance up to category I to aircraft hitherto not available due to terrain conditions precluding the provision of Instrument Landing System. The Technology Demonstration System Phase of the Project has been successfully completed and action has been initiated for Final Operation Phase.

DEVELOPMENT OF NON-METRO AIRPORTS BY AAI

Since last few years, aviation industry in India is growing by leaps and bounds. In order to meet the growing demand for infrastructure at the airports, Airports Authority of India has decided to modernize and develop 35 non-metro airports by providing world class infrastructure facilities at these airports. The 35 Non-Metro airports identified are Ahmedabad, Amritsar, Guwahati, Jaipur, Udaipur, Trivandrum,

Lucknow, Goa, Madurai, Mangalore, Agatti, Aurangabad, Khajuraho, Rajkot, Vadodara, Bhopal, Indore, Nagpur, Visakhapatnam, Trichy, Bhubaneswar, Coimbatore, Patna, Port Blair, Varanasi, Agartala, Dehradun, Imphal, Ranchi, Rajpur, Agra, Chandigarh, Dimapur, Jammu and Pune.

Global Technical Adviser (GTA) and Indian Financial Consultant (IFC) have been appointed to work out Techno Economic Feasibility Report (TEFR) or master planning phase wise development works on modification/expansion and/or new construction of terminal building, land use plans and models etc. specific to each airport. All these modernization and development works are likely to be completed by 2010.

As regards City Side Development at selected Non Metro Airports, this is being done with private sector participation. The process is under finalization for Amritsar and Udaipur airport and thereafter will be extended to other airports.

RESTRUCTURING OF DELHI AND MUMBAI AIRPORTS

Indira Gandhi International Airport, Delhi

Delhi International Airport Private Limited (DIAL) have entered with AAI an Operation, Management Development Agreement (OMDA). In accordance with OMDA, DIAL has agreed to undertake the functions of operating, maintaining, developing, designing, constructing, upgrading, modernizing, financing and managing the Indira Gandhi International Airport (Airport), Delhi as per the terms and conditions referred therein.

Apart from OMDA, DIAL also entered a Land Lease Agreement and CNS-ATM Agreement with AAI and a State Support Agreement and a State Government Support Agreement with Government of India and Government of Delhi respectively.

The term of concession granted to DIAL, as per OMDA, is for 30 years with a right of extension for another 30 years. Communication, Navigation & Surveillance and Air Traffic Management will be provided by AAI.

DIAL shall, in consideration for the grant of Concession by AAI, pay to AAI an annual fee for each year during the term of OMDA @ 45.00% of revenue of DIAL.

Chhatrapati Shivaji International Airport, Mumbai

Mumbai International Airport Private Limited (MIAL) have entered with AAI an Operation, Management Development Agreement (OMDA). In accordance with OMDA, MIAL has agreed to undertake the functions of operating, maintaining, developing, designing, constructing, upgrading, modernizing, financing and managing the CSI International Airport (Airport) in accordance with the terms and conditions referred therein.

Apart from OMDA, MIAL also entered a Land Lease Agreement and CNS-ATM Agreement with AAI and a State Support Agreement and a State Government Support Agreement with Government of India and Government of Maharashtra respectively.

The term of concession granted to MIAL, as per OMDA, is for 30 years with a right of extension to another 30 years. Communication, Navigation & Surveillance and Air Traffic Management will be provided by AAI.

MIAL shall, in consideration for the grant of Concession by AAI, pay to AAI an annual fee for each year during the term of OMDA @ 38.7% of revenue of MIAL.

GREENFIELD AIRPORTS

Bangaluru International Airport: Bangaluru Airport Limited (BIAL), was established with the participation of Karnataka State Industrial Investment and Development Corporation Limited, the Airports Authority of India, Siemens Project Ventures GmbH, Flughafen Zurich AG and Larsen & Toubro Limited, as sharholders. for the development, design, financing, construction, completion, maintenance, operation and managemnet of a Greenfield airport at Dewanahalli (Airport), near Bangaluru in the State of Karnataka as a Public Private Participation venture.

BIAL have entered into a Concession Agreement with Government of India and State Support and Land Lease Agreements with Government of Karnataka apart from CNS agreement with AAI.

The term of concession granted to BIAL, as per Concession Agreement, is for 30 years with an option for extension of another 30 years.

BIAL shall, in consideration for the grant of Concession by Government of India, pay to Government of India a fee amounting to four per cent (4%) of gross revenue annually.

The Airport has been opened for commercial opeation on 24th May 2008.

Hyderabad International Airport (Rajiv Gandhi International Airport) : GMR Hyderabad International Airport Limited (GHIAL) was established with the participation of Government of Andhra Pradesh, Airports Authority of India, GMR Group and Malaysia Airports Holdings Berhad (MAHB), as shareholders, for the development, design, financing, construction, completion, maintenance, operation and management of a Greenfield airport at Shamshabad (Airport), near Hyderabad in the State of Andhra Pradesh as a Public Private Participation venture.

GHIAL have entered into a Concession Agreement with Government of India and State Support and Land Lease Agreements with Government of Andhra Pradesh apart from CNS agreement with AAI.

The term of concession granted to GHIAL, as per Concession Agreement, is for 30 years with an option for extension of another 30 years.

GHIAL shall, in consideration for the grant of Concession by Government of India, pay to Government of India a fee amounting to four per cent (4%) of gross revenue annually.

The Airport has been opened for commercial operation on 23rd March 2008.

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 8th June 1984 with Constellation aircraft. In 1952, the Planning Commission recommended the nationalization of Air Transport Industry, which was effected on 1st August, 1953, with the creation of two nationalized Corporations—Air India International Limited which retained its identity and international flag carrier status, and Indian Airlines, to operate domestic services. On 1st May 1992, 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 1st March 1994 in pursuance of the air Corporations (Transfer of Undertakings and Repeal) Act, 1994.

Fleet : The fleet of the Company, as on date, consist of the following:

Owned Aircraft	Dry Leased aircraft	Wet Leased aircraft
16	15	5

Air India Ltd. has signed an agreement with Boeing Company for the purchase of 68 aircraft comprising 8XB777-200LR, 15XB777-300ER and 27XB787-8 all powered with GE engines for Air India and 18XB737-800W all powered with CFM engines for Air India Charters Limited (a subsidiary of Air India). The net project cost of 68 aircraft to be acquired by Air India is estimated to be Rs. 34,615 crores.

The delivery schedule of 50 Aircraft of Air India and 18 aircraft of Air India Charters is as under:

Air India	B777-200LR	8	June 2007 through June 2009
	B777-30ER	15	June 2007 through August 2011
	B787-8	27	Sept. 2008 through Oct. 2011
AICL	B737-800	18	Dec. 2006 through Oct. 2009

Air India charters has already taken the delivery of seven aircraft on 30.11.2006, 28.12.2006, 9.01.2007, 16.01.2007, 22.01.2007, 14.02.2007 and 21.05.2007 respectively.

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 on July 8, 1971 under the Companies Act, 1956 when Air India decided to enter the Hotel Industry in keeping with the then prevalent trend among world airlines. The objective was to offer to the passengers a better product, both at the International Airports and at 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, Mumbai airport were sold off. The remaining units of HCI are Centaur Hotel, Delhi Airport, Centaur Hotel, Lakeview, Srinagar and Flight Kitchens at Delhi and Mumbai.

(ii) AICL-AIR INDIA EXPRESS : Presently, Air India Express has a fleet of seven leased and six owned B737-800 aircraft. Commencing with 26 Kerala/Gulf flights, Air India Express operations have grown and new routes have been added to the network. Currently, 57 international flights are operated on different routes. In addition, Air India Express operated five weekly flights on the Chennai/Kuala Lumpur Sector on behalf of Air India. Effective 11 January 2007, Air India flights between India and Bahrain/Doha are being operated by Air India Express. Effective Summer '07, with the fleet expansion, it is anticipated that Air India Express will operate approximately 130 flights per week. New cities such as Tiruchirapally, Jaipur, Lucknow, Hyderabad and Kolkata are likely to be added to the network. In addition, frequencies on some of the existing routes may be increased in response to market requirements.

INDIAN AIRLINES

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. 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 is the major domestic air carrier of the country. The Indian Airlines operates to 54 domestic stations along with its wholly owned subsidiary Airlines Allied Services Ltd. (Alliance Air). Besides Indian Airlines also operates to 18 international stations.

The Indian Airlines presently has a fleet of 73 aircraft comprising – 03 Airbus A-300s, 48 Airbus A-320s, one A321, 06 Airbus A-319s, 11 Boeing 737s, 02 Dornier DO-228 and 04 ATR-42-320 leased. All B-737 and ATR aircraft are operated by Alliance Air.

The Government approved 29 September 2005 the proposal of Indian Airlines Limited for acquisition of 43 aircraft comprising 19 A319, 4 A320 and 20 A321 all powered with CFM-56-B engines from Airbus. The first of these aircraft, an A319 was delivered in October 2006 and one A321 was delivered in July 2007. The remaining 41 aircraft are expected to be delivered from August 2007 to April 2010.

ALLIANCE AIR

Alliance Air was set up on 15.4.1996 as a separate company envisioned to function as profit centre of Indian Airlines Limited to effectively utilise the Boeing 737 aircraft fleet and to improve productivity and profitability of Indian Airlines Ltd. and wherever considered essential to be supplemented by Alliance Air.

Alliance Air has taken on lease 4 ATR-42 aircraft and commenced scheduled operations in the North-East Region with effect from 2.1.2003. These aircraft have been deployed exclusively in the North-East Region in terms of MOU with the North-Eastern Council. In return, a budgetary support of Rs.175 crores is being provided over a period of five years (annual budget of Rs.35 crores) by the NEC during the 10th Five Year Plan. Throughout the period of this MOU, North-Eastern Council is required to facilitate Alliance Air in obtaining concessions on ATF, Landing RNFC rates, etc., wherever available. The MOU is effective from the financial year 2002-03 for a period of five years, which has now been extended for another one year i.e. December 2008. Besides the ATR aircraft, Alliance Air operates B 737-200 aircraft on various regional/trunk routes.

NATIONAL AVIATION COMPANY OF INDIA LIMITED (NACIL)

Air India and Indian merger attained official status as National Aviation Company of India Ltd. on August 27, 2007. The merger has given the national carrier a fleet size of about 150 aircraft. Looking at the airline's domination in the region, Star Alliance, a global airlines alliance, offering customers worldwide reach and smooth travel experience, has invited Air India to become its member.

The logo of the new airline is a red coloured flying swan with the 'Konark Chakra' in orange, placed inside it. The flying swan had been morphed from Air India's characteristic logo, 'The Centaur', whereas the 'Konark Chakra' was reminiscent of India's logo. The new logo features prominently on the tail of the aircraft. While the aircraft is in ivory colour, the base retains the red streak of Air India. Run-

ning parallel to each other is the orange and red speed lines from front door to the rear door, subtly signifying the individual identities merged into one. The brand name 'Air India' runs across the tail of the aircraft.

Air India introduced Mumbai-New York Non Stop service with Boeing 777-200LR on August 1, 2007

Air India showcased its Boeing 777-300ER Christened 'Jammu & Kashmir' at Farnborough International Air show from July 14-20, 2008.

It earned rave reviews from visitors who got the opportunity to admire the aircraft's finer points, and examine its special features in detail.

Air India's B777-300ER presents an epitome of luxury and comfort. The aircraft has everything currently available on board of any other carrier, thus offering passengers a product that can match the best in the business. The B777-300ER aircraft, which has 342 seats in three class configuration—four First Class, 35 Executive Class and 303 seats in the Economy Class, offers luxurious, comfortable seats, which transform into flat beds in the First and Executive Class, provision of buddy seats in the First Class and unmatched legroom in the Economy Class; state-of-the-art inflight entertainment system, offering a choice of programmes from over 250 hours of video and 150 hours of audio programming on demand by Thales, world leaders in digital inflight entertainment; all the latest passenger amenities, including high fidelity noise cancellation Bose headphones for First and Executive Class passengers, and PC power, USB/RJB ports integrated in each seat to enable the use of laptops, keyboards, MP3 players, etc.

Five-Star Ambience on Board

First and Executive Class passengers can look forward to partaining their meals on exquisite gold-rimmed Noritake fine bone china, accompanied by matching gold-plated cutlery. Espresso coffee machines have been installed on the aircraft to further enrich the total gourmet experience for First Class passengers.

Each First and Executive Class passenger is provided a soft duvet so that he/she can sleep snugly and remain absolutely refreshed. Each First and Executive Class passenger is also presented complimentary Pierre Cardian nightwear and a Pierre Cardin amenity kit, which has a range of all the branded items that a discerning traveller would need.

Lighting

Adding to the ambience is accent or mood lighting in soft shades of mauve, green and pink to soothe and relax passengers, and provide them a greater degree of control over their individual lighting. Wall mounted satellite phones enable passengers to remain in touch with anyone anywhere, if they so desire.

One of Air India's latest acquisition as part of the fleet expansion programme is the Airbus 321 aircraft, belonging to the fly-by-wire technology A320 family. The A321 has been deployed for scheduled operation on metro routes within India. All 10 daily flights on the high density Delhi-Mumbai sector except one, are operated with the A321.

PAWAN HANS HELICOPTERS LIMITED (PHHL)

Pawan Hans Helicopters Ltd. (PHHL) an ISO 9001:2000 certified company, 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 areas of the country and operating charters for promotion of tourism.

The Company at present has a fleet of 36 helicopters comprising of SA-365N Dauphin, Dauphin AS365N3, Bell 206 L4, Bell 407 and MI-172 Helicopters.

Pawan Hans is a leader in providing offshore helicopter support in India. Its helicopters fly under a variety of conditions for carrying out ONGC tasks at Bombay High and Hardy Exploration at Chennai. The company has a strong presence in the North-East having its helicopters deployed in the States of Arunachal Pradesh, Meghalaya, Sikkim and Tripura. Regular passenger services are being run under the aegis of these State Governments. A helicopter has also been provided to Ministry of Home Affairs in North-East for VIP transportation.

The company has provided helicopters to Andaman & Nicobar Islands and Lakshadweep Islands for inter-island helicopter services. It also meets the requirements of Govt. of Punjab (VIP transportation) and PSUs such as GAIL for pipelines surveillance.

INDIRA GANDHI RASHTRIYA URAN AKADEMI

The Indira Gandhi Rashtriya Uran Akademi located at Fursatganj (UP) is an autonomous body under Govt. of India, Ministry of Civil Aviation. 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 (CBT), 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 Trinidad TB-20 single engine and King Air C-90A twin-engine turbo-prop executive class aircraft, fitted with modern instruments and avionics. Ab-initio to Commercial Pilots Licence (CPL), PPL to CPL courses with multi-engine aircraft endorsement and Instrument Rating are conducted on a regular basis. Opportunity is also provided to the students to pursue B.Sc (Aviation) Degree from CSJM University, Kanpur currently with CPL. The Akademi has trained 458 Fixed Wing Pilots and 20 Rotary Wing Pilots of Indian and foreign origin till now. Refresher training to 243 Flight Instructors from various flying clubs/training institutes of the country has also been imparted. It has trained 178 non-institutional pilots on multi-engine endorsement.

In addition to the above, the following modernization of facilities is also envisaged in IGRUA:

- (a) To increase the capacity of the Akademi to train 100 cadets a year compared to current capacity of 40 per year.
- (b) Induction of 10 more basic training aircraft and 01 twin engine aircraft.
- (c) To enhance and modernize the total training facilities with updated course material.
- (d) Re-carpeting of Runway, grading of basic strip and drainage improvement, simple approach lighting, extension of apron and taxi track, construction of hangar for housing the aircraft.

- (e) To enhance the capacity of hostel accommodation, residential accommodation for operational staff and additional office building, power generation capacity, and sewerage treatment plant.
- (f) To induct more operational/technical personnel.

Flying Training School at Gondia

Ministry of Civil Aviation propose 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. Airports Authority of India (AAI) has taken over land measuring 405.92 hectares from the State Government, for this purpose. It has been decided that the new Flying Training School would eventually be a Joint Venture project with the participation of all stakeholders. AAI would have an equity participation of 49% which can be shared amongst the other aviation related PSUs and the JVP will have 51% equity. AAI is in the process of finalization of JV partner and "Expression of Interest" (EOI) has been invited. The agreements in this regard have been signed between AAI and JVP for formation of JVC. The National Flying Training Institute (NFTI) is likely to be operational by end of this year.

COMMISSION OF RAILWAY SAFETY

The Commission of Railway Safety deals with matters pertaining to safety in rail travel and operation, and for this purpose performs statutory functions as laid down in the Railways Act, 1989 and the rules framed thereunder. Formerly called the RILWAY INSPECTORATE, it functioned under the control of the Railway Board till May 1941 when the Inspectorate was separated from the control of Railway Board to secure its independence from the authority administering the Railways. This separation was carried out pursuant to the recommendations of a Committee called the 'Pacific Locomotive Committee', which was endorsed by the Central Legislature. After its separation, the Inspectorate was attached to the Air Wing and placed under Department of Communications. It came under the administrative control of the Ministry of Tourism and Civil Aviation in May 1967, presently the Ministry of Civil Aviation.

The main task of the Commission is to direct, advise and caution the railway executive through its inspectional, investigatory and advisory functions and thereby assist them in ensuring that all stipulated measures are taken in regard to the soundness of rail construction and safety in train operation.

The Commission is headed by the Chief Commissioner of Railway Safety who is also the Principal Technical Adviser to the Government of India in all matters pertaining to rail safety. The headquarters of the Commission are located at Lucknow. The Chief Commissioner directs the technical activities of the Commission and issues instruction for the guidance of Commissioners of Railway Safety in respect of holding statutory inquiries into serious railway accidents, inspection of new lines including electrification of existing lines prior to their opening for public carriage of passengers and sanction for running of new locomotives/rolling stock. The Commission has 9 circle offices, viz. two with headquarters at Mumbai, three with headquarters at Kolkata and one each with headquarters at Bangaluru, New Delhi, Lucknow and Secunderabad. Each circle office is under the charge of a Commissioner. In a major development, Government of India has decided to use institution of Commission of

Railway Safety for safety certification of upcoming metro rail systems to ensure uniformity in safety standard.

TOURISM

Tourism has emerged as an instrument for employment generation, poverty alleviation and sustainable human development. During 2003-2004, direct employment in the tourism sector was estimated to be 21.54 million. Tourism also promotes national integration and international understanding and gives support to local handicrafts and cultural activities.

Tourism in India has grown substantially over the last three decades. Foreign tourist arrivals in India recorded an increase of 13.2 per cent during the year 2005 as compared to the year 2004. India's share in the world tourism market during the year 2005 was 0.49 per cent, as against 0.44 per cent in 2004. Foreign exchange earnings during the year 2005 were Rs. 25,172 crore as against Rs.21,828 crore in 2004.

Domestic tourism plays a vital role in achieving the national objectives of promoting social and cultural cohesion and national integration. Its contribution to generation of employment is very high. With the increase in income levels and emergence of a powerful middle class, the potential for domestic tourism has grown substantially during the last few years. During the year 2004, about 366 million domestic tourist visits were made and for the year 2005 it was estimated at 382 million visits.

ORGANISATION

The organisations involved in the development of tourism at the Centre are Ministry of Tourism, Indian Institute of Tourism and Travel Management, National Council for Hotel Management and Catering Technology, India Tourism Development Corporation Limited, Indian Institute of Skiing and Mountaineering and National Institute of Water Sports.

The Ministry of Tourism is responsible for formulation and implementation of policies and programmes for the development of tourism within the country and for attracting foreign tourists to India by way of developing tourism infrastructure, publicity and promotion, dissemination of information, co-ordination and supervision of activities of various segments of industry such as hotels, travel agencies, tour operators, etc.

There are 20 field offices of the Ministry of Tourism in India and 13 in other countries to undertake both developmental and promotional activities. While the overseas offices are in constant contact with tourists, travel intermediaries and media to promote tourism in India, the field offices in India provide facilitation services to tourists and co-ordinate with the State Governments on tourism infrastructural development. The main objectives of the overseas tourist offices are to position India in the tourism generating markets as a preferred tourism destination, to promote various Indian tourism products vis-à-vis competition faced from various destinations and to increase India's share of the global tourism market. These objectives are met through an integrated marketing strategy and synergised promotional activities undertaken in association with the Travel Trade and State Governments.

INDIA TOURISM DEVELOPMENT CORPORATION LIMITED

India Tourism Development Corporation (ITDC) came into existence in October 1966 with the objective of developing and expanding tourism infrastructure in the country

and thereby promoting India as a tourist destination. Working on the philosophy of public sector, ITDC succeeded in achieving its objectives by promoting the largest hotel chain in India and providing all tourist services, i.e. Accommodation, Catering, Transport, in-house Travel Agency, Duty Free Shopping, Entertainment, Publicity, Consultancy, etc., under a single window. It also offers consultancy services from concept to commissioning in the tourism field both for private as well as public sector.

In pursuance of the disinvestment policy of the Government, 18 hotels have been disinvested. Keeping in view the changed scenario, the Corporation has suitably been restructured so that it continues to fulfil its original mandate for tourism development in the country. Besides consolidating and expanding its existing business areas, ITDC has made diversification into new avenues/innovative services like full-fledged Money Changer Services and Western Union Money Transfer, Training Consultancy in hospitality sector, event management and consultancy and execution of tourism and engineering projects.

ITDC has been a pioneering tourism organisation which provides all the tourist services/facilities under one roof. ITDC's present network consists of 8 Ashok Group Hotels, 7 Joint Venture Hotels including one under construction, two Restaurants (including one Airport Restaurant), 13 Transport Units, 1 Tourist Service Station, 37 Duty Free Shops at International as well as Domestic Custom Airports, 1 Tax Free outlet, 1 Sound & Light Show and 4 Catering Outlets. Besides, ITDC is also managing a Hotel at Bharatpur and a Tourist Complex at Kosi and a SEL show at Sabarmati, Ahmedabad owned by the Department of Tourism.

The Ashok International Trade Division of ITDC offers world class duty free shopping facilities to international travellers at its 38 outlets, earning crucial foreign exchange for the country and showcasing Indian products to the world.

The Ashok Travels and Tours (ATT) handles work relating to Domestic/International ticketing, hotel booking and tour packages, car and coach rentals, money changing services, money transfer services, overseas insurance and organising exhibitions.

The Ashok Reservation and Marketing Services (ARMS) Division of ITDC, which is mainly responsible for marketing of Ashok Group of Hotels, participated in national/international events like ITB Berlin to ensure direct interaction with Foreign Tour Operators to promote various services of ITDC.

The Ashok Institute of Hospitality & Tourism Management (AIH&TM) of ITDC has been associated with the pioneering efforts in human resource development for more than three decades. Awarded the ISO-9001-2000 Certification, the institute conducts 18 months Craft/Certificate courses in the field of Culinary Skill Development, besides providing training to management trainees/apprentices and organising Executive Development programmes for the officials of ITDC. Under an MOU signed with the prestigious Kurukshetra University, the AIH&TM started 4-year Bachelor's Degree Course in International Hospitality Business Management from August 2004.

HOTEL MANAGEMENT AND FOOD CRAFT INSTITUTES

The Ministry of Tourism has accorded high priority to the development of manpower to meet the growing needs of Hotels, Restaurants and other Hospitality-based Industries. For this purpose, 21 Institutes of Hotel Management and Catering

Technology and 10 Food Craft Institutes (3 of these are now also State IHMS) have been set up in the country. In addition to the above, four more Institutes of Hotel Management are in the pipeline at Uttaranchal (Dehradun), Jharkhand (Jamshedpur), Chhattisgarh (Raipur) and Haryana (Kurukshetra). These Institutes conduct Degree courses in the field of Hotel Management, Catering Technology and Applied Nutrition and Craft Courses in Food and Beverage Services, Accommodation Operations, Dietetics and Hospital Food Service, Food Production and Patisserie, House Keeping, Front Office, etc. IHM's Mumbai, Bangalore and Pusa (New Delhi) have started 2 Years M.Sc Hospitality courses also. Food Craft Institutes conduct Craft Courses for duration ranging from six months to one year for operational staff. All these training Institutes are affiliated to the National Council for Hotel Management Catering Technology and Applied Nutrition (NCHMCT) at apex level which regulates academics for all these Institutes.

INDIAN INSTITUTE OF TOURISM AND TRAVEL MANAGEMENT

The Indian Institute of Tourism and Travel Management (IITTM) located in Gwalior is an autonomous body set up to provide education in Tourism and Travel Management and to meet the demands of professionally trained people in the tourism industry. The Institute offers Bachelor degree in Tourism Management, MBA and Post-Graduate Diploma in Tourism Management courses. The Institute also organizes Executive Development Programmes, seminars and workshops related to tourism and travel management.

Capacity Building for Service Providers (CBSP) : In the year 2002, the Ministry launched a programme called CBSP to train the persons engaged in small hotels, dhabas, eating joints, restaurants, etc., and also handling tourists like Immigration staff, airport staff, security/Police personnel, guides, taxi operators, bus drivers, etc. The objective was to provide short term training to improve their etiquette, behaviour and attitude towards tourists.

The scope of this scheme has been further enlarged and the training programmes of 3/6 months duration have been added for skill development of existing as well as fresh service providers. Under this scheme, a new programme called 'Project Priyadarshini' was also launched in 2005 aimed at imparting training to women in taxi driving/operation, entrepreneurship like setting up souvenir kiosks, etc, to adopt tourism as their profession.

National Institute of Water Sports, Goa : The Ministry of Tourism set up the National Institute of Water Sports (NIWS) as training cum resource centre for the Water Sports Tourism Industry at Goa. The NIWS conducts and facilitates courses in various activities like sailing, scuba diving, skiing, etc. The Institute also acts as a nodal centre for water sports-oriented tourism activities in the country.

HOTEL ACCOMMODATION

The hotel sector forms one of the most important segments of the tourism industry with high potential for employment generation and foreign exchange earnings. To give impetus to this sector, the government provides concessions under EXIM Policy and other incentives. The Industrial Policy has now placed hotels and tourism related activities as a priority industry. Foreign investment and collaborations are now facilitated under the new economic policy. Automatic approval is available for foreign direct investment upto 100 per cent in Hotel and Tourism sector.

CLASSIFICATION OF HOTELS UNDER THE STAR SYSTEM

The Department of Tourism classifies functioning hotels under the star system into various categories from one to five-star deluxe, and Heritage (Heritage, Classic, Grand and Heritage Renaissance) and Apartment Hotels from three star to five-star deluxe, Time Share Resorts from three star to five-star and Guest Houses. The Department also reclassifies these hotels after every five years to ensure that requisite standards are maintained by them.

The Hotels and Restaurants Approval and Classification Committee (HRACC) set up for the purpose has representatives drawn from Central Government, State Government and hotel and travel industry associations.

HERITAGE HOTELS

A Special category for classification of heritage hotels has been introduced to cover functioning hotels in palaces, havelies, castles, forts and residences built prior to 1950. As the traditional structure reflects the ambience and lifestyle of the bygone era and is immensely popular with the tourists, the scheme is aimed to bring such properties into the approved sector and this ensures that such properties, landmarks of India's heritage are not lost due to decay and disuse.

TRAVEL TRADE

The Department of Tourism has a scheme of approving Travel Agents, Tour Operators, Adventure Tour Operators and Tourist Transport Operators. During 2005, keeping in view the spurt in Domestic Tourism, a new category for the recognition of Domestic Tour Operators has been introduced. The aims and objectives of this schemes are to encourage quality, standard and service in these categories so as to promote tourism in India. The Travel Trade Division also interacts with the travel trade associations like Travel Agents Association of India (TAAI), Indian Association of Tour Operators (IATO), Indian Tourist Transport Operators Associations,(ITTA), etc., and other agencies like India Convention Promotion Bureau, Pacific Asia Travel Association (PATA), etc.

The Travel Trade Division also deals with all matters pertaining to the regulation and training of tourist guides at Regional level and also co-ordinates with other Ministries such as Civil Aviation, Culture, Railways, Surface Transport, External Affairs and Home Affairs on various issues to improve the facilities for the tourists visiting various destinations in India.

CELEBRATION OF VARIOUS TOURISM EVENTS

A number of events and road shows have been organised during 2005-06 for spreading awareness about India Tourism in domestic and international tourism market to attract more tourists to India. The major events organised by the Ministry in collaboration with various State Tourism Departments are: Golf open tournament, Srinagar; Sindhu Darshan at Leh; Heritage Festival, New Delhi; All India Crafts Mela, Hyderabad; Heritage International Festival, Jaipur; India International Boat Show, Kochi; Paragliding Show and Tourism Conclave in Himachal Pradesh; Mega Folk Festival "Virasat" in Dehradun; Prithivi 05-Global Eco-Meet, Kochi; Domestic and International Photo Exhibition "A Confluence of Cultures" and Essay and Photographic competition on "What Tourism Means To Me" on World Tourism Day on 27 September (every year); India National Tourism Day on 17 March 2006; Designer's Night Bazar, Surajkund Crafts Mela, Haryana; 3 Global Interline Golf

Championship, Photo Exhibition, Eco-Tourism Marketing Meet; Mussorie (Uttarakhand), WTTC, Himalayan Run and Trek and Photo Exhibition on Hindu, Buddhist and Islamic monuments of Kashmir.

The Ministry of Tourism also participated in various travel and tourism events, trade fairs and exhibitions in India and abroad. The important fairs and exhibitions are Tourism Travel Fair in New Delhi, Mumbai, Bangaluru, Chennai and SATTE (South Asia Tourism and Travel Expo), New Delhi. India Tourism offices located in 20 cities in India also participated at local important fairs. The Ministry of Tourism participated in several overseas travel and tourism trade fairs, notably World Travel Market, London; ITB (International Tourism Bourse), Berlin; Arabian Travel Market (ATM), Dubai; EIBTM, Spain; IMEX, Frankfurt; Pata Travel Mart, Malaysia; FITUR, Spain; and World Travel Fair, Shanghai. India Tourism offices located in 13 overseas cities also participated in various travel and tourism fairs.

National Tourism Policy 2002 : A National Tourism Policy-2002 was announced by the Government with, *inter-alia* attempts to position India as a global brand to take advantage of the burgeoning global travel and trade and the vast untapped potential of India as a destination.

Tourism in 10th Five Year Plan : In order to further accelerate the development of tourism in the country, the thrusts during the 10th Five Year Plan has been to :

- i) Position tourism as a major engine of economic growth;
- ii) Harness the direct and multiplier effects of tourism for employment generation and economic development;
- (iii) and provide impetus to rural tourism;
- iv) Provide a major thrust to domestic tourism which will act as a spring board for growth and expansion of international tourism;
- v) Position India as a global brand to take advantage of the burgeoning global travel and trade and the vast untapped potential of India as a destination;
- vi) Acknowledge the critical role of private sector with government working as an active facilitator and catalyst;
- vii) Create and develop integrated tourism circuits based on India's unique civilisation, heritage and culture in partnership with states, private sector and other agencies;
- viii) Ensure that the tourist to India gets physically invigorated, mentally rejuvenated, culturally enriched, spiritually elevated and "feels India within him".