

# Infrastructure Growth to Boost Steel Industry

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## Introduction :

Infrastructure is a set of assets which underlines the society and its economic activities especially railways, roads, bridges, ports, water treatment plants, hospitals, school and other facilities. Power generation and its distribution is also an important area of social and economic development.

## Infrastructure and Economic Development :

About a decade ago, the World Bank published an estimate which stated that the services provided by the infrastructure sector in value-added terms together account for upto 11/12 percent of G.D.P. of a country. It stated that 'Transport' has the largest share out of all infrastructure segment. The Bank also found that 'Transport' was the largest provider of paid employment absorbing up to 10 percent of all such occupations. A cross sectional analysis revealed that infrastructure investment typically represents about 20 percent of total investment and 40 to 60 percent of public investment in developing countries.

## GDP Growth and its Implication in Indian Infrastructure :

The growth of infrastructure of a country depends largely on the growth of its Gross Domestic Product (GDP). In 2005-06, India's GDP increased to 8.4 percent as against 7.5 percent in the previous year. The growth of construction, however, declined marginally from 12.5 percent in 2004-05 to 12.1 percent in 2005-06.

Between 1980-81 and 2004-05, the growth of the Secondary Sector of GDP (including Mining, Electricity, Manufacturing, Oil and Gas, Construction, Water Supply) has recorded a marginal growth from 25.9 percent to 27 percent while the Tertiary Sector of GDP (including Trade, Hospitality, Transport, Real Estate etc.) registered a high growth from 36 percent to 52.4 percent.)

The growth of Steel Sector and that of Manufacturing Sector are inter-dependent. Steel economists opine that for one percent growth of manufacturing sector share in GDP in India, steel consumption grows by 0.97 percent and for one percent growth of GCF in Manufacturing, Steel Consumption grows by 0.96 percent.

The "Infrastructure Report" by the Infrastructure Reforms Committee set up by the Central Government published in January, 1997 made the following valuable observations :

- a) Infrastructure services are intermediate inputs to production and any reduction in these input cost raises the profitability of production, thus permitting higher levels of output income and/or employment.
- b) The infrastructure services raise the productivity of other factors including labour and capital. Infrastructure is, therefore, often described as an "unpaid factor of production".

The report also projected that India's GDP would grow by 8.5 percent by 2005-06 and would require a rise in infrastructure project investment upto 31.5 percent by 2005-06. Unfortunately, this has not happened and share of the Secondary Sector of GDP remains pegged at 27 percent.

## National Steel Policy and Infrastructure :

The National Steel Policy (NSP) has made the following observations on the need of improved infrastructure for the steel industry up to 1919-20.

- a) **Inland Transportation :** It is estimated that every tonne of steel production involves transportation of 4 tonnes of materials. The envisaged addition of 75 million tonnes annually implies 300 million tonnes of additional traffic. In a globally integrated economy, minimisation of the overall cost of transportation becomes an important instrument of maintaining the competitive edge in both the domestic and overseas market.
- b) **Railways :** The railways transport iron ore and coal from mines and ports to the plants, and steel to ports and consuming areas. However, over the last decade railways has been consistently losing traffic originating in the steel sector to the roads. The share of railways has declined from 71.9 percent in 1991-92 to 34.4 percent in 2001-02. The decline has been largely on account of railway's competitive weakness in the face of challenges from other modes of transports like roads, pipeline and coastal shipping. Replacement of the 'equalised railway freight' by 'freight ceilings' is also partly responsible for the modal switch.

- i) According to NSP estimation based on the present share of railways and roads in the movement of raw materials and finished / saleable steel, the expected scenario by 2019-20 would be as shown in Table 1

**Table 1 : Modal Distribution of Traffics, 2004-05 and 2019-20 (Mt)**

Particulars	2004 - 2005		2019 - 2020	
	Railways	Road	Railways	Road
Raw Materials*	80	34	230	100
Finished Steel	11	27	33	77
<b>Total</b>	<b>91</b>	<b>61</b>	<b>263</b>	<b>177</b>

\* Excludes traffic due to export of iron ore

- ii) The Railway facilities, therefore, would need to be expanded substantially in view of renewed investor interests in the creation of additional steel capacities-both in greenfield and brown field projects. The outlay for railways as a percentage of total plan outlay has come down from 10.3 percent (up to 4<sup>th</sup> plan) to 6.8 percent (10<sup>th</sup> plan). Resource constraints may necessitate participation of the steel industry in the creation of railway infrastructure, especially in the capital intensive areas of laying tracks and procuring wagons. Besides ensuring availability, the railways would also need to re-examine their freight structure and improve quality of services. Dedicated freight trains in the private sector would be encouraged.
- iii) Based on average lead distance over which the freight needs to be computed for raw materials for steel making and finished products, it is estimated that the total traffic generated for railways originating due to the iron and steel industry would be around 120 billion tonne kilometer by 2020 and the total traffic for railways including export of iron ore will be around 150 billion tonne kilometer.
- c) **Roads :** The existing road network needs to be expanded and strengthened considerably for reducing transaction costs of the Indian steel producers. The steel plants and mines need to be integrated with the on-going programmes of national highway development and also with the proposed rural road schemes for expanding the delivery chain of steel across the country, especially the rural areas.

Performance of the Indian road sector is poor in terms of effective sustained velocity of movement. This is demonstrated by the fact that roads now carry an overwhelming 85 percent of passenger traffic and 70 percent of freight, and that highways account for around 40 percent of this movement while making up only 2 percent of overall road network. The steel industry would be encouraged to create links to the nearest available highways.

- d) **Ports :** The Indian Steel Industry, has become highly dependent on port infrastructure both in terms of import of critical input materials like coal and coke and export of saleable steel. Keeping in view the strategic goal of achieving a production of 110 Mt and export level of 26Mt by 2019-20, the port facilities would have to be expanded substantially. The projected bulk to be handled at ports is shown below in Table 2.

**Table 2 : Growth in Port Traffic : 2004-05 to 2019-20 (Bulk to be handled at Ports (Mt))**

Particulars	2004 - 2005			2019 - 2020			CAGR (%)
	Import	Export	Total	Import	Export	Total	
Raw Materials*	19.3	78.0	97.3	85.0	100.0	185.0	4.4
Steel	2.0	4.0	6.0	6.0	26.0	32.0	11.8
<b>Total</b>	<b>21.3</b>	<b>82.0</b>	<b>103.3</b>	<b>91.0</b>	<b>126.0</b>	<b>217.0</b>	<b>5.1</b>

\* Including iron ore

The current Government Policy allows private capital in port development. Steel producers would be encouraged to develop port and berth facilities so as to improve productivity, turn around time, capacity to handle large vessels and other operational parameters of efficiency.

- e) **Power :** The additional requirement of power for the steel industry would be 7,000 MW by 2019-20, requiring an additional investment of Rs. 24,500 crore. The Electricity Act, 2003 and the National Electricity Policy allow captive generation of power and trading of surplus power. This will facilitate growth of investment in captive power plants by the steel industry. At the same time the Government would encourage the industry and the secondary sector in particular, to bring down the specific consumption of power.

### **Poor Growth of Major Infrastructure Sectors in India :**

The overall growth rate of the six major infrastructure industries viz. Crude Petroleum, Petroleum Refinery Products, Coal, Electricity, Cement and Finished Steel has hovered between 5 to 5.5 percent on an average since 2000-01.

This overall growth dropped by 0.9 percent in 2005-06 to 4.9 percent from 5.8 percent achieved in the previous year. Cement was the best performing sector which recorded a growth of 83.4 percent in 2005-06 at 12.3 percent over 6.6 percent in 2004-05. Coal sector recorded a growth of 6.4 percent in 2005-06 but Electricity generation growth declined to 5.1 percent in 2005-06 from 5.4 percent in the previous year. Finished steel production went up by 6.7 percent in 2005-06 over 3.9 percent in the preceding year.

Crude petroleum growth has never touched the 2 percent since 2001-02 except in 2002-03 when it went up by 3.2 percent. In 2005-06, it recorded a negative growth. Petroleum Refinery posted a healthy growth of 8.2 percent in 2003-04 but after that it has not shown any significant growth.

### **“Bharat Nirman” Programme of Govt. of India :**

The 'Bharat Nirman' programme details six goals for the development of rural infrastructure to speed up the work of rural sector growth. The goals to be achieved by 2009 are :

- Every village to be provided electricity by 2009. This will involve in connecting 125,000 villages and nearly 2.3 crore household. This will require at least one 33/11 kv substation in each block and at least one distribution transformer in each village.
- Every habitation of over 1,000 population (500 in hilly and tribal areas) to be provided all weather roads. This will involve connecting about 66,800 habitations by 2009.
- Every habitation to have a source of safe portable drinking water. Total 55,607 habitations to be covered by 2009. In addition, the Planning Commission has estimated that 2.8 lakh habitations which have slipped back after having developed the above source of drinking water, are also to be covered.
- About 10 million hectares of additional irrigation capacity to be created by 2009. The targets set have been broken up into plans through the major, medium and small irrigation projects and ground water development.
- Sixty lakhs houses to be built for the rural poor by 2009. The objectives will be implemented through Indira Awaas Yojna. The Government expenditure may touch Rs. 18,000 crore.
- Every village to be connected by Telephone. About 68,822 villages are to be connected by 2007. About 22 percent of these targeted villages are to be connected through satellite phones as these are far flung.

### **Massive Thrust on Infrastructure Development :**

The Central Govt. have given a major thrust on the development of various infrastructure projects in the Union and Railway Budgets for 2006-07 as well as by other announcements made by the Government authorities in this regard. Some of such infrastructure development projects are outlined below :

#### **A) General :**

The Budgetary provision has been increased in the Union Budget for FY'07 by 54 percent from Rs. 12,160 crore in the year 2005-06 to Rs. 18,696 crore in 2006-07 exclusively for Rural Sector with Development schemes as under:

- a) AIBP - Accelerated Irrigation Benefit Programme.
- b) ARWSP - Accelerated Rural Water Supply Project
- c) Rural Roads Programme
- d) Rural Houses

e) Rural Electrification

f) Rural Telephony

- Allocation for Rajib Gandhi Memorial Mission has been increased by 28 percent to Rs. 4,680 crore in the Budget for 2006-07.
- Similarly, allocation for Rural Sanitation Campaign has been raised to Rs. 720 crore in 2006-07 a growth of 14.3 percent.
- Irrigation : Outlay for 2006-07 has been increased by 58 percent in 2006-07 to Rs. 7,121 crores including a central grant of Rs. 2,350 crore.
- RIDF : The outlay for Rural Infrastructure Development Fund (RIDF) in 2006-07 has been raised by 37 percent to Rs. 10,000 crore. Public-Private Partnership (PPP) model shall be encouraged for specified project to access RIDF.

#### **B) Railways :**

- Expenditure as per Railway Budget for 2006-07 has been increased from Rs. 56,421.52 crore in 2005-06 to Rs. 61,834.02 crore a growth of 9.6 percent.
  - Loyalty Discount Scheme on freight has been announced in the 2006-07 budget to encourage transportation of cement and steel by rail.
  - Total outlay for Jawaharlal Nehru National Urban Renewal Mission (JNNURM) for 2006-07 has been placed Rs. 6,250 crore including a grant of Rs. 4,595 crore. This would cover the following projects :
- a) Mumbai Metro Rail
  - b) Bangalore Metro Rail
  - c) Additional Projects in Maharashtra, Gujarat and Madhya Pradesh. In addition, the Railways have decided to construct Freight Corridors for faster movement of goods traffic between the four Metro Cities. The Freight Corridors from Delhi to Mumbai and Delhi to Kolkata will be built first. Such corridors from Mumbai to Chennai and Kolkata to Chennai will be taken up subsequently.

#### **C) Road Transport :**

- The Budgetary support for NHDP projects has been enhanced from Rs. 9,320 crore in 2005-06 to Rs. 9,945 crore in 2006-07 a growth of Rs. 6.7 percent.
- Special Accelerated Road Development Programme for the North Eastern Region at an estimated cost of Rs. 4,618 crore has been planned with an allocation of Rs. 550 crore in 2006-07.
- It has been proposed that NHAI should be suitably

restructured and made more effective having multi disciplinary body capable to handle Public Private Partnership (PPP) projects.

- Golden Quadrilateral (GQ)-the four-lane roadways project between the four metro cities is expected to be completed by December, 2006 which North-South and East-West corridor roadway will be completed by end 2008.

It may be mentioned here that while laying the foundation stone of the 10-lane multi-corridor roadway project in Bangalore on 24<sup>th</sup> June, 2006. Prime Minister Dr. Manmohan Singh said that to speed up the NHDP projects, the investment has been increased to 222,000 crore. In the next 7/8 years, a 7-phase project will be executed. He also said that in addition to NHDPI and NHDP II, NHDP III will also be added which together will provide 11,000 Km. highway to connect state capitals, major touring spots and economic zones.

Beside these, 20,000 Km. of 2 lane highway will be improved. About 1000 Km. of Access Controlled Expressways will be built around cities while many by passes and ring roads will criss-cross the cities. The Prime Minister said that the Government was determined to remove the gap between the urban and rural areas in respect of road transportation.

#### **D) Power :**

- Central Plan spending for the Energy Sector has been raised by 29.5 percent to Rs. 69,593 crore in the budget for 2006-07 from Rs. 53,720 crore in the previous year. Allocations for Power and Petroleum sectors have gone up by 44 percent and 22 percent respectively.
- Five Ultra Mega Power Projects of 4000 MW capacity each have been awarded for completion before December 31, 2006. about 40,000 villages will be electrified in 2006-07.
- An additional Rs. 597 crore has been provided in the budget for 2006-07 for developing Non-conventional Energy sources. Target for 10<sup>th</sup> plan period of 3075 MW generation of such energy was exceeded by December, 2005 as the figure reached over 3650 MW.
- During the year 2005-06, 5083 MW capacity for power generation has been added.
- Eighty-two Power Projects are already under construction of which 33,000 MW capacity is in Public Sector and 6,500 MW in Private Sector totalling 39,500 MW. Out of this, 15,000 MW capacity is expected to be commissioned by March, 2007.
- Twenty billion tonnes of coal blocks have been de-blocked

for use in power projects for captive generation.

- It has been decided to setup an Empowered Committee for creating an enabling policy setup further reforms in the power sector.
- Tax holiday under Section 80-IA for power projects extended from 2006 to 2010.

Meanwhile, a senior official of the Central Power Ministry said in Kolkata that 75,000 MW of power generation capacity has been targeted during the 11<sup>th</sup> plan period. He also said that 44,000 MW of power generation capacity was to come up during the 10<sup>th</sup> Planperiod. The present power generation capacity of the country was 125,000 MW.

#### **E) Petroleum :**

Under NELP VI, 55 blocks and an area of 355,000 Sq.kms. have been offered. Investment of Rs. 22,000 crore is expected to be made in the Refinery Sector in the next few years.

#### **F) Ports :**

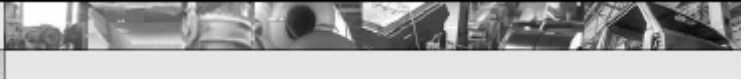
The National Maritime Development Programme (NMDP) has been announced by the Government of India which envisages an investment of Rs. 55,804 crore in 276 projects at major ports through Public Private Partnership (PPP) up to 2011-12 in two phases. Of the 276 Projects, some of which are already under implementation, 76 pertain to creating new berths and jetties.

About 25 projects are for deepening port channels, 52 for procurement, replacement and upgradation of port equipment, 45 for improving port connectivity, with the hinterland and 78 for augmenting storage capacity and internal circulation systems.

Another 111 projects will be dovetailed to the NMDP at a total investment of Rs. 44,535 crore in related sectors, such as shipping, ship building, inland water transport and highway connectivity to be executed over a 20 year period.

In the first phase of NMDP, cargo handling capacity of all major ports will touch 625.30 Mt annually upto 31<sup>st</sup> March, 2009. As many as 180 projects will be taken up in the first phase involving a total of Rs. 31,871 crore. Resources needed will be raised through budgetary support of Rs. 1,250 crore, internal generation by major ports Rs. 8.991 crore and private investment of Rs. 19,112 crore with NHAI, Railways and other organizations providing Rs. 2518 crore.

The remaining projects of the NMDP will be taken up in the second phase and completed by 2011-12. Notable projects to be taken up in the first phase are a third container terminal at JNPT, offshore container berths at Mumbai Port and container terminals at Kandla and Chennai ports.



## G) Airports :

The Government has taken up upgradation and modernisation of Delhi and Mumbai airports through the joint venture (JV) route.

The JV companies will be mandated to undertake capital expenditure of Rs. 2,800 crore at Delhi and Rs. 2,600 crore at Mumbai in the first five years. The total expenditure on Mumbai airport is likely to touch Rs. 5,900 crore upto 2019 and Rs. 7,900 crore for Delhi airport upto 2024.

Work on two new greenfield airport projects at Bangalore and Hyderabad has already started. The Devanahalli project near Bangalore is being implemented on build, own, operate and transfer (BOOT) basis with Public Private Participation (PPP).

The Karnataka Government and Airport Authority of India (AAI) together hold 26 percent of the equity and the strategic partners hold the balance 74 percent. A consortium led by Siemens of Germany with Unique Zurich and L&T of India has been chosen as JV Partner. The total project cost has been estimated at Rs. 1,400 crore. The airport is likely to be operational by April 2008.

A similar greenfield airport project is being developed at Shamshabad near Hyderabad on BOOT basis with PPP at a cost of Rs. 1,700 crore. The consortium consisting of GMR Enterprises, Malaysian Airport Holdings Berhad. The airport is likely to be completed by August, 2008.

India's Civil Aviation Minister said at the DUBAI AIR SHOW in November, 2005 that India was embarking on a massive drive to modernize existing airports and build new ones at a cost of US\$ 10 billion over the next four years. The projects will involve 41 cities including six key cities.

Work on the upgradation and modernization of airports at Chennai, Kolkata, Goa, Ahmedabad, Pune Etc. will be taken up in the near future.

## **Construction and Infrastructure :**

The construction sector plays a very significant role in the development of most of the infrastructure projects. It has been found by experts that the construction component in most infrastructure projects is about 70 percent on an average. In case of road, bridge and building projects, the construction component is over 90 percent. For hydro-electric and irrigation projects it is in the range of 70 to 90 percent. Even in

case of thermal and nuclear power projects the construction component is 30 to 35 percent.

Hence, it is obvious that the construction industry, plays a very vital and significant role in the development of infrastructure of the country.

## **Conclusion :**

The Government has announced a package of Rs. 400,000 crore for the development of infrastructure in the country. Experts point out that foreign funds are also showing interest in funding projects in India. CRISINFAC believes that investment in construction industry will reach a level of Rs. 830,000 crore at a CAGR of 8 percent upto 2007-08.

Resource generation for such a massive investment will be an insurmountable task.

As far as steel industry is concerned, Railways, as per National Steel Policy (NSP) would need to move 263 Mt of materials in 2019-20 as against 91 Mt in 2004-05 which will pose a big challenge. Power generation may not be a big problem as many steel plants / units are installing captive power plants. Whether the Indian Ports will be capable to handle 217 Mt of materials related to the steel industry in 2019-20 compared to 103.3 Mt handled in 2004-05 is also a big question.

The role of private sector in the development of country's infrastructure in the past has not been encouraging. It is expected that they will gear up their resource mobilization and capabilities in future.

Resource generation and regular monitoring of the progress of the infrastructure projects are the two very important and critical issues for the development of infrastructure in the country.

Procedural delays must be wiped out. Cost and time overrun should be avoided at all costs. The experience gathered from the construction of the Golden Quadrilateral by NHAI is not very encouraging.

If all the envisaged infrastructural projects are completed in time with high degree of competence, it will boost the growth of country's steel industry as well as national economy significantly.

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