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मंत्री सड़क परिवहन राजमार्ग एवं पोत परिवहन
भारत सरकार,
परिवहन भवन, नई दिल्ली-110 001
MINISTER OF ROAD TRANSPORT
HIGHWAYS & SHIPPING
GOVERNMENT OF INDIA
PARIVAHAN BHAVAN, NEW DELHI-110 001

MESSAGE

I am happy to learn that ASSOCHAM is organizing its 4th International Summit on "Infrastructure Finance – Building for Growth" on 1st of December, 2014 at New Delhi.

As part of India's growth strategy, focus on Infrastructure development, including roads, railways, ports, airports and energy is critical to maintain growth momentum in an economy. India needs to enhance its Infrastructure which will create jobs in all allied and dependent sector.

There are opportunities and challenges for all the stakeholders like developers, financial institutions and suppliers in this phase of renewed growth. Finding the correct equilibrium between all stakeholders will be critical for our ambitious infrastructure vision.

I am sure the initiatives taken by ASSOCHAM in bringing together the various stakeholders of the infrastructure sector through the conference will provide necessary inputs for the further development of this sector.

I wish the program a great success.

नितीन गडकरी

(Nitin Gadkari)

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MESSAGE

D.S. Rawat
Secretary General
ASSOCHAM

India, a country which is at the threshold of assuming greater responsibilities on global economic scene, needs to focus on infrastructure development so that it can be counted amongst the developed countries, which have created world class infrastructure to support their economies. Globally, it has been recognized that investment in infrastructure has a multiplier effect on different sectors of the economy.

To attract private investments, the sector needs to offer commensurate returns and enhance investor confidence. Infrastructure projects are capital intensive with long gestation periods and require strong policies and structural flexibility to enable capital commitment from the private sector. The Government is instituting several measures to allay concerns of the investor community by strengthening policy frameworks and encouraging investment.

Keeping this in mind ASSOCHAM in partnership with RESURGENT INDIA has come out with a study paper to generate healthy discussion on issues and challenges that need to be effectively addressed for sustainable infrastructure development in the country. This paper exhaustively deals with the challenges while addressing the funding needs of this vital sector, as well. I would like to express my sincere appreciation to the ASSOCHAM-RESURGENT team for sharing their thoughts, insights and experiences.

I hope the stakeholders will find the report relevant and useful.

D. S. Rawat
Secretary General

MESSAGE

Jyoti Prakash Gadia
Managing Director
Resurgent India Ltd.

Infrastructure is the backbone which drives the economy. However development of infrastructure needs huge investment which alone the government cannot meet. This essentially entails attracting FDI. In order to increase FDI inflows to further boost investments and to enhance infrastructure, the Indian Government has introduced significant policy reforms. Road sector is the key contributor in the overall investments undertaken in the infrastructure industry.

In the Eleventh five year plan (i.e. 2007-08 to 2011-12), the actual investments in the infrastructure sector reached Rs. 19.5 trillion as against budgeted investment of Rs 20.6 trillion (95 per cent achievement level). The construction spends on infrastructure projects are expected to amount to Rs. 51.5 per cent contribution by private participation and 53 per cent by the central and state governments. Within Infrastructure, Electricity is estimated to be the largest contributor, followed by Roads and Telecommunications.

While the intentions are well founded there remain some issues at the ground level which need to be sorted out as soon as possible. Some of these are land acquisition and environmental clearances, multiple permissions from different departments of the government and in some cases from state government departments also, long time gap between calling for RFP and the actual start of construction leading to price escalation, difficulty in reaching financial closure which could to a large extent be alleviated if a vibrant corporate bond market develops etc.

The government is taking various steps to overcome these and other issues to kick start the process of restarting the investment in infrastructure. It is hoped that once the issues are sorted large investment would start flowing into this sector and India would be a preferred investment decision.

J. P. Gadia

Jyoti P Gadia
Managing Director
Resurgent India Limited

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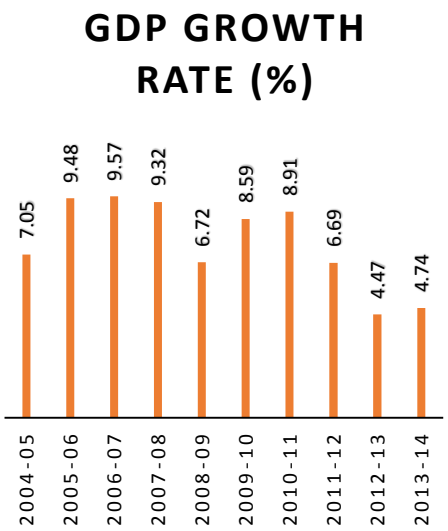
INDIAN ECONOMY

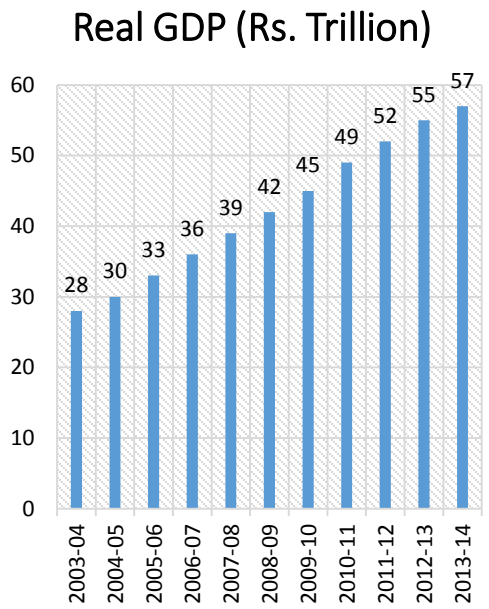
Indian economy after registering a robust growth of more than 9% during the period 2005-08, moderated to a growth of 6.7% in 2008-09 on the back of the global financial crisis. As a result of timely stimulus in fiscal and monetary space, the economy managed to recover quickly to a growth of 8.4% in 2009-10 and 2010-11. Since then, however, the fragile global economic recovery and a number of domestic factors have led to a slowdown once again. Data released by the central statistics office (CSO) showed the economy grew by 4.7% in 2013-14 with the GDP increasing to Rs. 57 trillion, shade below the original estimate of 4.9% but slightly above the 4.5% growth in 2012-13.



The country's economy expanded by 4.7% in 2013-14, the second successive year of sub 5% growth hurt by policy delays, high inflation and the global slowdown but the election of new government has triggered hopes of a revival in growth and sentiment in the months ahead. Manufacturing sector continued to remain under stress, declining 0.7% Y-o-Y in 2013-14 compared with 1.1% growth 2012-13. Growth in 2013-14 was helped by a smart rebound in the farm sector which grew at an annual rate of 4.7% compared with a 4.5% expansion in the previous year earlier period. Going ahead, service sector, after achieving double-digit growth continuously for five years and narrowly missing double digits in the sixth (between 2005-06 and 2010-11), the growth rate of the services sector also declined to 8.2% in 2011-12. The segment grew 12.9% in 2013-14 compared with 10.9% in the previous financial year.

The reason behind, economic slowdown despite a strong recovery from the global financial crisis is firstly, the boost to demand given by monetary and fiscal stimulus following the crisis was large. The result was strong inflation and a powerful monetary response that also slowed consumption

demand. Second, starting in 2011-12, corporate and infrastructure investment started slowing both as a result of investment bottlenecks as well as the tighter monetary policy. Thirdly, even as the economy slowed, it was hit by two additional shocks: a slowing global economy, weighed down by the crisis in the Euro area and uncertainties about fiscal policy in the United States, and a weak monsoon, at least in its initial phase.



The consequent slowdown, especially in 2012-13, has been across the board, with no sector of the economy remaining unaffected. Falling savings without a commensurate fall in aggregate investment have led to a widening current account deficit (CAD). Wholesale price index (WPI) inflation has been coming down in recent months. However, food inflation, after a brief slowdown, continues to be higher than overall inflation. Given the higher weightage to food in consumer price indices (CPI), CPI inflation has remained close to double digits. Another consequence of the slowdown has been lower-than-targeted tax and non-tax revenues. With the subsidies bill, particularly for petroleum products increasing, the danger that fiscal targets would be breached substantially became very real in the current year. The situation warranted urgent steps to reduce government spending so as to contain inflation. Also required were steps to facilitate several measures announced in recent months are aimed at restoring the fiscal health of the government and shrinking the CAD as also improving the growth rate. With the global economy also likely to recover somewhat in 2015, these measures should help in improving the Indian economy's outlook for 2014-15. However with the global prices of crude dipping to below USD 90 per barrel, the financial position is expected to improve substantially. For the first time in many years, the Oil Marketing Companies (OMCs) are not incurring any loss on the sale of diesel. On the contrary, they are making profit at the current price of crude oil which has led to a clamor for a sharp reduction in the price of diesel.

India's economic growth has been led by the services sector in the last decade, particularly owing to the growth in Information Technology (IT) and Business Process Outsourcing (BPO) industries. The manufacturing sector's importance has grown in the recent years with the advancement in its output. The sector offers huge potential for employment creation. Moreover, the importance of Micro, Small and Medium Enterprises (MSMEs) in the growth process is considered to be a key engine of economic growth. The long-term policy of the country is to achieve inclusive growth. The current developmental problem facing India is exacerbated by the changing demographic profile of the country. The number of unemployed will be a large number of which the proportion of the educated youth will be the largest. Therefore, the need for strong, accelerated economic growth is now much more acute than ever.

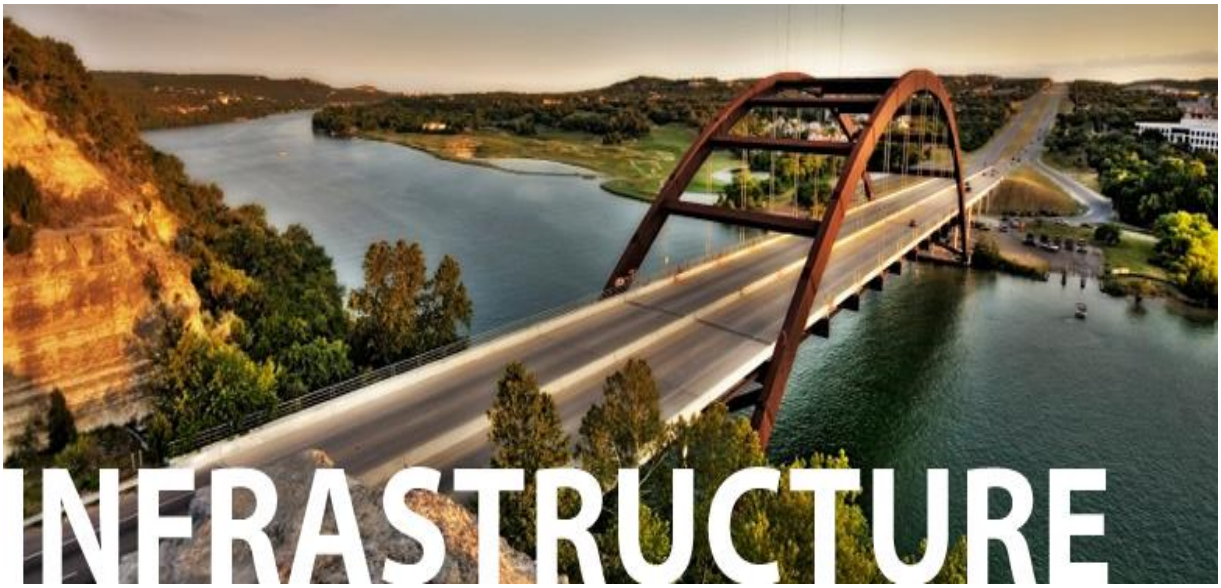
Economic growth during the last decade has been attributed to service sector, which was primarily lead by IT and BPO industries. Further, manufacturing industry's contribution to the economy is considerably growing, as it offers huge potential for employment generation.

With widespread reform measures initiated in recent months, country's strong fundamentals and the global economy poised for a moderate recovery in 2014-15, the Indian economy is expected to witness an improved outlook in the medium term. The strong domestic demand and a more conducive investment climate are also positive for the recovery of the economy.

Budget Highlights

- Rs. 500 crore for "Deen Dayal Upadhyaya Gram Jyoti Yojana" for feeder separation to augment power supply to the rural areas.
- Rs. 14,389 crore provided for Pradhan Mantri Gram Sadak Yojna (PMGSY).
- Vision of the Government is that 500 urban habitations to be provided support for renewal of infrastructure and services in next 10 years through PPPs.
- 100 crore provided for Metro Projects in Lucknow and Ahmedabad.

- Rs. 11635 crore will be allocated for the development of Outer Harbor Project in Tuticorin for phase I.
- Scheme for development of new airports in Tier I and Tier II Cities to be launched.
- An investment of an amount of Rs. 37,880 crores in NHAI and State Roads is proposed which includes Rs. 3000 crores for the North East.
- Target of NH construction of 8500 km to be achieved in current financial year.
- Rs. 100 crore is allocated for a new scheme "Ultra-Modern Super Critical Coal Based Thermal Power Technology."
- Rs. 500 crores provided for Ultra Mega Solar Power Projects in Rajasthan, Gujarat, Tamil Nadu, Andhra Pradesh and Laddakh.
- Rs. 400 crores provided for a scheme for solar power driven agricultural pump sets and water pumping stations.
- Rs. 100 crore provided for the development of 1 MW Solar Parks on the banks of canals.



SMART CITIES

There's no simple definition for smart cities. The term encompasses a vision of an urban space that is ecologically friendly, technologically integrated and meticulously planned, with a particular reliance on the use of information technology to improve efficiency.

The Smart Cities Council, an industry-backed outfit that advocates the concept in India, describes them as cities that leverage data gathered from smart sensors through a smart grid to create a city that is livable, workable and sustainable. The scholarly definition of smart cities is cities where 'investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance'.

Cities that leverage data gathered from smart sensors through a smart grid to create a city that is livable, workable and sustainable.

In the Union Budget of 2014-15, a sum of Rs.7060 crore is provided in the current fiscal for the project of developing "one hundred Smart Cities'. Financially, Rs 70.6 crore (US$110 million) per smart city is piecemeal. But the Indian government needs to ensure that the smart cities initiative is self-sustaining without invoking controversial land acquisition processes, like special economic zones (SEZ), lest the project turn into another land-grabbing real estate venture that speculates higher returns while running over time.

Smart cities help promote sustainability, resource management, energy efficiency and participatory engagement. They need to be adapted to the local context and thus face several ideological, technical, societal, financial and governance related challenges. The 100 smart cities project must not detract from the urgent need to make India's top 100 cities livable. Hi-tech and posh Greenfield projects should not be a costly alternative to developing basic infrastructure and fostering urban-

renewal in India's degenerating cities. From a social perspective, smart cities must be inclusive, not gated communities for the uber rich. If the state overlooks the existing city's situation and privileges new enclaves, the urban fabric will be torn into two unequal parts.

India is urbanizing at an unprecedented rate, estimates suggest nearly 600 million of Indians will be living in cities by 2030.

According to the Smart Cities Council, it has collected data from sensors – electricity, gas, water, traffic and other government analytics. It is carefully compiled and integrated into a smart grid and then fed into computers that can focus on making the city as efficient as possible. This allows authorities to have real-time information about the city around them, and allows computers to attempt "perfect operations", such as balancing supply and demand on electricity networks, synchronizing traffic signals for peak usage, and optimizing energy networks.

India is urbanizing at an unprecedented rate, estimates suggest nearly 600 million of Indians will be living in cities by 2030. This is because of the study that shows cities would generate 70% of the new jobs by 2030, which would produce more than 70% of the Indian gross domestic product and drive a fourfold increase in per capita incomes across the country.

INFRASTRUCTURE SECTOR

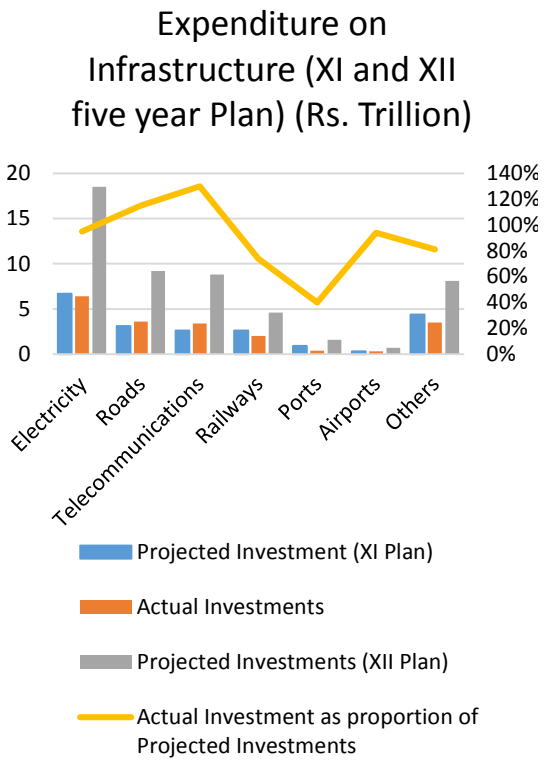
Major infrastructure development requires a substantial influx of capital investment. The policies of the Indian government seek to encourage investments in the domestic infrastructure from both local and foreign private players. FDI inflows in construction (infrastructure) activities from April 2000 to June 2013 stood at USD 2198.77 million according to Department of Industrial Policy and Promotion (DIPP). In order to increase FDI inflows to further boost investments and to enhance infrastructure, the Indian Government has introduced significant policy reforms. Road sector is the key contributor in the overall investments undertaken in the infrastructure industry.

Infrastructure Investments envisaged in XII five year plan (2012-17) increase by 2.6 times to Rs. 51.5 trillion.

In the Eleventh five year plan (i.e. 2007-08 to 2011-12), the actual investments in the infrastructure sector reached Rs. 19.5 trillion as against budgeted investment of Rs 20.6 trillion (95 per cent achievement level). The key drivers were increased focus of central government on improving the infrastructure, in lieu of which several programmes were undertaken by the government.

The construction spend on infrastructure projects is expected to amount to Rs. 51.5 trillion over the next five years from the current level of Rs 19.5 trillion (actual investments), with 47 per cent contribution by private participation and 53 per cent by the central and state governments. Within Infrastructure, Electricity is estimated to be the largest contributor, followed by Roads and Telecommunications.

Electricity: Electricity investments in the XI five year plan were Rs. 6.4 trillion (95 per cent of the budget estimates), lower than the budgeted estimate of Rs. 6.7 trillion. The growth in investments was led by huge latent demand for power in the country and significant capacity additions by both the private and public sector entities. Electricity investments are the highest among the overall investments



and stood at about 33 per cent of the total investments. In the XII year plan, the investments are expected to increase to Rs. 18.5 trillion as against Rs. 6.4 trillion (2.9 times increase).

Roads: The investments in roads in the XI five year plan were Rs 3.6 trillion (115 per cent of the budget estimates) as against the envisaged investment of Rs 3.1 trillion. Investment in roads accounted for about 19 per cent of the overall infrastructure investments during the same period. It was largely driven by the government's thrust to the sector, by encouraging PPP, speedy implementation of NHDP and the recent changes in the amenable policy environment. The continued thrust on improving rural roads and state roads network by the various state governments have also supported the growth. Investments in roads is expected to increase to Rs 9.2 trillion in XII five year plan as against Rs 3.1 trillion (actual) in XI five year plan (2.9 times increase).

Railways: Investments in railways in the XI five year plan were Rs 2.0 trillion (74 per cent of the budget estimates), well below the budgeted estimate of Rs 2.6 trillion and accounted for about 10 per cent of overall investments. The investments were led by the government's effort to implement the rail connectivity expansion plans and also due to increased momentum in MRTS projects. Railway investments were about 10 per cent of the overall investments. In the XII year plan, the investments are expected to increase to Rs 4.6 trillion as against Rs 2.0 trillion in the XI plan (2.3 times increase).

Telecommunications: Investments in telecommunications in the past five years were Rs 3.4 trillion (130 per cent of the budget estimates) as against the envisaged investment of about Rs 2.6 trillion and accounted for about 17 per cent of the overall infrastructure investments. Significant investments have been undertaken in the passive infrastructure. Going forward, the investments are

expected to increase to Rs 8.8 trillion in the next five years as against Rs 3.4 trillion in the XI five year plan (2.6 times increase).

Ports: The ports sector has achieved an investment of Rs 0.4 trillion (40 per cent of the budget estimate) while the budgeted investment was Rs 0.9 trillion and accounted for about 9 per cent of the overall investment in the past five years. The sector has witnessed a multi-fold increase in investment led by significant private sector investment in non-major port expansion. The investment in the sector is expected to increase over the next five years to Rs 1.6 trillion in comparison to Rs 0.4 trillion in the past five years (4 times increase).

Others: Other sectors include irrigation, water supply and sanitation, oil and gas pipelines, which achieved an investment of about Rs 3.5 trillion (81 per cent of the budget estimates). Irrigation sector is largely dependent on government initiatives and being a social sector has limited private sector participation. However, the need to improve water supply and sanitation facilities in urban and rural areas will drive investments in this space led by various government initiatives. Investments in oil and gas were largely led by the sustained efforts of the government to encourage upstream investments through its New Exploration Licensing Policy (NELP). Moreover, the increasing need for natural gas infrastructure including the development of gas grid and expansion of the coverage of city gas distribution has resulted in significant investments. In the next five years, investments are expected to increase to Rs 8.1 trillion from the current level of Rs 3.5 trillion in these sectors (2.3 times increase).

The infrastructure sector is driven primarily by the government's initiatives for the creation of essential facilities.

Funding of Infrastructure Projects

Infrastructure projects were funded by equity, bank/institutional borrowings, loans from holding companies, viability gap funding, soft loans, revenue shortfall loans and funding from multilateral financial institutions, IIFCL etc. However these financing options have not been able to bridge the gap. Besides inability to get financial closure of projects many projects were not able to get timely clearance for acquisition of land, environmental clearance etc. All these factors cumulatively contributed to a large number of infrastructure projects getting stalled.

As on 31st March 2014 projects of more than Rs. 6 trillion ($100 billion) were stalled. Of these road projects of Rs. 1.8 trillion (app) were stuck up in the absence of land and environmental clearances. Further half of all restructured loans aggregating about Rs. 1.2 trillion were in infrastructure sector including power and iron and steel.

Investment in infrastructure has reduced to around 5% of GDP which would be half of what is needed by the country to again reach double growth. This is against the estimate of the Planning Commission of an investment of $ 1 trillion required in infrastructure including roads, ports, airports and power plants during the current plan period i.e. 2012-17.

The government has near term spending constraints. To ease these constraints the government, RBI and SEBI have taken steps to drive banks to lend to the infrastructure sector and also to encourage investors to invest in the equity of such firms. Had India a well-developed corporate bond market the pressure on domestic lenders to fund such projects would have reduced to some extent. Despite all the constraints the infrastructure sector accounted for 14.7% of the gross advances of banks.

However there is an impediment to lending by banks to this sector and that is the asset liability mismatch. Deposits are generally raised up to a maximum period of 5 years while the loans to infrastructure are required for a period of 10 to 15 years. The compulsion of the lenders to consider loans of shorter tenors meant that the repayments had to front ended leaving very little scope for generating positive cash flows in the initial years of the project. A beginning has been made by the RBI by inducing lenders to raise long term funds by selling infrastructure bonds. The incentive offered for this is exemption to such bonds from various statutory requirements like CRR, SLR and Priority Sector lending. Even though issuance of such bonds has been permitted very few banks have actually gone in for it. Analysts feel that in case banks opt for this source of funds they could reduce the coupon rate charged for loans for infrastructure projects by as much as 150 to 200 basis points which could a big relief for such borrowers. It is felt that initially the market for such bonds could be in the vicinity of Rs. 30,000 to Rs. 40,000 crores which could develop in the long term. However there is a point of caution here. No one is willing to hazard a guess as to what is amount of money that the banks could raise through such bonds. Another issue is whether there would be enough investors to invest money for such a long period of time.

This would again lead to institutions like insurance and pension funds. However pension funds would find it difficult to subscribe because these bonds would be unsecured in nature. Since these bonds would be issued by banks they are expected to be rated high. This could attract insurance and such funds. The appetite of such funds for these bonds is however debatable.

Another measure proposed by RBI to convince banks to lend for periods corresponding to the economic life of the asset is the '5:25' lending model. In short the model allows lending to infrastructure for 25 years with periodic refinancing every 5 years. The refinancing could be done by

the existing banks, new banks or even through bonds. Such refinanced loans would not be considered as restructured loans. Since RBI has allowed amortization up to 80% of the concession period the initial repayment obligations of the borrower would reduce compared to the present. This would make the projects more viable. Also refinancing would be done after 5 years when the construction risk would be over. The borrower could therefore negotiate for a better coupon which would further improve the viability of the project.

Attracting equity has been and still remains a major issue for infrastructure companies. One of the possible source could be the Infrastructure Investment Trusts. These trusts could widen the number of investors who could invest in SPVs created for infrastructure projects. As per the guidelines 80% of the assets of such trusts have to be generated in revenue generating projects while the balance 20% could be invested in under construction assets and other investments. There is a cap of 10% on investment in under construction assets. Here again it is difficult to estimate the extent to which such trusts would attract shareholders. In the beginning finding such investors could be difficult as the product needs to be fully understood before investment.

Long term infrastructure financing needs long term institutional investors like pension funds and insurance companies. These investors look for diversified assets to match their long term liabilities. However as things stand today we cannot expect a sizable investment in this sector as they can invest in assets only if credit rating of such assets is AA or above. However most of the projects are not able to achieve the required rating primarily for two reasons. Firstly since these are Greenfield projects there is a significant level of construction and delivery risks and secondly since these projects are implemented through the SPV route rating is not up to the desired level.

Another reason for this market not developing is that the provisions of SARFESI are not applicable if the bond holders are other than banks and FIs. Stamp duty is another impediment in the way. It is charged on an ad valorem basis. The level and complexity of stamp duty does not encourage the development of the bond market.

The possible way forward is for all the concerned authorities like the government, RBI, SEBI etc. to have a coordinated approach to create a vibrant band market. Introducing a credit enhancement mechanism could enable companies with a lower rating to approach the market. The investment guidelines for insurance and pension funds need to be revisited. Rationalization of stamp duty is also needed with a uniform duty across the country with a suitable cap. Reduction or exemption of stamp duty for bonds raised to fund infrastructure projects could also be thought of. For the financing of urban infrastructure the local bodies need to issue bonds as an important source of funding.

All these steps would go a long way in achieving investor confidence in the infrastructure projects and many of the projects stuck up for non-achieving financial closure would take off again. Reference – Live Mint

Issues In The Infrastructure Sector

Speedy Implementation Of Projects –

Land acquisition and environmental clearances continue to remain critical concerns for infrastructure developers. One way to alleviate this situation is that land acquisition be done by the government prior to the project bidding stage and project commences only after land acquisition. Finally, allocation can be done to the project developers in a much quicker time via such mechanisms as competitive bidding.

Additionally, scope, terms of reference and obligatory process of environmental clearance need to be standardized and suitable body or independent consulting companies should be fostered to help bidders and developers in obtaining such clearances at a faster pace. Environmental and land acquisition issues should be addressed proactively to balance the interests of all the stakeholders.

Co-Ordination Between Government Agencies –

Currently, at least 7-8 clearances, in some cases even more, are required to set up projects. The process currently takes around 1.5 to 2 years with substantial transaction costs. Instead of this, a single window clearance system should be implemented with specific guidelines for time bound approvals. The actions and policies of different Centre and State government bodies and even central ministries need to be better coordinated.

Short Tender Process –

A reduction in time lag between bid for a project and the commencement of construction would reduce the project costs and expedite implementation. The rise in material costs due to inflation would also be then controlled. Frequent changes in the important agreements such as the Model Concession Agreement, Request for Proposal (RFP), Request for Quotation (RFQ) norms should be avoided as it makes the project implementation difficult and results in bidders spending a lot of time effort and money in performing due diligence.

Limited Depth Of The Indian Debt Markets For Long Term Funding Requirement –

India is heavily reliant on budgetary support and bank credit for funding its infrastructure needs. In many countries across the world, long term debt in form of corporate/

sovereign or municipal bonds forms a major share of infrastructure finance. However, in India, we are constrained by lack of depth and breadth of the secondary debt markets. Infrastructure projects have a long pay-back period and require long-term financing in order to be sustainable and cost effective. There is a need to improve depth and liquidity of the corporate bond market to provide additional source of funding for infrastructure companies.

The measures such as increasing FII investment limit for corporate bonds by USD 20 billion and creation of special vehicles in form of notified infrastructure debt funds with reduced withholding tax and tax exempt income, continuation of additional deduction of Rs. 20,000 for investment in infrastructure bonds, etc. are a step in the right direction. There should be further development of the Indian Debt market because the funding gap will have to be filled up by permitting the financial products necessary to be floated in the Indian markets in both fixed income and equity product offerings. Since financial leverage represents almost 70 per cent of the requirements there is an urgent need for infrastructure borrowings based fixed income products. Not only shall it increase the capital inflow for asset formation in the infrastructure space, but it shall also create a more equitable distribution of the sectorial risk.

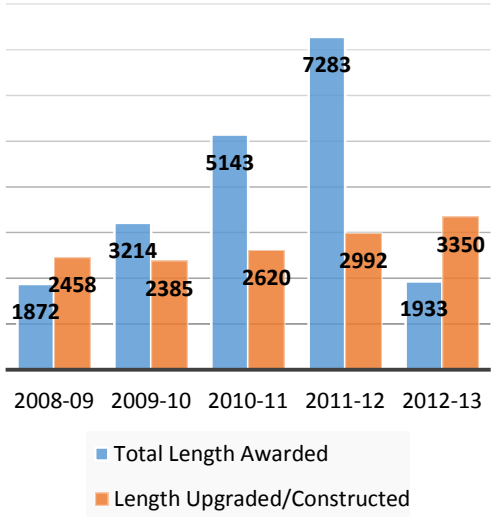
ROADS & HIGHWAYS

Road network provides the arterial network to facilitate trade, transport, social integration and economic development. It facilitates specialization, extension of markets and exploitation of economies of scale. It is used for the smooth conveyance of both people and goods. Transportation by road has the advantage over other means of transport because of its easy accessibility, flexibility of operations, door-to-door service and reliability. Consequently, passenger and freight movement in India over the years have increasingly shifted towards roads vis-a-vis other means of transport.

Road Network	Length (Kms)	% of Length
National Highway	79,116	1.69%
State Highway	155,716	3.32%
Other Roads	4,455,010	94.99%
Total	**4,689,842**	**100%**

India has the second largest road network in the world, aggregating 4.7 million km and having road density of 1.43 km per square km; however quality of roads has not been at par with others. In terms of quality, only half of India's road network is surfaced.

Year Wise Details (Kms)



Indian Roads constitute the most common mode of transportation and account for about 85 per cent of passenger traffic and around 60 per cent of the freight traffic in the country. In India, National Highways, with a length close to 79,000 km, constitute a mere 2 per cent of the road network but carry about 40 per cent of the total road traffic. On the other hand, state roads and major district roads are the secondary system of road that carry another 60 per cent of traffic and account for 98 per cent of road length.

Review Of National Highways In India

Over the last decade, the overall NHDP length (completed) has increased from around 500 km in 2001-02 to the current levels of 22,277km (as of March 31, 2014). In the last four years, the overall implementation levels have increased from 2,485 km in 2008-09 to 3,350 km in 2012-13.

During 2008-09 to 2012-13, investments on National Highways have registered a CAGR of about 16.2 per cent and increased to Rs 295 billion in 2012-13 from Rs 162 billion in 2008-09.

Awarding of National Highway projects have picked up pace from 2008-09 onwards wherein it was 1,872 km to about 7,283 km in 2011-12, increasing at a CAGR of about 57 per cent primarily driven by increasing projects awarded on BOT basis (post introduction of MCA agreement). However, it dipped significantly to a low of 1,933 km in 2012-13, impacted by the weak financial position of players, delays in project clearances and low estimated traffic density for many stretches on offer.

The National Highways Authority of India has been entrusted with the responsibility of implementing a greatly expanded National Highways Development Project (NHDP). The NHDP encompasses building, up gradation, rehabilitation and broadening of existing National Highways. It is spread over seven phases with an estimated expenditure of Rs.4,71,975 crores and envisages the improvement of more than about 54,500 km of arterial

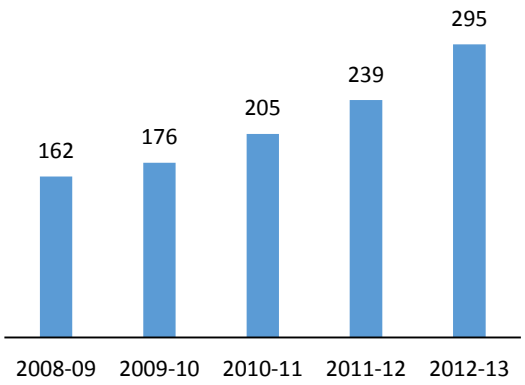
Particulars	Unit	Phase							Total
		I	II	III	IV	V	VI	VII	
Total Length	Km	7,980	7,142	12,109	14,799	6,500	1,000	700	50,230
Completed till 31/03/2014	Km	7,573	6,282	6,098	483	1,819	-	22	22,277
Completion rate as % of Total	%	94.90%	87.96%	50.36%	3.26%	27.98%	0.00%	3.14%	44.35%
Completion from 01/04/13 – 31/03/14	Km	289	148	802	311	357	-	1	1,908
Under Implementation (UI)	Km	407	443	4,326	4,575	2,262	-	19	12,032
UI as % of Total	%	5.10%	6.20%	35.73%	30.91%	34.80%	0.00%	2.71%	23.95%
Balance Length for award (BFA)	Km	-	417	1,685	9,741	2,419	1,000	659	15,921
BFA as a % of Total	%	0.00%	5.84%	13.92%	65.82%	37.22%	100.00%	94.14%	31.70%
Cost Incurred till January 31, 2014	Rs. Bn	421	629	757	55	261	1	16	2,140

routes of National Highways network to international standards.

Execution of NHDP declined sharply to 5.2 km per day during 2013-14 from 7.4 km per day during previous year, impacted by extended monsoons and large number of stalled projects. Out of the total length of 50,230 km under NHDP, about 44 per cent has been completed as on March 31, 2014. About 24 per cent of the total length is currently under implementation and the rest is yet to be awarded. The total cost incurred on NHDP projects stands at Rs 2,139 billion, as of January 31, 2014.

Road projects in India have largely been financed through public funds. State and rural roads are mainly funded by the government, while there is significant private sector participation in national highway projects.

Investments on National Highways (Rs. Bn)



The funding of NHDP is done by NHAI through:

- Government budgetary support
- Dedicated accruals under Central Road Fund (CRF)
- Multilateral agency borrowings or lending by international institutions: World Bank, Asian Development Bank (ADB), JBIC
- Private financing under PPP
- Market borrowings in the form of NHAI bonds
- Others: Toll revenue and premium

Private equity has also contributed to the provision of equity requirement for road projects. Private equity investment can further pick up following the recent announcements of exit policy for debt-stressed operators for toll roads.

Outlook Of National Highways In India

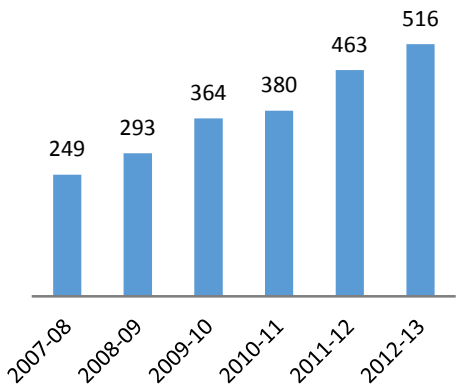
Between 2013-14 and 2017-18, it is expected that an average of 11.5 km per day of roads to be constructed /

upgraded at an estimated cost of Rs 1,945 billion. Further, National Highway investments are expected to grow 1.8 times over the next five years from Rs 295 billion in 2012-13 to Rs 535 billion in 2017-18.

In 2013-14, it is expected that awarding of 2,623 km, nearly 50 per cent of this will be part of NHDP Phase IV, which mostly involves low traffic density stretches. Further, most of the projects will be awarded on EPC basis.

Of the total length of 7,406 km awarded in 2011-12, projects with an aggregate length of 4,633 km are currently stalled. Of the total project length stalled, about 50 per cent is primarily held up due to land acquisition or environmental clearance issues, while the rest are stuck due to the inability of companies to achieve financial closure. Hence, project execution will decline by around 4 per cent to 3,206 km during 2013-14. However, going ahead it is expected that the implemented road length will exhibit a moderate growth from 3,350 km in 2012-13 to 5,000 km in 2017-18.

Investments on State Roads (Rs. Bn)



Review Of State Roads In India

State roads constitute about 20 per cent of the country's total road network and handle about 40 per cent of the total road traffic. They comprise state highways, major district roads (MDRs) and rural roads that do not come under the purview of the Pradhan Mantri Gram Sadak Yojana (PMGSY). State roads significantly contribute to the economy of mid-sized towns and rural areas and to the country's industrial development by enabling movement of industrial raw materials and products from and to the hinterland.

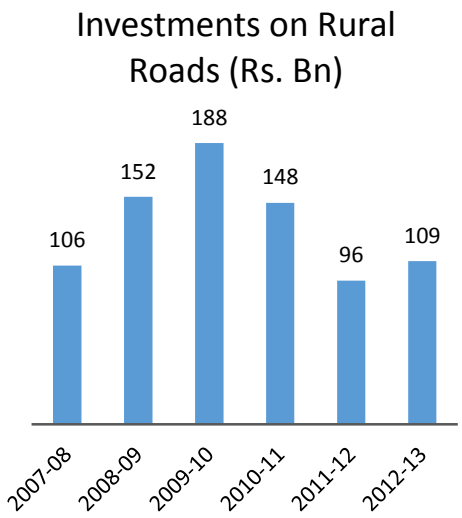
During 2007-08 to 2012-13, overall investments increased at a CAGR of 15.7 per cent to Rs 516 billion in 2012-13 from Rs 249 billion in 2007-08.

Outlook Of State Roads In India

State governments have been increasingly focusing on the improvement of state roads, which has, in turn, led to considerable expenditure. Between 2013-14 and 2017-18, the length of roads and highways upgraded/ constructed is expected to grow at an average of 6.5 per cent. Thus, total investments in state roads between 2013-14 and 2017-18 are expected to grow at an average of 11.8 per cent. With state governments increasing their focus on state road programmes, private participation is likely to increase gradually over the next five years.

Review Of Rural Roads In India

Connectivity of rural roads is a key driver of rural development as it promotes access to economic and social services, thereby increasing income levels and employment opportunities in India. Consequently, it is also a key ingredient in ensuring sustainable poverty reduction. However, despite efforts at the Central and state levels through various programmes, about 40 per cent of the country's population are still not connected by all-weather roads. Even in places that are connected the quality of roads remains inferior due to poor construction and lack of maintenance.



To address this lack of connectivity, the government launched the Pradhan Mantri Gram Sadak Yojana (PMGSY) in December 2000 to build all-weather roads in remote areas. The PMGSY is a centrally-sponsored scheme, which is implemented by the respective state governments. The programme was re-phased to achieve targets of rural connectivity under the Bharat Nirman scheme, initiated in 2005-06.

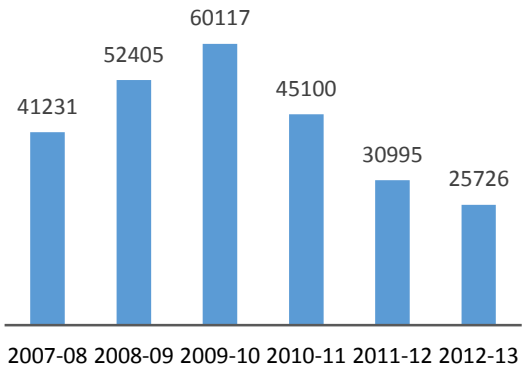
The implementation of projects was slow in the initial phase of the PMGSY. A part of PMGSY was brought under the Bharat Nirman programme in 2005-06 in order to improve

the execution of rural roads. Implementation of rural road projects under the PMGSY showed a steady increase from 2005-06 till 2009-10. There has, however, been a slowdown in execution since 2010-11. Due to the paucity of funds, the measures taken to prioritize development work and manage funds for PMGSY were - Higher focus was given to new connectivity projects rather than upgradation works and Projects in LWE affected area (Left Wing Extremism) areas and those funded by ADB, World Bank, Bharat Nirman were implemented.

Outlook Of Rural Roads In India

The funding issues are expected to be gradually resolved over the next five years. It is expected that there would be improvement in execution and the investments would grow at a CAGR of 10.9 per cent over the next five years from about Rs 109 billion in 2012-13 to Rs 183 billion in 2017-18.

Length of Rural Roads Constructed/Upgraded (Kms)



Factors Driving Growth In The Sector

Economic growth, increasing government thrust, preference of road in freight traffic, increase in private participation and increase in passenger traffic and vehicle density are key growth drivers in road sector investments.

Economic Growth –

Freight traffic growth is a function of economic activity which further necessitates road development. Freight traffic has grown at a CAGR of 6.8 per cent from 2008-09 to 2013-14 in line with the economic growth of 6.7 per cent during the same period. Freight traffic growth is set to revive to 5-7 per cent in 2014-15, up from the 3.5 per cent growth seen in 2013-14, following an expected improvement in the macroeconomic environment. Industrial GDP is expected to grow at 4.0 per cent in 2014-15, as against a mere 0.7 per cent in 2013-14 aided by the resumption of stalled infrastructure projects, recovery in

mining activities and improvement in export demand. However, this growth is still very modest and below the long term average.

Roads continue to dominate freight traffic with its share in overall freight movement rising steadily to 63 per cent in 2013-14 from 58 per cent in 2008-09 due to healthy growth in non-bulk traffic and capacity constraints in railways.

Road Freight Traffic Gaining Preference –

Capacity constraints in the railways had led to the share of roads in the primary freight increasing from an estimated 58 percent in 2008-09 to around 63 per cent in 2013-14. Road freight transport augmented at 8.5 per cent CAGR during 2008-09 to 2013-14 as against a 6.8 per cent CAGR in overall primary freight traffic. From 2012-13 to 2017-18, road freight traffic is expected to expand by 7-9 per cent CAGR, which is higher than the growth in overall primary freight demand. Growth in road freight traffic will be largely driven by growth in non-bulk traffic and development of road infrastructure. Roads remain the preferred mode of transport for non-bulk traffic. As non-bulk traffic is expected to grow at a faster pace of 8-10 per cent compared to 4 -6 per cent in bulk traffic over the next 5 years, the share of non-bulk commodity in total road traffic is expected to increase to around 80 per cent. Currently, of the total road freight traffic, non-bulk commodities account for around 78 per cent.

Increasing Vehicular And Passenger Traffic –

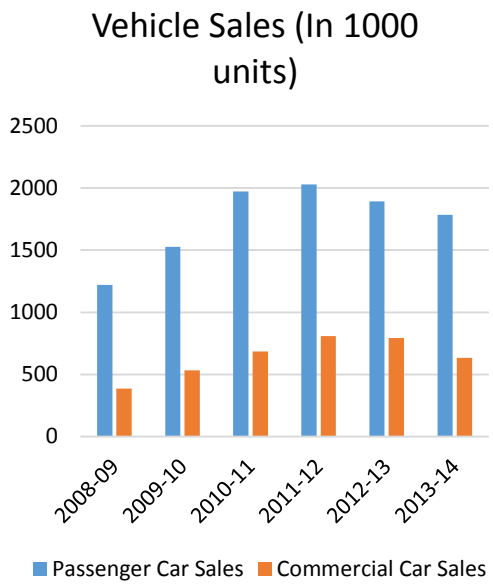
Growth in vehicular and passenger traffic have both outpaced increase in total road network in the past. While number of vehicles increased at around 10.3 per cent between 2001 and 2008, passengers travelling by road increased at 6.4 per cent CAGR. On the other hand, the total road network increased at just 2.6 per cent during the same period. This increase in vehicular and passenger traffic is

expected to put pressure on existing road network and hence necessitating road development.

Since 1950-51, the passenger traffic for railways has come down from 85 per cent to 23 per cent while passenger traffic for roads has consistently grown from 29 per cent to 77 per cent for the same period.

Vehicular Growth Which Was Robust Till 2011-12 Has Tapered In Past Two Years –

Domestic passenger car sales increased from 1.22 million units in 2008-09 to 1.78 million units in 2013-14 at a CAGR of 7.9 per cent. From 1.22 million units in 2008-09, the domestic passenger car sales increased at a CAGR of 18.5 per cent to 2 million in 2011-12. However, from 2011-12 to 2013-14, domestic passenger car sales has seen a degrowth of 6.6 percent primarily due to increased macroeconomic uncertainty, weak consumer sentiments, lower disposable incomes due to high inflation, rigidity in auto lending rates and high petrol prices.



Commercial vehicles showed robust growth at a CAGR of 28 per cent from 385,000 units in 2008-09 to 809,000 units in 2011-12. However just like the domestic passenger car sales, commercial vehicle sales too showed a degrowth from 2011-12 to 2013-14 (at a CAGR of 13 per cent).

Increasing Government Thrust –

There are various initiatives that have been undertaken by the Government of India (GOI) namely Highway Development Programme (NHDP), Pradhan Mantri Gram Sadak Yojna (PMGSY) and Central Road Fund Act (2000), and other initiatives like viability gap funding, tax benefit etc.

NHDP was an initiative undertaken by the central government to develop National Highways in the country during 2005-2015 with an investment of Rs 2356.9 billion.

PMGSY, a 100 per cent centrally sponsored scheme was launched for providing all-weather access to unconnected habitations. It is aimed at providing connectivity to 172,000 habitations with 365,279 km of new road and developing 368,000 km of existing roads ensuring full farm-to-market connectivity.

Central Road Fund is a dedicated fund created by the central government from collection of cess on petrol and high speed diesel (HSD). For 2012-13, an allocation of Rs 194 billion has been earmarked under CRF for 2012-13.

Other initiatives include viability gap funding of up to 40 per cent on a case-to-case basis. Also, tax benefits are offered to contractors by providing 100 per cent tax exemption for five years and 30 per cent relief for next five years, which may be availed of in 20 years besides proving concession period up to 30 years.

Investments in National Highways increased at 16 per cent CAGR over the past four years.

Initiatives In The Sector By The Government

The Government has undertaken several initiatives for developing National Highways. These are

- FII investment limit in infrastructure corporate bonds was raised from USD5 billion to USD25 billion in the Union Budget.
- Infrastructure finance companies have been permitted to issue tax-free bonds for a total value of USD9.2 billion for FY14.
- The Prime Minister's Gram Sadak Yojana (PMGSY) is a scheme for development of rural roads in India and Rs. 14389 crore has been provided in the Union Budget. In FY 2013-14, around 39,144 kilometers of rural roads were constructed.
- The Companies can enjoy 100 per cent tax exemption in road projects for five years and 30 per cent relief over the next five years.

- The government will provide grants or viability gap funding (VGF) in the case of BOT-toll projects that are not financially viable.
- Central Road Fund is a dedicated fund created by the central government from collection of cess on petrol and diesel.
- Finance Ministry has suggested to banks to consider 80 per cent of land acquisition while granting disbursements instead of the current 100 per cent norms.
- As per recent RBI directive, loans for PPP projects can be considered as 'secured' subject to fulfilment of certain conditions like escrow for toll, right of substitution for lenders, compulsory buyout by project authority in case of termination by lenders etc.
- As per the Environment Ministry notification issued in August 2013, highway development projects involving widening of roads, which are up to 100 km, need not take environment clearance.
- As part of India–Japan Strategic and Global Partnership, the two sides launched a Special Economic Partnership Initiative (SEPI), including the Delhi–Mumbai Industrial Corridor (DMIC) project.
- The Indian government plans to set up a finance corporation with an amount of Rs 1 trillion (USD 16.34 billion), in collaboration with Japanese investors, to fund projects in the roads segment. The Japanese partners are expected to have a 26 per cent stake with assured returns of nine per cent.

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Issues In The Roads Sector

Issues Relating To Costing Of The Concession –

Disagreement of estimates of Total Project Cost (TPC) between NHAI and the Concessionaire and its impact on the linked Termination Payments, VGF/Grant remains an issue. Apart from information asymmetry between the principal

(NHAI) and the agent (Concessionaire), different valuation expectations of parties and different risk return profiles of the two, further add to uncertainty of the bid process. To mitigate risks at this end, the following two approaches could be adopted.

The TPC estimated by NHAI can be considered as basis for calculation of grant at the time of bidding.

The actual cost expended by the Concessionaire for completion of the project which is vetted and certified by Independent Engineer appointed by NHAI should be considered for calculation of Termination Payments to cover the entire debt of project.

Regulatory Issues –

The new premium based bidding adopted by NHAI for Toll based road projects with concession period extending to 25-30 years was leading to developers quoting aggressive bids. This is not only leading to increased risk profile for the project especially in the initial years but also necessitating longer tenor loans of 18-20 years to be able to service the debt.

The concession period may be aligned to the debt providing capacity of the banks, ideally with an average loan maturity period of say 10 years for a typical road project. Accordingly, the concession period for a project can be reduced from the current range of 25-30 years - Specialized financial institutions, devise a scheme to provide debt facility, which are back ended though carry pari-passu charge for the purpose of security and cash-flows. The repayment of principal portion of said debt could commence only after say 15 years. In such a scenario, the developers can meet their requirement of 18-20 year debt facility, with banks getting repaid in first 15 years of the facility and the specialized financial institutions getting repaid during the balance period.

Financing Issues –

The rate of interest to be charged by IIFCL should be fixed at a particular rate as it will be swapping receivables with a Bank having good credit ratings (AAA). Pricing by IIFCL should be tied directly to the project cash flows without it being a function of the pricing as charged by the bank. The tenor should match the tenor of other loans and not be restricted to 10 years. Similarly, the cap of funding a project should be increased to 90 per cent of the total residual loan.

IIFCL take-out fee should be payable only at the time of take-out and that too if the take- out actually happens. In Scheme for Financing Viable Infrastructure Projects by IIFCL of direct lending, the cap on financing a project should also be increased to 50 per cent from current level of 20 per cent of TPC. IIFCL as a Special Infra Company may come with Credit Enhancement Product to develop the Corporate/Infra Bond Market.

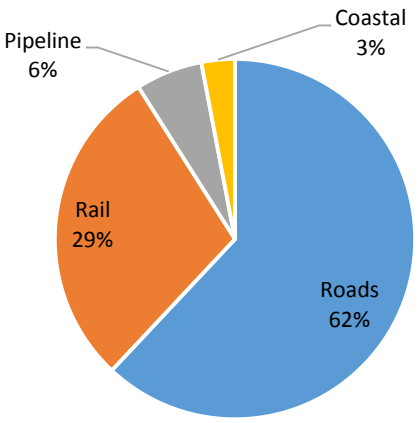
The Indian government plans to develop a total of 66,117 km of roads under different programmes such as National Highways Development Project (NHDP), Special Accelerated Road Development Programme in North East (SARDP-NE) and Left Wing Extremism (LWE), and has set an objective of building 30 km of road a day from 2016.

TRANSPORTATION

The Indian transportation industry is poised at a crossroads along its growth trajectory. This is particularly important at this juncture in light of the ongoing global economic uncertainty that has been impacting the Indian market to an extent. However, driven by strong fundamentals and consistent demand, the resilient Indian economy in general is seemingly well-positioned to sail through turbulent global waters.

Rising investment, rapidly evolving regulatory policies, mega infrastructure projects, and several other developments in recent times have driven the Indian transportation market, simultaneously gradually overcoming infrastructure-related constraints and logistics-centric inefficiency. While traversing this road to development, multiple projects and services have been either at the planning or implementation stage. Such developments have spanned across all modes of transportation services, and have involved the active participation of all stakeholders.

Freight Traffic for All Modes of Transport

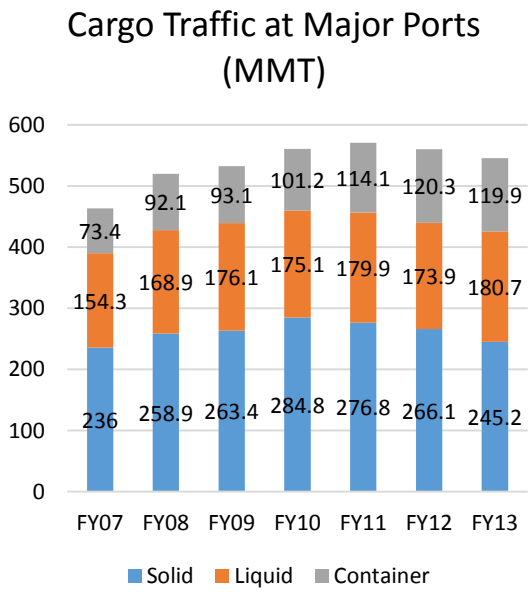


India’s transport sector is large and diverse, with road transportation contributing the major share. Good physical connectivity in the urban and rural areas is essential for economic growth. Since the early 1990s, India's growing economy has witnessed a rise in demand for transport infrastructure and services. However, the sector has not been able to keep pace with rising demand and is proving to be a drag on the economy. Major improvements in the sector are required to support the country's continued economic growth and to reduce poverty.

Indian Railways is one of the largest railways under single management. It carried 8,425 million passengers’ annually or more than 23 million passengers daily (roughly half of which were suburban passengers) and 1050.18 million tons of freight in the year. The railways play a leading role in

carrying passengers and cargo across India's vast territory. However, most of its major corridors have capacity constraint requiring capacity enhancement plans.

Roads are the dominant mode of transportation in India today. They carry almost 85 percent of the country's passenger traffic and 60 percent of its freight. The density of India's road network is at 1.43 km per square kilometer. In India, National Highways, with a length close to 79,000 km, constitute a mere 2 per cent of the road network but carry about 40 per cent of the total road traffic. On the other hand, state roads and major district roads are the secondary system of road that carry another 60 per cent of traffic and account for 98 per cent of road length.



India has 13 major and around 200 non major ports along its 7517 km long coastline. These ports serve the country's growing foreign trade in petroleum products, iron ore, and coal, as well as the increasing movement of containers. Inland water transportation remains largely undeveloped despite India's 14,000 kilometers of navigable rivers and canals.

The Indian airports handled 169 million passengers and 2.32 million tonnes of cargo in year 2013-14. The dramatic increase in air traffic for both passengers and cargo in recent years has placed a heavy strain on the country's major airports. Transport infrastructure in India needs to be developed to handle the growing traffic in the country.

Initiatives In The Sector By The Government

- Construction of 8,500 kilometers of National Highways, backed by a further infusion of Rs. 37,880 crores in National Highway Authority of India ("NHAI") and State Roads.
- Initiate work on select expressways in parallel to the development of the Industrial Corridors.

- Pradhan Mantri Gram Sadak Yojana to receive Rs. 14,389 crores to enhance access for rural population.
- Outlay of Rs. 50 crores for pilot testing a scheme on "Safety for Women on Public Road Transport".
- Encourage development of Urban Metro Projects under PPP mode, supported by Central Government through VGF.
- To set aside a sum of Rs. 1,000 crore to improve rail connectivity with North Eastern Region.
- Key proposals in the Rail Budget include – Diamond Quadrilateral project of high speed trains to connect all major metros; high speed bullet train proposed on Mumbai-Ahmedabad route; and dedicated freight corridor proposed on Eastern and Western corridors. (BMR).
- Sixteen new port projects proposed to be awarded during the current financial year to boost trade and enhancing port connectivity.
- Project on river Ganga proposed to develop National Waterways-I.
- Rs. 11,635 crore will be allocated for the development of Outer Harbor Project in Tuticorin for phase I.
- The facility of Electronic Travel Authorization (e-Visa) is to be introduced in a phased manner at nine airports in India.

Issues In The Transportation Sector

High Market Fragmentation –

The transport sector is highly fragmented and is still evolving, resulting in acute operational inefficiencies.

Delay In Project Execution –

Due to issues in procedural clearances, many projects have been delayed, resulting in time and cost-overruns.

Sub-Optimal Modal Mix –

Over decades, the road transport has significantly replaced rail as a key mode of transport, resulting in an increasingly unfavorable modal mix.

Bottlenecks In Hinterland Connectivity –

- Lack of integrated planning via a unified regulatory logistics body at the Union level inhibits integrated planning to develop hinterland connectivity to ports
- Sub-optimal availability of modal capacity (rail vs. road)
- High congestion at ports, with several of them witnessing over 90 per cent utilization, impacts the economics, turnaround time, and service levels across the supply chain.

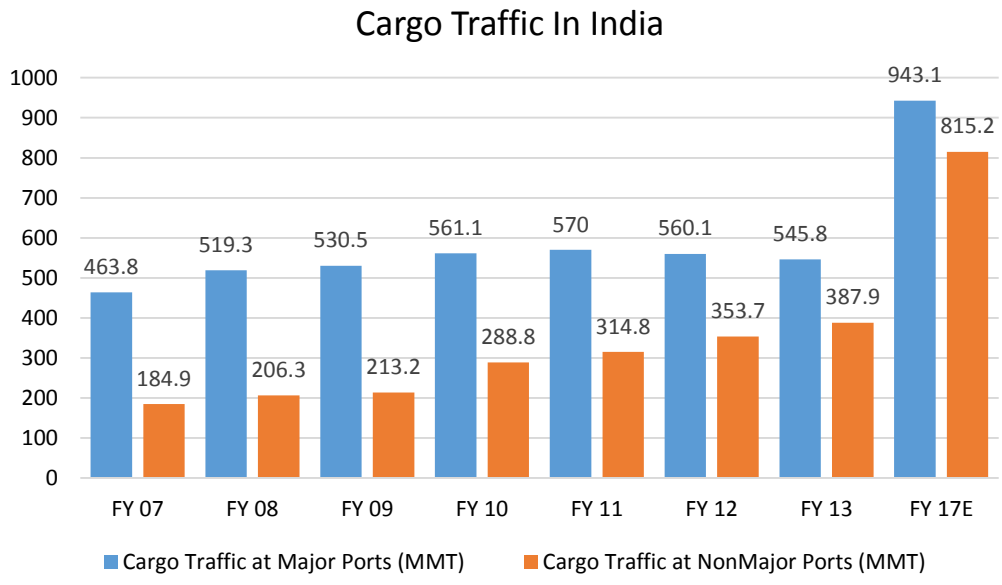
Regulatory Landscape –

- Lack of clarity on port regulation, especially with relation to tariff and the role of TAMP in the light of the recently proposed Port Regulatory Authority Bill, has increased nervousness among investors and operators
- Delay in GST implementation has been impacting the readiness of logistics service provider and end users
- Slower corporatization of major ports, and awarding port projects to private investors have impacted port efficiency and development of new projects.

PORTS

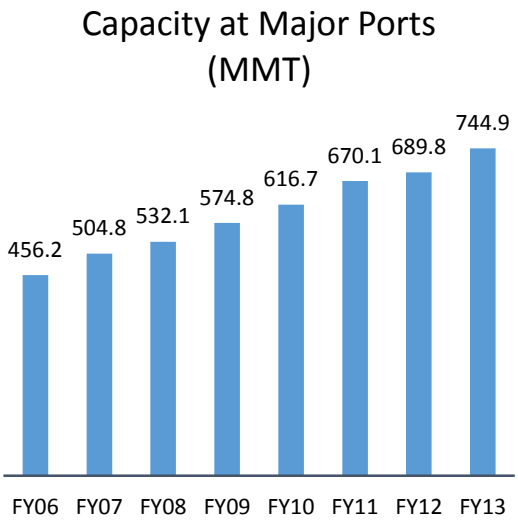
India currently ranks 16th among maritime countries, with a coastline of about 7,517 km. Around 95 per cent of India's trade by volume and 70 per cent by value takes place through maritime transport, according to the Ministry of Shipping. The Indian ports and shipping industry plays a vital role in sustaining growth in the country's trade and commerce. Most cargo ships that sail between East Asia and America, Europe and Africa pass through Indian territorial waters. Cargo traffic, which was 911.5 million metric tonnes (MMT) in 2012 is expected to reach 1,758 MMT by 2017.

The port traffic in India is set to rise at a CAGR of 17.1% over FY 13-17 at an all India level. There are 13 major ports in the country of which 6 are on the Eastern coast and 7 on the Western coast. India has about 200 non-major ports of which one-third are operational. The non-major ports are benefitting from strong growth in India's external trade. The demand for port allied services such as operations and maintenance, and ship repair service are also increasing.



The government initiated NMDP to develop the maritime sector with a planned outlay of USD11.8 billion. FDI of 100 per cent under the automatic route and a ten year tax holiday for enterprises engaged in ports was done for the development of the port sector.

The 12th Five-Year Plan (2012–17) is focused on the development of major and non-major ports through public and private investments. The proposed outlay for port sector in the plan, excluding private investment, is USD4.9 billion. The government anticipates private sector investment of around USD 28.8 billion during 12th Plan Period.



The Indian ports sector received FDI worth US$ 1,635.40 million in the period April 2000–May 2014. The ports sector was also awarded 30 projects in FY14, investing over Rs 20,000 crore (US$ 3.26 billion) which is a threefold increase over the preceding year. During April–May 2014, India's major ports handled 95.87 million tonnes (MT) of cargo as against the 91.48 MT handled during the corresponding period of 2013, an increase of 4.8 per cent.

Recent Trends In The Ports Sector

Increasing Private Participation –

Strong growth potential, favorable investment climate, and sops provided by state governments have encouraged domestic and foreign private players to enter the Indian ports sector. In addition to the development of ports and terminals, the private sector has also extensively participated in port logistics services

Setting Up Of Port Based SEZs –

SEZs are being developed in close proximity to several ports, thereby providing strategic advantage to industries within these zones. Plants being set up include –

- Coal-based power plants to take advantage of imported coal
- Steel plants and edible oil refineries
- Development of SEZs in Mundra, Krishnapatnam, Rewas and few others is underway

Focus On Draft Depth –

All the Greenfield ports are being developed at shores with natural deep drafts and the existing ports are investing on improving their draft depth. Higher draft depth is required to accommodate large sized vessels. Due to the cost and time advantage associated with the large sized vehicles, much of the traffic is shifting to large vessels from smaller ones, especially in coal transportation.

Specialist Terminal-Based Ports –

Terminalisation is the focus on terminals that deal with a particular type of cargo. This is useful for handling specific cargo such as LNG that requires specific equipment and hence high capital costs. Forming specialist terminals for such cargo result in optimal use of resources and increased efficiencies. Examples of specialist terminals are ICTT in Cochin, LNG terminal in Dahej Port

Landlord Port Model –

To promote private investments, the government has reformed the organizational model of seaports.

- From: A 'service port' model where the port authority offers all the services
- To: A 'landlord port' model where the port authority acts as a regulator and landlord while port operations are carried out by private companies
- The Major ports following 'landlord port' model are JNPT, Chennai, Visakhapatnam and Tuticorin

Rising Traffic At Non-Major Ports –

With the increasing private participation in establishing minor ports, the cargo traffic handled by the minor ports are outpacing cargo traffic at major ports. The traffic on non-major port has expanded at a CAGR of 13.1 per cent during FY07–13.

Initiatives In The Sector By The Government

- A port-based multi-product special economic zone (SEZ) worth Rs. 4,000 crore (USD 653.19 million) and the Rs. 1,900 crore (USD 310.26 million) Port Connectivity Highway Project at the Jawaharlal Nehru Port Trust (JNPT) in Raigad district is being developed.
- JNPT and the Port of Singapore Authority (PSA) have signed a concession agreement for the Port's fourth container terminal, worth Rs 8,000 crore (US$ 1.31 billion).
- In the Union Budget 2013–14, the government allocated Rs 11,635 crore (US$ 1.89 billion) for the expansion of the VO Chidambaranar (VOC) Port in Tuticorin.
- The National Maritime Agenda 2010–2020 is an initiative of the Ministry of Shipping to outline the framework for the development of the port sector. The agenda also suggests policy-related initiatives to better the operating efficiency and competitiveness of ports in the country.

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The National Maritime Agenda

- To create a port capacity of around 3,200 MT to handle the expected traffic of about 2,500 MT by 2020.
- Proposed investments in major ports by 2020 are expected to total USD18.6 billion, of which USD12.4 billion is expected to come from private sector

players and the remaining from budgetary allocation, while those in non-major ports would be USD28.5 billion.

- To implement full mechanization of cargo handling and movement at ports, thereby bringing Indian ports on a par with the best international ports in terms of performance and capacity.
- To develop two major ports (one each on East and West coast) to promote trade as well as two hub ports (one each on the West coast and the East coast) – Mumbai Jawaharlal Nehru Port Trust (JNPT), Kochi, Chennai, and Visakhapatnam.
- To establish a port regulator for all ports in order to set, monitor, and regulate service levels, technical and performance standards.
- By 2015, it aims to increase the share of Indian seafarers in the global shipping industry from 6–7 per cent to at least 9 per cent.

Opportunities In The Sector –

Increasing Scope For Private Ports –

With rising demand for port infrastructure due to growing imports (crude, coal) and containerization, public ports (major ports) will fall short of meeting demand. This provides private ports with an opportunity to serve the spill-off demand from major ports and increase their capacities in line with forecasted new demand.

Ship Repair Facilities At Ports –

Dry docks are necessary to provide ship repair facilities. Out of all major ports, Kolkata has five dry docks, Mumbai and Visakhapatnam have two; the rest have one or no dock at all. Given the positive outlook for cargo traffic, and the resulting increase in number of vessels visiting ports, demand for ship repair services will go up. This will provide

opportunities to build new dry docks and setup ancillary repair facilities.

Port Support Services –

Increasing investments and cargo traffic point to a healthy outlook for port support services. These include Operation and Maintenance (O&M) services like pilotage, harboring and provision of marine assets like barges and dredgers. Currently, limited players provide port O&M services, ensuring an opportunity for domestic and overseas players.

Issues In The Ports Sector

Regulatory Regime –

As per the extant policy on private sector monopoly prevention in Major Ports, if there is only one private terminal operator in a port for a specific cargo then it cannot bid for the next project in the same cargo, which is too restrictive. Hence, the operators should be permitted to bid for adjacent berths in a port as there are few players in the market and would also provide economies of scale to the operators.

Expedite the formation of the State Maritime Boards to facilitate and expedite resolution of issues pertaining to various key clearances/approvals and transfers of titles required for private sector participation in minor port projects.

Model Concession Agreement Framework –

As per the Model Concession Agreement (MCA) for Major Ports, the ownership of the Project Site and Port's Assets shall always remain vested with the Concessioning Authority. The rights of the Concessionaire in the Project Site and Port's Assets shall only be that of a bare licensee of such assets and the Concessionaire shall neither assign, transfer, sublet, create any charge on whole or any part of

the Port's Assets or Project Site. No leasehold charge on land, poses an issue in security perfection since charge on fixed immovable assets alone is not enough in case of enforcement of security.

Deadline for Financial Closure (FC) is 3- 6 months, which can pose a problem as FC definition refers to date of access of funds. The date of award of Concession is subject to FC and as such cannot commence construction with own partial equity contribution unless the debt funds are also accessible. Further, in most instances certain clearances and approvals are pending at the time of appraisal by Lenders, which generally need to be obtained prior to disbursement. Further CA requires execution of an Escrow Agreement as a Condition Precedent to award of Contract; whereas the Escrow Agreement can be signed only post financial close.

The Project capacity defined in the MCA poses a problem, as bidding is generally stretched based on higher capacities. The MCA should instead limit Project Capacity to only minimum capacity generation requirement.

The Estimated project cost should clarify that it refers to cost entailed to handle a certain capacity since quite often the total estimated project cost financed exceeds the cost mentioned in the MCA due to varied valid reasons. A deemed provision for ratification to be included in CA.

While the Concession Period fixed by the Government in most projects is 30 years (extendable up to next 20 years) the MCA should have an option to extend the Concession Period based on fulfilment of certain conditions by the Concessionaire. Longer concession period shall make the Port concessions more lucrative and aid to tap newer avenues of funding.

Payments on Termination due to Concessionaire Event of Default during construction should be to the extent of at least the debt due. Presently no compensation is payable.

Concession Agreements should follow a similar framework whether being used by Major Ports or Minor Ports. Certain CA (like GMB Model Concession Agreement) does not refer to termination of the Concession due to Force Majeure. This is a concern for lenders as if the force majeure event persists for an extended period of time; the concessionaire may become a non-performing asset. In such a case, the lender must have a right to terminate the concession and recover any dues by enforcement of security, if it wishes to do so.

The concession agreement needs to have flexibility (criteria based) so as to allow new shareholders, change in project development to reflect the funding requirement or change in cargo profile etc.

Poor Hinterland Connectivity –

Weak hinterland connectivity is a challenge for most Indian ports, reducing accessibility and leading to sub-optimal utilization of the port facilities. To mitigate the problem, the government could form a JV with the private party to develop the infrastructure simultaneously. Rail road connectivity should form an integral part of the Government/Licensor's responsibility as these are key support infrastructure requirements for Port Projects.

Administration –

The major ports are governed by the Major Port Trusts Act, 1963 and the minor ports by the Indian Ports Act 1908. The Board of Trustees are appointed by the Government of India to administer the port represent government departments involved with port operations, labor and service providers such as stevedores, shipping agents etc.

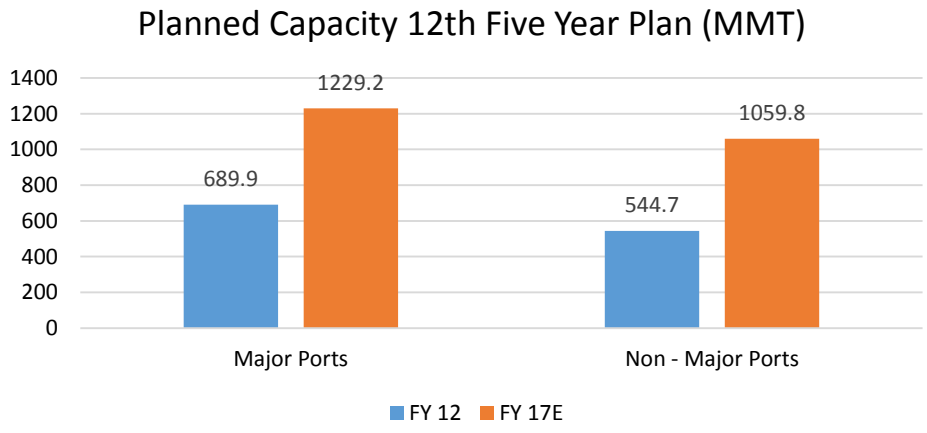
Sometimes the interest of different parties may be at cross purpose, which may not be in interest of the port operations.

Hence, all new ports may be set up as companies under the Indian Companies Act and the existing Port Trusts may also be gradually corporatized and set up as companies to make ports operate on commercial principles and make it possible to evaluate their performance on the basis of their profitability.

Outlook Of Ports Sector

Increasing investments and cargo traffic point to a healthy outlook for India's ports sector. Services benefiting from these investments include operation and maintenance (O&M), pilotage, and harboring and provision of marine assets like barges and dredgers.

The 12th Five Year Plan projects a total investment of Rs 180,626 crore (US$ 29.49 billion) for this industry. Also, through its Maritime Agenda 2010–2020, the Ministry of Shipping has set a target capacity of over 3,130 MT by 2020, driven by private sector participation. Over 50 per cent of this capacity is anticipated to be generated at non-major ports.



POWER

India has been one of the fastest growing economies in emerging markets. One of the key factors behind any growing country is the energy requirement and supply in that country. As energy plays a very important role in industrial production and common man's life, it has become extremely important to boost the growth in energy segment for the growth of the country.

With the growing demand in energy requirement, the annual per capita energy consumption has grown significantly. To fulfill the energy demand, the government has worked out a plan for generation capacity addition in the country.

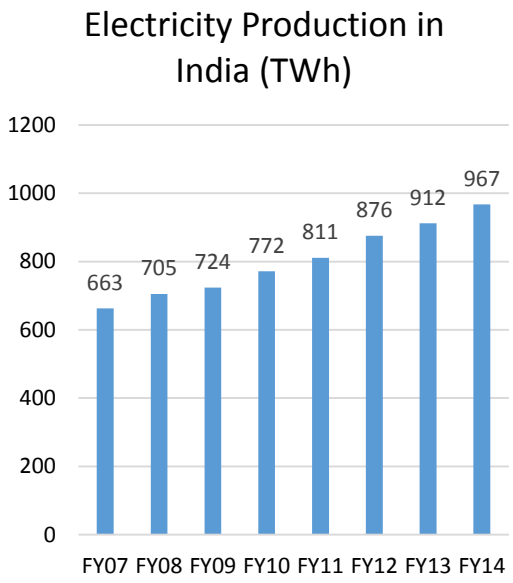
With every capacity addition plan, there is an increased requirement of power equipment's. There are many challenges in front of the country related to the supply and requirement of power equipment's. Inspite of government initiatives in increasing energy supply in the country, there are many issues that are creating barriers in capacity addition plan. Despite significant efforts, the government has not been able to meet energy requirement of the country leading to many opportunities for private players to enter in the market.

India is the fifth largest producer and consumer of electricity in the world, with a production of 1,006 TWh. Although power generation has grown more than 100-fold since independence, growth in demand has been even higher due to accelerating activities in the economy. The expansion in the industrial activity and the growing population and increasing penetration of electricity have been the key reasons in the increase in demand.

The electricity production in India (excluding captive generation) stood at 911.6 TWh in FY13, which increased to

967 TWh in FY14. In the last few years, the electricity production in India has expanded at a CAGR of 5.6%.

The Planning Commission's 12th Plan projects that total domestic energy production would reach 669.6 million tonnes of oil equivalent (MTOE) by 2016–17 and 844 MTOE by 2021–22.



Sources For Power Generation

Thermal –

Thermal Power is the major source of power generation in India contributing to 68% of the total installed capacity. As of April 2014, total thermal installed capacity stood at 168.4 GW. The thermal power is generated through Coal & Gas.

- Coal - India has large reserves of coal. As of January 2014, total coal reserves stood at 301.5 billion tonnes; of which, 125.9 billion tonnes was proven reserves.
- Gas - India's proven natural gas reserves measure about 1.4 trillion cubic meters.

Hydro –

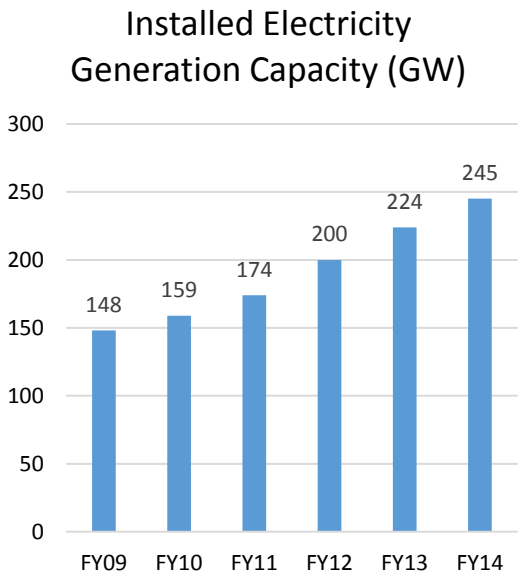
It contributes to 18% of the total power generation in the country. With a large swathe of rivers and water bodies, India has enormous potential for hydropower; the 12th Five-Year Plan (2012–17) includes additional 30GW of hydroelectric power generation. Currently, India has 40.5 GW of hydro power generating capacity.

Renewable –

As of April 2014, total installed power capacity from renewable energy sources (excluding Hydro power) was 31.7 GW. This accounts for 12.9 per cent of the total installed power capacity and forms 6.5 per cent of the total electricity mix.

Wind energy is the largest source of renewable energy in India; it accounts for an estimated 87 per cent of total installed capacity (18.3 GW). There are plans to double wind power generation capacity to 20 GW by 2022.Biomass is the second largest source of renewable energy, accounting for 12 per cent of total installed capacity in renewable energy. There is a strong upside potential in biomass in the coming years. Solar energy accounts for 1 per cent of total renewable energy installed capacity. The country's true potential for solar power stands at an estimated 5,000 TWh per annum. Capacity addition of 30 GW is planned using various renewable energy technologies during the 12th Five-Year Plan. Wind Energy is estimated to contribute 15 GW, followed by solar power at 10 GW and the remaining by other sources.

Nuclear –



The Nuclear Power generation contributes to only 2% of the total power generated in the country. Currently, India has 4.8 GW of net electricity generation capacity using nuclear fuels (across 20 reactors) and aims to increase it to 45 GW by 2020; with one of the world's largest reserves of thorium, India has a huge potential in nuclear energy.

In 2010, India stood fifth in the Asia-Pacific region in nuclear electricity net generation (behind Japan, South Korea, China, and Taiwan). Currently, the country has net installed capacity of 4.8 GW, using nuclear fuels, across 20 reactors. Of the 20 reactors, 18 are Pressurized Heavy Water Reactors (PHWR) and two are Boiling Water Reactors (BWR).Currently, seven nuclear power reactors of 4,890 MW capacity are under construction. Nuclear Power Corporation of India Limited (NPCIL) plans to construct five nuclear energy parks with a capacity of 10,000 MW.

For the 12th Five-Year Plan, a total of 88.5 GW of power capacity addition is targeted; of which, 72.3 GW constitutes

thermal power, 10.8GW hydro power and 5.3GW nuclear power.

The capacity addition target for 2014–15 is 842 MW of hydro power, 14.9 GW of thermal power and 2 GW of nuclear power. Total capacity target is 17.8 GW.

Policy Support To The Sector

Electricity Act, 2003 –

- Elimination of licensing for electricity generation projects.
- Increased competition through international competitive bidding.
- Demarcation of transmission as a separate activity.

National Tariff Policy, 2006 –

- Adequate return on investment to companies engaged in power generation, transmission and distribution.
- Uniform guidelines to SERCs for fixing tariffs.
- Assured electricity to consumers at reasonable and competitive rates.

Ultra Mega Power Projects –

- Launch of the UMPP scheme through tariff-based competitive bidding.
- Ease of land possession, provision of fuel, water and necessary clearances for enhancing investor confidence.

R-APDRP –

- R-APDRP was launched by Ministry of Power with the purpose of reducing AT&T losses up to 15 per cent by upgradation of transmission and distribution network.

- Linking disbursement of central government funds (to states), with actual reduction in transmission and distribution losses. Sanctioned projects of more than USD5.8 billion.

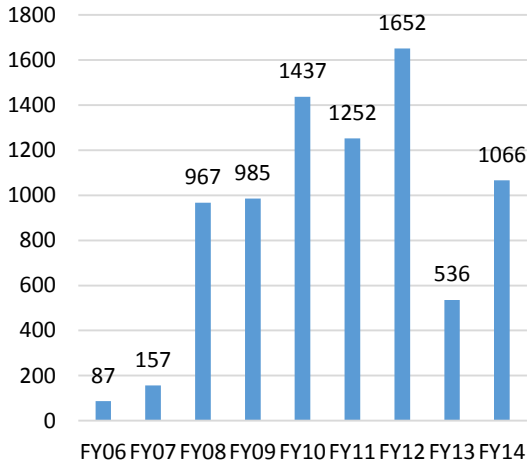
Fuel Supply Agreement –

Fuel supply agreement with Coal India Ltd will ensure the availability of coal for power companies over the long term.

Initiatives In The Sector By The Government

- Government to reintroduce 'generation-based incentives' for wind power projects to boost capacity addition in the sector; Cutting of excise duties by 2 per cent on capital goods import. USD147.3 million would be allocated to the Ministry of New and Renewable Energy.
- To reduce dependency on imported coal, a Public Private Partnership (PPP) policy framework would be devised with Coal India Limited to increase coal production.
- During FY13, the Government liberalized FDI policy for Power Trading Exchanges. Foreign Investment in power exchanges registered under the Central Electricity Regulatory Commission Regulations, 2010, allowed up to 49 per cent (FDI-26 per cent and FII-23 per cent).
- Low-interest bearing funds to be provided from National Clean Energy Fund (NCEF) to Indian Renewable Energy Development Agency Ltd (IREDA) for on-lending to viable renewable energy projects.
- The total plan outlay for the power sector for FY14 is estimated at USD1.6 billion, a significant 27 per cent higher than the revised estimate of USD1.5 billion for FY13. While the proportion of plan expenditure in the total outlay was 59 per cent in FY13, that for FY14 is a whopping 96 per cent.

FDI Inflows in Power Sector (USD MN)



- The total capex by power PSUs is estimated to increase to USD9.4 billion in FY14 from USD9.3 billion in FY13. Power Grid Corporation of India will incur USD3.7 billion of capex in FY14, same as that in FY13.
- The Ministry of Power has sent its proposal for the addition of 76,000 MW of power capacity in the 12th Five Year plan (2012-17), to the Planning Commission. The Ministry has set a target of adding 93,000 MW in the 13th Five Year Plan (2017-2022). The sector has attracted FDI worth US$ 9,269.45 million during the period April 2000 to August 2014.
- The Government of India has planned to invest Rs 2 trillion (US$ 32.61 billion) in solar and wind power projects in the deserts to compensate for India's depleting fossil fuel reserves.

Issues In The Power Sector

Fuel Supply –

Securing a firm fuel supply for power projects is critical for the projects. It is estimated that the total coal requirement for the thermal power plants will be increasing radically from the current level of 614 MT. The total domestic coal production in India is right now in range of 450 MT thereby resulting in deficit. In order to bridge this deficit, either captive mining needs to be done domestically or importing coal from other coal producing countries is required. Longer duration between subsequent standing linkage committee meetings poses uncertainty on allocation of coal linkages to new projects.

Of around 90 blocks allocated to the power sector for captive consumption only 14 blocks are currently under development. The delay in time taken is in account of obtaining statutory clearances, approval of mining plans, approval and resolution of issues. As result of which many of the allocated coal blocks remain unutilized.

Due to uncertainty in obtaining coal linkage and unavailability of captive coal blocks, power projects have to depend upon imported coal for power production. The imported coal is costlier and higher transaction costs associated with raw material and transportation render the imported coal based projects financially unattractive.

After the Hon'ble Supreme Court cancelled all allocations the problem on this front has aggravated manifold. The Government is in the process of reallocating coal blocks in a transparent manner. Besides time it is expected that the cost of acquisition would also go up raising fears about increase in the production cost which would lead to an increase in the per unit cost of electricity which the consumer would be required to pay.

Further a large number of gas based power projects are facing similar crisis in terms of securing long term gas supply for power projects. Proper gas allocation policy needs to be in place to address such issues.

Land Acquisition –

Difficulty in acquiring land in rural and forest areas is cited as the major reason for delay of power projects. Due to lack of proper implementation of Acts and Rules relating to land acquisition, it becomes difficult to acquire required land. Further, given the population density and the type of land used in the country, there is more problem in land acquisition.

In numerous cases, acquisition of land for the project by developers has posed a problem which in the last two three years has assumed a much larger proportion. There have been instances where developers in spite of having spent considerable funds and time on the development of the project, had to move to another site because of extreme resistance and protests by land owners and other local people.

Land acquisition and Resettlement and Rehabilitation were one of the major issues encountered in Ultra Mega Power Projects as these continue to remain the responsibilities of developer. Similar issues are there for almost all the major power projects planning to come up in the 12th Five Year Plan. Most of the projects which have achieved financial closure are paying up additional interest in debt servicing as their land acquisitions have been delayed.

Another problem faced is that at times the courts order payment of a large amount to the original land owners which is the difference between the costs paid while acquiring the land and what is assessed as a fair value by the court. In some cases the difference is so huge that the project becomes non-viable.

Environmental Clearance –

There are many projects which have got stuck due to delay in environmental clearances and this has become a major hurdle in setting up power generation plants. The Ministry of environment has issued guidelines for clearances to projects, which at best serve as a starting point. Every project, however, needs to be cleared by the ministry. This increases the regulatory burden on the developmental process and investors do not have an understanding of the likelihood of clearance or the time that it is likely to take for the clearance to come through.

The criteria's fixed also have a lot of subjectivity embedded. The GOI needs to break down all the conditionality's imposed into easily understood criteria and the compliance or likelihood of compliance should be easily judge able. This would enable the functionality to be delegated to regional offices, which would make the process more understood and accessible.

Funding Issues For Wind/Other Renewable Projects –

A large number of issues, ranging from high cost of generation, grid instability, and lack of authentic technical data to comfort of lenders in financing the projects on a non-recourse basis are subsisting. In a high interest rate regime, any cost/time overruns severely impacts the debt servicing and returns generating capability of the projects.

Most of the renewable energy projects are driven by the renewable energy purchase obligation of the state electricity boards which provide preferential feed-in tariffs under long term power purchase agreements. Since the financial health of most state electricity boards is very weak, it is an inherent revenue risk perceived by the lenders which makes extending credit difficult, or renders the pricing unviable. Added to this with the reduction in the capital cost of solar energy generating equipment many SEBs are insisting for a downward revision in the purchase price as agreed in the PPA.

Outlook Of Power Sector

The government is targeting capacity addition of around 89 GW under the 12th (2012–17) and around 100 GW under the 13th (2017–22) Five-Year Plan. The expected investments in the power sector during the 12th Plan (2012–17) are USD 223.9 billion. There is a tangible shift in policy focus on the sources of power. The government is keen on promotion of hydro, renewable and gas-based projects, as well as adoption of clean coal technology.

Wind energy is the largest source of renewable energy in India; it accounts for an estimated 87 per cent of total installed capacity (18.3 GW). There are plans to double wind power generation capacity to 20 GW by 2022.

Biomass is the second largest source of renewable energy, accounting for 12 per cent of total installed capacity in

renewable energy. There is a strong upside potential in biomass in the coming years.

In conclusion it can be said that there is a huge need for increasing the infrastructure in the country. Even the existing infrastructure needs upgrading. Without proper and adequate infrastructure the plan to make India into an economy which would be a leader in its own right would be severely hampered. To achieve this, the government would have to take such steps that would automatically attract investors. There needs to be a minimum amount of bureaucratic hurdles in the way of getting all clearances required for investors to come in large numbers. When this happens India would be one of the most preferred investment decisions.

Major Findings

- FDI inflows in construction (infrastructure) activities from April 2000 to August 2014 stood at USD 23.75 billion.
- The spending on Infrastructure projects is expected to rise by 47% to Rs. 51.5 trillion.
- The NHDP is spread over 7 phases with an expenditure of Rs. 4,71,975 crores and envisages the improvement of 54,500 km of roads.
- The road length under the NHDP has increased from around 500 km in 2001-02 to 22,277 km as of March 31, 2014.
- The investments on National Highways has increased at a CAGR of 16.2 % in the past 5 years reaching Rs. 295 billion in 2012-13.
- The Prime Minister's Gram Sadak Yojana (PMGSY) is a scheme for development of rural roads in India and Rs. 14,389 crore has been provided in the Union Budget.
- As part of India–Japan Strategic and Global Partnership, the two sides launched a Special Economic Partnership Initiative (SEPI), including the Delhi–Mumbai Industrial Corridor (DMIC) project.
- The Indian government plans to set up a finance corporation with an amount of Rs 1 trillion (USD 16.34 billion), in collaboration with Japanese investors, to fund projects in the roads segment.
- Sixteen new port projects proposed to be awarded during the current financial year to boost trade and enhancing port connectivity.
- The Indian ports sector received FDI worth US$ 1,635.40 million in the period April 2000–May 2014.
- The ports sector was also awarded 30 projects in FY14, investing over Rs 20,000 crore (US$ 3.26 billion) which is a threefold increase over the preceding year.
- JNPT and the Port of Singapore Authority (PSA) have signed a concession agreement for the Port's fourth

container terminal, worth Rs 8,000 crore (US$ 1.31 billion).

- The electricity production in India (excluding captive generation) stood at 967 TWh in FY14. In the last few years, the electricity production in India has expanded at a CAGR of 5.6%.
- For the 12th Five-Year Plan, a total of 88.5 GW of power capacity addition is targeted.
- The expected investments in the power sector during the 12th Plan (2012–17) are USD 223.9 billion.
- The total plan outlay for the power sector for FY14 is estimated at USD1.6 billion, a significant increase of 27%.
- The Government of India has planned to invest Rs 2 trillion (US$ 32.61 billion) in solar and wind power projects in the deserts to compensate for India's depleting fossil fuel reserves.

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Under the able leadership & Guidance of Shri D. S. Rawat, Secretary General, ASSOCHAM

About ASSOCHAM

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Evolution of Value Creator

ASSOCHAM initiated its endeavour of value creation for Indian industry in 1920. Having in its fold more than 400 Chambers and Trade Associations, and serving more than 4,00,000 members from all over India. It has witnessed upswings as well as upheavals of Indian Economy, and contributed significantly by playing a catalytic role in shaping up the Trade, Commerce and Industrial environment of the country. Today, ASSOCHAM has emerged as the fountainhead of Knowledge for Indian industry, which is all set to redefine the dynamics of growth and development in the technology driven cyber age of 'Knowledge Based Economy'. ASSOCHAM is seen as a forceful, proactive, forward looking institution equipping itself to meet the aspirations of corporate India in the new world of business. ASSOCHAM is working towards creating a conducive environment of India business to compete globally. ASSOCHAM derives its strength from its Promoter Chambers and other Industry/Regional Chambers/Associations spread all over the country.

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As a representative organ of Corporate India, ASSOCHAM articulates the genuine, legitimate needs and interests of its members. Its mission is to impact the policy and legislative environment so as to foster balanced economic, industrial and social development. We believe education, IT, BT, Health, Corporate Social responsibility and environment to be the critical success factors.

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Together, we can make a significant difference to the burden that our nation carries and bring in a bright, new tomorrow for our nation.

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Disclosures