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Current infrastructure scenario and rise in construction and allied industries in India

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***Abstract*— India is a growing economy. It is estimated to be the third largest economy by 2050. Because of the GDP growth and more emphasis on infrastructure growth, from roadways to airways, ports to airports and power production facilities, Indian infrastructure segment is vital for the development of the nation and hence enjoys intense attention from top-grade policy makers of the country.**
Infrastructure growth is a stepping stone of a stable and productive society, it presents unique challenges but also brings opportunities for private and public sectors in the field of construction.
Development will lead to massive construction and there will be a positive growth in industries related to construction.
Reports also suggest that the upward trend has been witnessed by these sectors.

***Index Terms*—Construction equipment, cement industry, GDP, India, Infrastructure development, Infrastructure, growth, Power, Railways , steel**

I. Introduction

Infrastructure is the main priority of Indian Government currently. The development of infrastructure today is the main tool to achieving GDP growth targets. The sector needs huge finances and massive funding. But there is usually a major variation in the commission's target and funds that are actually deployed.
Nearly all of the infrastructure sectors present excellent opportunities for construction, with roads and highways, ports and airports, railways and power standing out as bright spots, with huge sums of investment planned.
India's economy is big and getting bigger. Liberal and supportive Government policies coupled with deliberate strategies to promote infrastructure spells great opportunities for engineering and construction (E&C) companies in India.
Along with construction, allied industries like cement, steel etc also will notice a rise in demand.
Construction sector is likely to boom in the 12th five year plan.

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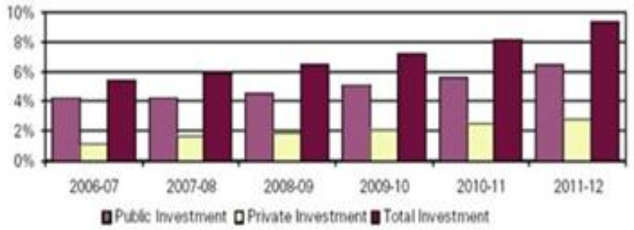
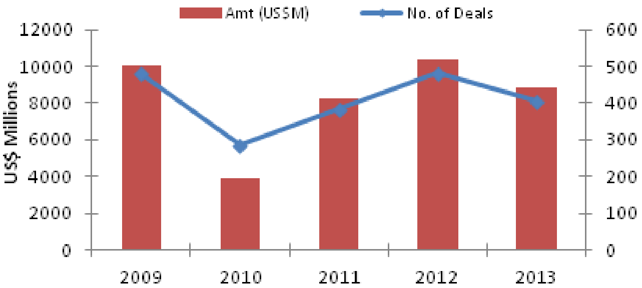
II. Recent slowdown

The sector is currently surrounded by issues such as delays in getting approvals, lack of new awards being made, lack of alternatives to fund new projects, all would lead to slow-down in the execution



Investments as a percentage of GDP

According to the Planning Commission, GDP growth is held back by 1.5-2% each year owing to the bottlenecks in infra expansion.
After recording a spectacular growth of over 12%, more than the country's GDP in the past half decade, the Indian construction sector all of a sudden lost stream in last fiscal largely due to global financial turmoil.
Not just this, the turmoil tremors created multiplier impact across sectors including steel, cement, power, petroleum, aluminium, IT and ports, besides badly Bruising the Indian economy.



PE Investments in India

Data reveals that Private equity investments in October-December 2012 declined by over 32% to about \$1,010 million (across 82 deals) compared to the \$1,490 million invested (across 121 deals) in the same period in 2011 and \$3,849 million invested (across 108 deals) in the immediate previous quarter.
But few sectors such as telecom, urban infrastructure, railways, oil and gas, which are also generating large share of construction activities have not been affected badly. These segments have registered a noticeable growth in project orders from centre, states, and local firms. However, orders

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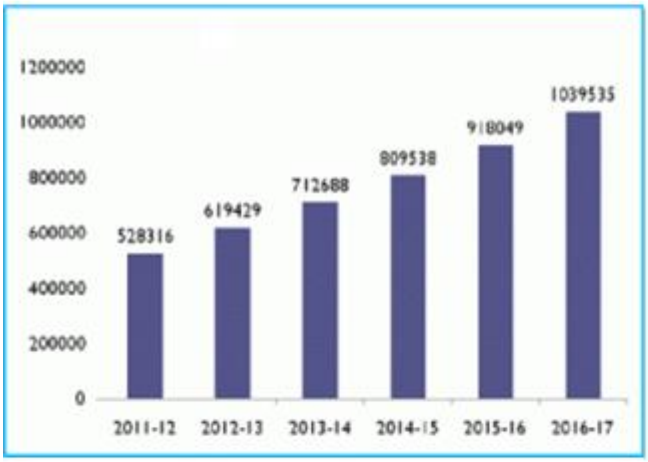
from overseas firms have drastically dwindled. For rapid rollout of infrastructure, neither finance nor physical construction is a critical issue today.
Clearances, dilatory procedures and troubleshooting with diverse stakeholders for infrastructure projects are the biggest bottleneck
Currently India is growing at a healthy rate of 8-9% per year. But the growth story often eludes the poor. For a higher inclusive-growth we need to connect the 6, 00,000 villages and its 700 million rural population. Rural infrastructure needs a revamped approach and new visionary outlook. Agricultural activities, rural housing, roads, healthcare, irrigation facilities, drinking water, power, etc need a relook. India will continue with its growth; however, currently we need to endure the current slowdown which has been reflected in the dismal performance over the past 5-6 quarters. Thus, there has been an underperformance of companies like IVRCL, NCC, GMR, GVK and the likes in the markets.
Companies with a stronger balance sheet and healthy operating portfolios like IRB, Ashoka Buildcon, L&T and RInfra could sail through. The others would have to part away with their stakes in the current assets or raise further equity. This proposition, however, seems like an uphill battle.

III. STEPS FOR INFRASTRUCTURE DEVELOPMENT



Investments in Crores (Rs.)

In the 12th Five Year Plan, which started in 2013 US$ 1 trillion for infra development has been deployed, with around 50% of this is likely to come from private funds. Private investment is expected to increase to 36% by the year end.
"Expanding investment in infrastructure can play an important counter cyclical role. Projects and programmes [are] to be reviewed in the area of infrastructure development, including pure public private partnerships, to ensure that their implementation is expedited and does not suffer from the fund crunch."
Mr. Manmohan Singh, Indian Prime Minister, (quoted in newspaper reports, October, 2008)
The Secretariat for Infrastructure in the Planning Commission is making policies that would ensure time-bound creation of world class infrastructure of best quality in the country. This paper focuses on power, bridges, dams, roads and urban infrastructure development and Details of the projects, organizations, policies, timelines, schemes, spending on infrastructure.
Retail investors are also now encouraged to get into the funding bandwagon, especially with tax-free infrastructure bonds to be issued by Infrastructure Financing Companies (IFCs).
The government has approved the Modified Industrial Infrastructure Upgradation Scheme (MIIUS) with an outlay of US$1.74billion during the 12th Five Year Plan period ending March 2017. Of the total outlay, US$76million will be used for committed liability and the remainder for taking up 14 to 16 new infrastructure upgradation projects in existing or greenfield industrial clusters
Infra investing became the new mantra for banks. Loans to infrastructure segments like power, telecom, roads and ports led the growth in bank credit in FY10. According to an article in Business Standard, credit to these four sectors rose in the range of 23% to 66% in FY12.
In the past few years, stock markets have seen major ups and downs. Investors started looking for opportunities beyond the stock markets. The government called for Public Private Partnerships (PPP) for infra development. And private players responded enthusiastically. Private investment is expected to increase to 36% during the 11th Five Year Plan (2007-2012), from 25% in the 10th Five Year Plan. The 12th Five Year Plan, which starts in 2013 looks set to include US$ 1 trillion for infra development, with around 50% of this likely to come from private funds.
The government has initiated innumerable initiatives to lift the sector from its current dormant conditions. The measures include authorizing the Indian Infrastructure Finance Company Limited (IIFCL) to raise US$1.7billion by issuing of tax free bonds to make highways and port projects funding worth US$4.23 billion available to the sector. In order to finance projects worth US$12.7 billion over the next 18 months, the IIFCL has been given permission to raise additional funds worth US$5.07 billion.

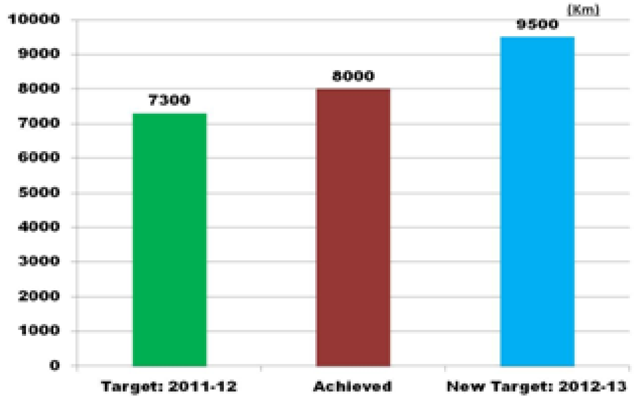
A steering group is being formed to monitor the award and implementation of projects from among the following on priority:
1) Mumbai Elevated Rail Corridor- US$5 billion
2) Two Locomotive projects- US$8.5 billion
3) Accelerating E-DFC- US$17 billion
4) One of the two port projects- US$17 billion
5) Two airport projects- US$34 billion
6) Power & Transmission projects- US$67.5 billion

Other measures include liberalization of the external commercial borrowing (ECBs) policy, revision in the cap for home loans to Rs. 2 million from Rs. 0.5 million through inclusion in the priority sector, increase in foreign institutional investors limit in rupee denominated corporate bonds from $6 billion to $15 billion exemption of countervailing duty on cement and TMT bars and structural, close monitoring of the government spending to expedite expenditure for all schemes and programmes

IV. CONSTRUCTION OPPORTUNITIES IN INFRASTRUCTURE SEGMENT

Infrastructure development today possesses a huge opportunity for construction sector. Construction is an integral part which will have a positive trend in the coming years. Massive construction involving new technologies and constrains will be seen in every sector.

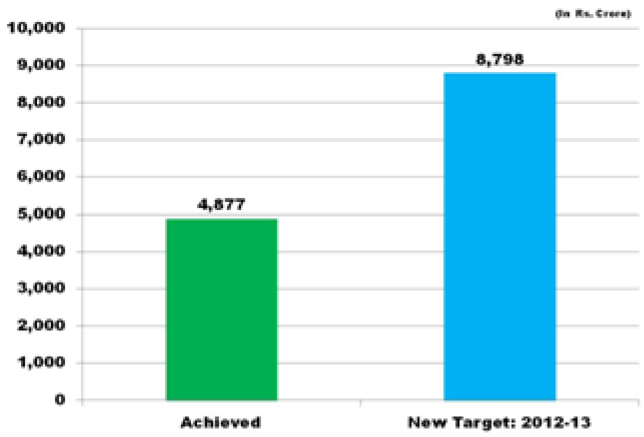
A. Roads



Road Length Awarded

Roads would still be the most endearing asset from the perspective of private sector investment in the years to come, as only 2.1m kms (50%) has been upgraded till now. The immediate opportunity on plate is around 9000kms which will throw open investment opportunities of nearly US$20bn. Very recently the governments of India have geared up to meet the target of building 20 km of highways a day. We are currently doing around 12 km a day. By next year, we will have work in progress on over 25, 000 km of highways.
NHAI has completed 99.99 per cent of India's much-awaited infrastructure project - the Golden Quadrilateral (GQ) highway network- connecting Delhi, Mumbai, Kolkata and Chennai.
A recent study has stated 18,637 km of expressways need be built by the end of the 13th Five-Year Plan period, i.e. 2022. Infrastructure development (for expressway projects alone), on such a massive scale would require about Rs US$ 77.54 billion

B. Airport



Civil Aviation Investments. (Including PPP)

The key focus here was on lack of a common governing act or an agreement on pricing. India is the 9th largest Aviation market in the world at present and is expected to be in the top five by 2020. The overall projected investment opportunity is pegged at US$150bn and the target is to handle about 280m pax by 2020. Following has been proposed

Two **new international**
Airports at **Bhubaneswar** and **Imphal.**
50 new low cost small airports will be taken up by Airports Authority of India.
8 Greenfield Airports are to be awarded this year in PPP mode: Navi Mumbai, Juhu (Mumbai), Goa, Kannur, Pune (Rajguru Nagar Chakan), Sriperumbudur, Bellary and Raigarh.
Airport operations and maintenance through PPP contracts will be introduced in AAI airports. Airports being considered are Chennai, Kolkata, Lucknow, Guwahati, Jaipur and Ahmedabad.

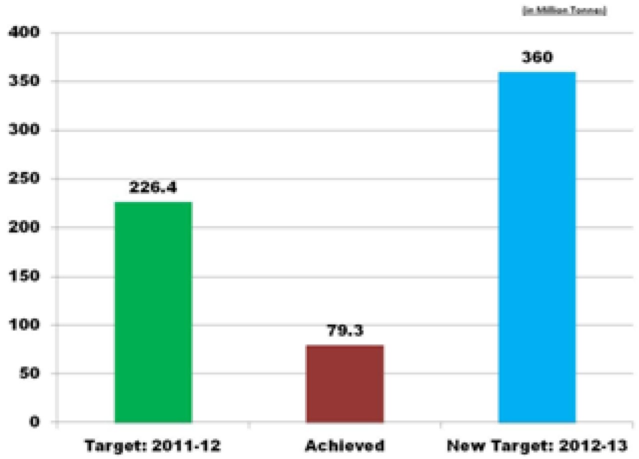
New Low Cost Airports by AAI

Andhra Pradesh: Vijayawada, Nellore, Kurnool, Kadapa, Nizamabad, Tirupati, Anantapur & Karimnagar
Jharkhand: Dhanbad, Bokaro & Hazaribagh
Bihar: Muzaffarpur, Chapra & Sasaram
Punjab: Ludhiana, Jalandhar & Firozpur
Uttar Pradesh: Agra, Allahabad, Moradabad, Saharanpur, Meerut, Aligarh, Muzaffarnagar, Bijnor & Azamgarh
Arunachal Pradesh: Tezu, Momdila & Along
Assam: Silchar, Jorhat & Tezpur
Madhya Pradesh: Gwalior, Singrauli, Burhanpur,Khandwa, Jabalpur, Sidhi & Shahdol
Odisha: Brahmpur, Raurkela & Kendujhar
Rajasthan: Ajmer, Kota, Bhilwada & Alwa
Maharashtra: Kolhapur, Nasik, Jalgaon, Solapur & Amarawati.

C. Railways

An Inter-Ministerial Group of Railways, Finance and Planning will be formed with the task of coming up with a creative financing-cum-implementation mechanism in two months for clearing the large backlog of sanctioned projects of over Rs 200,000 crores in a prioritized and time-bound manner. The proposal for creating a Rail Tariff Authority will be accelerated and brought to Cabinet soon. The flagship projects of railways such as the two Loco Manufacturing Projects, Elevated Rail Corridor, the Dedicated Freight Corridor and station redevelopment will be closely monitored for award in the next six months.
The Ministry of Railways and the French National Railways, have signed a Memorandum of Understanding (MoU) for technical cooperation in the field of Railways. Areas that have been incorporated in the MoU are
High speed and semi-high speed rail;
Station renovation and operations;
Modernisation of current operations and infrastructure;

D. Ports & Shipping



Ports Capacity

The Cabinet Committee on Economic Affairs (CCEA) has recently approved two new projects, entailing investments of US$ 292.94 million, to increase capacity of ports in the country.

The Shipping ministry had also drafted plans to develop a harbour channel at Tuticorin Port at a cost of US$ 1.29 billion. The two new **PPP ports at Sagar (West Bengal) and Durgarajapatnam (Andhra Pradesh)** approved by Cabinet will be **awarded.**

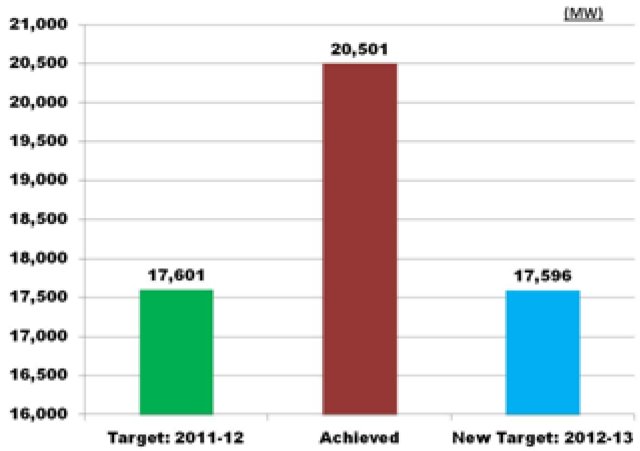
The Visakhapatnam Port Trust (VPT) is undertaking three major projects, with an investment of US$ 310.2 million, involving extension of container terminal, mechanisation and up-gradation of existing facilities at iron ore handling complex (OHC) and West Quay North (WQ-7 and 8 berths). VPT will be spending US$ 2.42 billion on the several ongoing projects to increase its current capacity to 149 million tonne (MT)S by 2019-20

The union budget 2013-14 announced some benefits to the shipbuilding sector by removing excise duty on vessels. The budget also announced the removal of counter-veiling duty on imported ships.

The government also increased the time limit for consumption of imported goods by ship repair units from three months to one year. This will help the shipping companies keep "critical spares" which are not available on a short notice, in stock for at least a year after which an import duty will have to be paid.

Meanwhile, government extended the shipbuilding subsidy scheme, for both export and domestic orders with the approval of Cabinet Committee on Economic Affairs on October 25, 2002.

E. Power



Power: Capacity Additions

The Ministry will work with Planning Commission and Finance Ministry to resolve remaining issues in the power sector and improve generation and transmission capacity. Ministry of Power is working on a **separate provision to operationalise open access**.

The CEA report "Power on Demand By 2012" has identified that the level of satisfaction is 85% only with the identified installed capacity of about 2,10,000 MW by the end of eleventh Plan (2011-12), leaving a gap of about 22,600 MW in demand. Additional projects to the tune of 30, 000 MW capacity need to be identified to meet the full peaking requirements.

F. Urban Infrastructure

To boost urban infrastructure across the country, the government has initiated multiple measures to lift the infrastructure and construction sectors from the ongoing slowdown and has allocated Rs. 11,842 crore under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), which is much higher than Rs. 6870 crore sanctioned in the previous budget.

The government has also launched the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) with an outlay of Rs. 64 billion to address infrastructure needs of 5,098 small towns and cities with an outlay of about Rs. 1,064. The JNNURM outlay of over Rs.1 trillion is targeted at augmenting urban infrastructure needs of over 65 mission cities under which the government provides grants ranging from 35% to 90% of the project cost, depending upon the size of the city with state governments and private players contributing the rest.

India will no longer reside in its villages, as the urban population is increasing by 3% p.a. Contrary to the popular belief, the bulk of urban population growth is likely to occur in smaller cities and towns of less than 500,000 people. It is expected that urbanization will occur at five times the number by which GDP would have multiplied by 2030. This will open up investment opportunities of US$700bn. Key big sectors in this are Solid Waste Management (SWM) and Water supply/Sewerage.

V. CONSTRUCTION ALLIED COMPANIES ON THE RISE

Apart from strategies we also need huge supply of cements and steel to carry on the construction without any delays. Demand for coal, natural gas, power, cement is on the rise and to meet demand is "worrying" as it constraints economic growth. The construction sector is facing not only problems of supply of cement and steel and other ancillaries but also of manpower. The construction sector is facing labour shortage of around 10 million persons in any given day and the situation will worsen in next decade when requirement for workers is expected to go up three-fold.

A. Coal

India is heavily dependent on thermal coal for generation of electricity. In India 60% of electricity capacity is dependent on coal-fired generators. Increasing demand of coal in coal based power plants in India is estimated to grow 7% annually this will lead to a demand-supply gap of 266 mt in FY2017. The import could comprise of 230 mt of thermal coal.

Ministry of Coal has planned to increase the coal production by an average of 36 million tons per annum in the 12th five year plan. The coal production is set to grow at a CAGR of around 9% during 2011-12 to 2013-14. It is also anticipated that the demand for thermal coal and coking coal by power and steel sectors, respectively, will gain momentum in near future. The size of Indian coal industry was estimated at INR 800 billion by the end of fiscal year 2012.

The brick sector which is also on the rise is also the third largest consumer of coal.

B. Brick Industry

The brick sector in India, although unorganized, is tremendous in size and spread. It is continuously expanding on account of a rapid increase in demand for bricks in infrastructure and housing industries. The country has the world's second largest brick manufacturing industry. The employment-generating brick industry is one of the most promising opportunities for India to achieve low-carbon inclusive growth during the 12th plan period.

Clay fired bricks form the backbone of the construction industry which is valued at approximately US$ 70.8 billion.

There are an estimated 100,000 or more brick kilns, producing about 150-200 billion bricks annually, employing about 10 million workers and consuming about 25 million tons of coal annually.

C. Steel & Iron Ore

The demand for steel is set to rise by 13% in next financial year. The current projected growth is around 7.5%. The future of the steel sector looks positive and the demand is already on the high due to government's decision to revamp infrastructure. The demand is around 75 million tonnes.

India is the fourth largest producer of steel in the world, but due to the ban on mining in regions like Goa the iron ore and steel import are on a rise. India's Iron and Steel exports in May- 2013 had grown to US$ 642.72 M, an increase of 12.39% compared to April 2013.

Growth in construction coupled with the severe shortage in iron ore supplies from Karnataka and Goa, where mining was stopped following a Supreme Court directive, and the cap on production in Odisha have led to India becoming a net importer of iron ore this financial year..

D. Cement

The recent boom in infrastructure and the housing market has only boosted its cement industry.

Cement is a cyclical commodity which has a high correlation with GDP, growing at around 1.2x of GDP growth rate. The major consumers of cement include housing sector (64%) infrastructure (17%), commercial & institutional (13%) and industrial segment (6%).

The long term drivers for cement demand remain intact. Higher infrastructure spending, robust growth in urban infrastructure which includes rural housing and peaking interest rates are likely to help flourish the cement industry well. Large cement companies in India have already started building efficient and modern cement plants in the country. Collectively, the country's capacity stands at 320 million tonnes. India is the second largest producer of cement in the world. The cement industry in India has been attracting several top cement companies worldwide. Production capacity has gone up and top cement companies of the world are trying to enter the Indian market, thereby sparking off a spate of mergers and acquisitions.

E. Construction Equipment

The construction equipment sector in India has been growing at a scorching pace of 30% annually, mainly driven by the huge investments being made by the government and the private sector in infrastructure development.

The growth of this sector is directly interlinked with the growth of the Indian economy and indirectly with the growth of infrastructure. The industry is amid an intermediate growth phase in the country and has been characterised with the entry of major global players.

The last few years is a phase of restructuring in the industry through acquisitions and joint ventures. This also reflects the active interest of international majors in the domestic market. Many international players have been looking for importing and selling complete equipment in India.

Some international companies are looking at the prospects of enhancing their market presence based on higher investment in mining and infrastructure and also using their Indian operations to meet demand in India

The construction equipment-rental business in India, which currently accounts for only around 7 to 8 per cent of the size of the global industry, is another growth driver. The segment's contribution to the industry is likely to double to 16% by 2015.

F. Labor

The construction industry today has inadequate plumbers and construction machine operators, resulting in a slowing of construction activity and increasing the overall cost of projects, posing a major challenge to India's infrastructure development plans.

'As our economy booms and as our industry grows, I hear a pressing complaint about an imminent shortage of skilled employees. As a country endowed with huge human resources, we cannot let this be a constraint'

(Indian Prime Minister, Manmohan Singh)

The construction sector provides employment to almost 33 million unskilled and skilled people in projects involving all over the country. The sudden boom in the sector could be the key to resolve unemployment to a certain extent. Lack of skilled labours in the cement, steel and other industries like interiors, furnishings etc has witnessed as a negative impact on the growth of these sectors.

VI. Conclusion

We need to see infrastructure groundwork taking place on a massive scale in India. And the government needs to take concrete efforts to mobilize more funds for the space.
World class infrastructure holds the key for India to become a sustained development. Coupled with a quantum growth in the construction sector of the country, infrastructure development is significant for rapid growth across all sectors as it provides access to rural areas, easy approach to markets, besides opening up new regions for investment opportunities. With the backdrop of active government initiatives, friendly policies and rising investment trends in the sector, the Indian Construction sector offers promising growth trends and opportunities.

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