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## **Background Paper**

**Department of Administrative Reforms & Public Grievances  
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# **Issues In Infrastructure Development In India**

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## 1. Introduction

The total investment in infrastructure is estimated to have shot past the 500 billion dollar mark during the eleventh plan period. In the twelfth plan period which begins this year, the government plans to redouble its infrastructure initiative and aims to increase investment in the sector to one trillion dollars, about half of which is envisaged to be from the private sector.

Numbers apart, the ground reality for the sector remains grim with the infrastructure deficit in the country actually widening over the last few years. Plagued by funding and implementation constraints, core sector development has not kept pace with economic growth. Urban Development minister Kamal Nath who set a tall target of building 20 kms of roads everyday as minister for road transport and highways, was recently quoted in a newspaper article as saying. "We are not building for the future. We are still building for the past."

Except in telecom, the investment during the eleventh plan is expected to fall short of targets in most infrastructure sectors\*\*\* - ports, roads, power and airports and a number of physical targets are still unmet. For instance, the capacity addition in the power sector may barely reach the 50 GW mark against a target of about 78 GW. In the tenth plan, though the target for capacity addition of 41,110 MW in the power sector fell short by 49%, investments actually surpassed the planned target. The same was the case for ports and airports. (See Table I).

**TABLE I: Progress in Infrastructure: Investments in the Tenth Plan and Eleventh Plan Targets**

| Sector            | Tenth plan target<br>(₹ crore) | Tenth plan actual<br>(₹ crore) | Eleventh plan<br>target<br>(₹ crore) |
|-------------------|--------------------------------|--------------------------------|--------------------------------------|
| Electricity       | 2,91,850                       | 3,40,237                       | 6,58,630                             |
| Roads and bridges | 1,44,892                       | 1,27,107                       | 2,78,658                             |
| Ports             | 14,071                         | 22,997                         | 40,647                               |
| Airports          | 6,771                          | 6,893                          | 36,138                               |

Source: Planning Commission

According to the Planning Commission, investments in infrastructure in the tenth plan were just over 5 per cent of GDP of which private investment accounted for about 1.2 per cent. In the final year of the eleventh plan, it may touch eight per cent of GDP. In contrast, China, whose massive infrastructure development drive is often termed as 'bridges to nowhere', has been reportedly investing between 9 and 11 per cent of GDP in core sector development over the last few years.

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\*We are confining ourselves to the four sectors mentioned above for the purpose of this paper.

**TABLE-II: Progress in Infrastructure: Eleventh Plan**

| <b>Sector</b>     | <b>Target</b>  | <b>Progress</b>   |
|-------------------|--|---|
| Power             | Additional power generation capacity of about 78,000 MW<br><br>Reaching electricity to all rural households through the Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY)   | Capacity addition is expected to be lower than 50,000 MW<br><br>“Power for all” target not met  |
| National Highways | Six -laning 6,500 km of Golden Quadrilateral and selected national highways<br><br>4-laning of about 20,000 km of national highways<br><br>2-laning of 20,000 km of national highways<br><br>Developing 1000 km of expressways<br><br>Constructing 8,737 km of roads, including 3,846 km of national highways in the north -east | 99.4% of Golden quadrilateral completed<br><br>5447 km of North – South, East -West corridor 4-laned<br><br>Under NHDP Phase III 1968 km of highways have been 4-laned<br><br>Under NHD P Phase V a length of 443 km has been 6-laned<br>(Source: Annual report Ministry of road transport and highway, 2010-11). |
| Rural roads       | Construction of 1,65,244 km of new roads and upgrading 1,92,464 km   | Not met   |
| Ports             | Capacity addition of 485 million tonnes (MT) in major ports and 345 million tonnes in minor ports  | Port capacity of major ports increased from 504.75 MT in 2006-07 to 616.73 MT in 2009- 10   |

In this paper we focus on the power sector as a case study to bring out issues in infrastructure development and how the infrastructure deficit adversely affects Indian industry, specifically micro small and medium enterprises (MSMEs). Further, we go on to assess the process of public private partnerships in India and the weaknesses in the regulatory framework governing the infrastructure sector.

## 2. Power Play

India has come a long way since its first brush with power sector privatization in the 1990s. The Enron deal, considered at the time, the poster boy of private investment in the sector, was scrapped after several rounds of negotiations, as the tariff in the power purchase agreement proved to be exorbitantly high.

Several states, led by Orissa, have since unbundled state electricity utilities. Also, Orissa and Delhi followed the example of Mumbai, Kolkata, Surat and Ahmedabad, and privatized distribution of power. The Electricity Act 2003 which was introduced in the Lok Sabha in 2001 was passed in Parliament within a year of the standing committee on energy presenting its report.

But eight years after the enactment of what was considered a path-breaking law, power shortages remain, with peak deficits in the last decade at 11-13%. Between April and December 2011, the all-India peak deficit stood at 10.6%. The quality of power is also a challenge. The cumulative losses of State Electricity Boards, that were Rs 70,000 crore in 2010-11, have already crossed Rs 1 lakh crore in the current financial year.

Lack of adequate access to electricity generally hits the Indian economy hardest where it hurts the most MSMEs already stumped by lack of adequate credit, don't have the deep pockets to set up captive power plants or get past other infrastructure bottlenecks.

A recent study by Keshab Das of Gujarat Institute of Development Research, *MSMEs in India: Issues and possibilities in times of globalization*, establishes the fact that power is most crucial for the growth of MSMEs. (See Table-III).

**Table-III: The Importance of Infrastructure for MSMEs**

| State       | Number of firms | Importance of all infrastructure | Importance of power | Importance of transportation | Importance of port facilities |
|-------------|-----------------|----------------------------------|---------------------|------------------------------|-------------------------------|
| Assam       | 45              | 57.7                             | 8.7                 | 6.9                          | 2.4                           |
| Bihar       | 40              | 47.3                             | 8.0                 | 4.8                          | 1.1                           |
| Gujarat     | 70              | 39.1                             | 9.2                 | 5.2                          | 1.5                           |
| Karnataka   | 56              | 52.8                             | 9.8                 | 5.4                          | 1.7                           |
| Kerala      | 167             | 48.8                             | 9.7                 | 5.9                          | 2.9                           |
| Maharashtra | 231             | 51.0                             | 8.4                 | 5.3                          | 1.8                           |
| Orissa      | 135             | 54.9                             | 9.1                 | 7.1                          | 2.4                           |
| Punjab      | 42              | 60.8                             | 8.7                 | 6.7                          | 3.2                           |
| Tamil Nadu  | 118             | 49.4                             | 9.0                 | 6.9                          | 1.9                           |
| UP          | 102             | 29.3                             | 8.2                 | 5.1                          | 0.7                           |
| West Bengal | 180             | 36.1                             | 6.6                 | 4.9                          | 1.2                           |
| All States  | 1186            | 46.7                             | 8.5                 | 5.8                          | 1.9                           |

Source: Study by Keshab Das, MSMEs: Issues and possibilities in times of globalization

The scale used for measuring importance: 10 very important, 5-important, 0-not important. Importance of 'all infrastructure' is a total of its components. Only the columns relevant to this paper have been reproduced from the original study

By the end of the last decade, India only had 26 million MSMEs (according to the latest All India census of MSMEs) with the majority being in the micro category.

The sector contributes 8 per cent to the country's GDP, 45 per cent to its manufactured output and 40 per cent to its exports. But the numbers compare poorly with China where SMEs account for 60 per cent of the country's GDP, half of its tax revenues and 68% of its exports.

## 2. a) What went wrong?

Successive Indian governments have talked about power sector reforms and some action has also taken place. But a few things have not changed - most power producers still sell most of the power they produce to state electricity boards and consumers have no choice but to buy from the sole distribution entity in their respective states. In Delhi and Orissa where distribution was privatized, public sector monopolies have been simply replaced by private sector monopolies. Though most states have passed orders to allow open access to all generators and consumers in excess of 1 MW load, implementation has been tardy.

Meanwhile, state-owned distribution utilities which have a stranglehold on the power sector in the country continue to bleed. The widening gap between the average cost of supply and the average revenue coupled with high AT&C losses have led to the deteriorating health of state utilities. Despite rising costs of electricity, states are not regularly revising tariffs. Only 16 states revised tariffs in 2010 and those acquainted with power sector dynamics consider this quite an achievement given the past record of states in revising tariffs. The Appellate Tribunal for electricity, in November 2011, in an order, states that all state commissions must ensure that average revenue requirements (ARR) and tariff determination should be done annually. The tribunal also allows monthly adjustments against fuel and power purchase costs.

The level of cross-subsidy in the power sector has crossed unsustainable levels. Industrial or bulk users in India subsidize the household sector. Despite the widening power deficit many state governments do not allow captive power plants to sell power outside the states

## 2. b) The Coal Conundrum

To add to the woes of the power sector, cost of coal, used as fuel for 74 per cent of electricity generation, have sky-rocketed in recent years. Coal India Limited that produces over 80 per cent of the total coal in the country, along with its subsidiaries was able to meet just 84 per cent of its targeted production during the eleventh plan (based on provisional estimates by CIL). The power capacity addition during the plan period, led to huge incremental demand for coal at a CAGR of about 7.5%, while the supply grew at a CAGR of just 4 percent. The situation is not expected to improve in the next five years (See Table IV)

**TABLE-IV: Coal Demand Vs Supply**

| (In %)        | Incremental demand from power sector (CAGR) | Coal supply – CAGR |
|---------------|---|--------------------|
| Eleventh plan | 7.5   | 4                  |
| Twelfth plan* | 9-10  | 4.5                |

\*Expected. Source: India Electricity 2011, a report by FICCI

The share of imported coal in total coal consumption has almost doubled from about 6-7 per cent during the tenth plan to 14 per cent by the end of the eleventh plan. From a mere 43 MTPA at the end of the tenth plan, coal imports are expected to touch 100 MTPA by the end of the eleventh plan. But dependence on imported coal barely seems like a sustainable option at a time when global coal markets have been volatile, thanks to striding demand from India and China.

The nuclear disaster in Japan followed by Germany's decision to shut down all nuclear plants by 2022, is expected to add to the rise in demand for coal. Prices of thermal coal have shot from \$50-60/ton in the first half of the last decade to \$ 180/ton in 2008, easing to \$70-80/ton in 2009 and again going past the \$100/ton in 2010-11.

The demand dynamics have made suppliers reluctant to sign long-term contracts. Some countries have reworked their mining policies to cash in on the rising international demand. In Australia, for instance, the higher tax rate imposed on coal companies under its carbon policy will push up the prices of coal. In Indonesia, the government has benchmarked domestic coal prices to international prices and no coal can be sold below the international coal reference price (ICRP). The move, implemented in September 2011, led to a sudden increase of about 30 per cent in Indonesian coal prices that reportedly crossed \$100/ton. The Indonesian government also plans to ban export of low quality coal by 2014, which would be a major dampener for India and China, both major importers of this kind of coal.

## **2. c) Wooing Private Investment in the Power Sector**

Private investors mostly stayed away from the power sector, for almost a decade after the Enron debacle. The mega power projects have attracted a few. Out of the nine approved Ultra Mega Power Projects, four have been awarded. In terms of capacity additions, private sector has played a key role during the eleventh plan. Especially buoyant was the period between April and October 2011 when the private sector surpassed central and state sector utilities in capacity addition. The private sector added 4301 MW of capacity against 3199 MW by central and state utilities together (Source: CEA). But this appears to be a piffling amount given that about half of the envisaged 100 GW capacity addition in the twelfth plan, is expected to come from the private sector. There is no denying the fact that a great leap in the reform process will have to be taken to achieve the twelfth plan target. Some changes that will help attract private investment in the sector are as follows...

Open access: The ministry of law, in December 2011, asked state power regulators to move to open access for bulk consumers, those who buy more than 1 MW power. This has reportedly met with stiff resistance from state power utilities. The State Electricity Regulatory Commissions need to set a deadline for implementing open access, initially for bulk consumers and later perhaps for retail consumers as well.

Cost-reflective tariffs: The State Electricity Regulatory Commissions (SERCs) need to revise tariffs annually. As per the Appellate Tribunal for electricity, monthly adjustments should be made for fuel price escalations. The exercise, the tribunal says needs to be completed by April, every year. Flexible pricing and not cast-iron tariffs are the need of the hour to attract big ticket investments in the power sector. The high cost of fuel and the uncertainty over supply is acting as a constraint to the implementation of mega power projects, as the higher cost of fuel is not factored into the sale agreement. More than one such project is reportedly seeking annulment of their sales contract.

Cross-subsidies: SERCs must provide a roadmap for removal of cross-subsidies and limit them to the levels prescribed in the National Tariff Policy, 2006. The cross-subsidy surcharge needs to be lowered, so that it does not hinder the implementation of open access.

Land acquisition: The power department of every state government must identify sites for new power plants that satisfy environmental, water and other linkages. The states must acquire the land and make it available for power projects.

Transmission: Since projects often face problems in obtaining transmission access, it is a viable option to privatize transmission. One suggestion is to identify problem corridors on the national grid and bid these out to private companies under an annuity model. A surcharge on generation could be used to fund annuity payments.

Power equipment: The government has, to a large extent, lowered the dependence of power projects on BHEL by encouraging foreign players to set up shop in the country. It is now mandatory for foreign companies to build manufacturing base in India (either in partnership or go-alone) to be eligible for bulk tendering. This has taken care of the main plant equipment needs of power companies, considerably. But the balance-of-plant equipment is still a stumbling block as there are very few vendors in this market. The government needs to incentivize more players in the sector to bring down the cost of equipment and speed up implementation.

Distribution franchisees: These have been successfully implemented in a few cities of Maharashtra and Uttar Pradesh. The government needs to support the initiative through a standardized bid process which will include the design of a model distribution agreement, key bid parameters and a process of monitoring and evaluating the performance of the franchisees.

Coal availability: Coal-fired power plants still account for about 74% of the electricity generated in the country. Coal shortages during the eleventh plan have been a major constraint. Opening up of coal mining, hitherto a public sector monopoly, to commercial private sector mining companies may be an idea whose time has come. For this, the government must allow captive mines to sell surplus coal at market prices. The other option is to allow commercial mining at market prices which CIL can supply in the domestic market. This can happen without amending the MMRD Act. The third option, of course, is to open the doors to the private sector through amendment of the Act.

Reforms recommended above for the power sector have wider generic implications. Two suggestions need emphasis. One, project execution is the main weakness in infrastructure and needs greater inter-agency coordination. Two, it is time to consider relatively 'out-of-the-box' measures to cover the infrastructure deficit that would otherwise cripple future growth.

### **3. Regulation of Infrastructure: Need for a Coordinated Approach**

The regulatory approach to the infrastructure sector has, as of now, been piecemeal with no overarching philosophy governing the working of regulators in different sectors. There is no unified approach governing any aspect of regulation, be it powers and functions of the regulator, extent of regulation, appointments and accountability and autonomy of the regulators.

A number of sectors still do not have independent regulators. For instance in the roads sector the NHAI, an operator doubles up as the regulator. In the rail sector, Indian Railways is a behemoth that owns, operates and regulates the sector and runs it like a virtual state with a budget of its own. The telecom regulator on the other hand is fairly independent, responsible not just for regulating tariffs but also fuelling competition. In the ports sector the Tariff Authority for Major Ports (TAMP) has the sole responsibility of fixing tariffs. So, no two infrastructure sectors are the same when it comes to regulatory policies.



**Table: V Regulatory Landscape in India**

|                |  |
|----------------|--|
| Power          | Central Electricity Regulatory Commission (CERC) at the central level and SERCs at the state level   |
| Roads          | National Highways Authority of India acts as an operator and a regulator   |
| Railways       | Indian Railways is the operator as well as regulator   |
| Ports          | Tariff Authority for Major Ports (TAMP) has the sole function of tariff setting.   |
| Civil Aviation | Airport Economic Regulatory Authority (AERA) regulates tariff, determines airport charges, passengers service fee, Airports Authority of India also plays a minor role |
| Telecom        | TRAI regulates telecom and internet service providers.   |
| Coal           | No regulator   |

The Power sector is, ostensibly, the most regulated as opposed to the coal sector which currently has no regulator. However, the power sector still remains relatively unregulated. The regulation scenario in infrastructure demonstrates, to a large extent, the lack of a coordinated approach between different ministries and authorities in the sector.

India could learn some lessons from the UK model to unify its scattered regulatory outlook. In the UK, the Utilities Act 2000 brought the regulatory functions and objectives of various regulators under a single statute. Further, the statute streamlines the appointment and dismissal of regulators, their accountability to Parliament and the regulatory processes they adopt.

According to a paper, by the Planning Commission - *Approach to regulation: Issues and options* - a common policy approach becomes even more important where there is a multi-level regulatory framework, as in the electricity sector. It needs to be backed by uniform enforcement and dispute resolution processes through a range of formal and informal techniques.

The state electricity regulatory commissions (SERCs) are, however, quite ad hoc in their approach to regulation. They have been pulled up by the VK Shunglu panel for not revising tariffs often enough and functioning at the behest of their respective state governments. Most of them have also not been able to move forward in implementing open access of distribution and transmission.

The Shunglu panel report on financial position of distribution utilities slams the regulators for being more concerned with the agenda of the state government and compromising their statutory functions. "Such dilution in regulatory performance can be linked to more and more state governments increasingly placing in these positions, individuals willing to follow government's wishes," the panel says.

Independence and autonomy of the regulator needs to be the cardinal rule of regulation. The selection committees for appointing the regulators need to be broad-based and should have very little influence of the stakeholders, be it private players or the government.

As in the case of SERCs, regulators are hardly ever accountable to anybody apart from their respective ministries. There is a need for periodic performance evaluation and regulatory impact assessments for all regulators, specifically for SERCs. The power regulators should be held accountable for the health of the sector, in their respective states including viability of Discoms, reliability of supply, open access and level of competition in the sector as well as the cost competitiveness of tariffs.

According to the Planning Commission, the functioning of the regulator should be subjected to scrutiny by Parliament. According to the Planning Commission, the regulator's performance should be further scrutinized, after consultation with stakeholders, by the appropriate legislative sub-committee.

A common regulatory approach that runs through the central as well as state regulators needs to be developed. For instance, in Australia, the national markets in electricity and gas through interconnected networks were developed using common national market rules after extensive consultation between the provincial and federal governments, utility industries, consumers and other stakeholders.

Also, a need to have a separate dispute resolution appellate has been felt in various sectors. In the power sector, the appellate tribunal for electricity performs that role while in telecom the TDSAT is vested with adjudication powers. The same should be emulated in other sectors as well.

#### **4. Public Private Partnerships: The Panacea for all Infrastructure Woes?**

In the last decade, public private partnerships have received a new lease of life, led by projects in the roads and highways sector that currently has over 400 projects in various stages of operation and implementation. The modernized Mumbai and Delhi airports and the greenfield Bangalore and Hyderabad projects have become the face of PPP success in the country.

PPPs are being seen as the fastest and least expensive way to bridge the country's infrastructure deficit. Such projects are expected to have greater accountability and innovation, than generally expected from public service delivery. In a PPP project, the government agencies transfer many risks associated with investing in infrastructure to the private sector. Many private companies have been bidding aggressively for the projects on offer, estimating exponential growth in demand for infrastructure services in the coming years.

There have been many PPP successes in the country but the journey has not been without roadblocks. The major dampeners in the process are:

Time and cost overruns: Many projects have not only missed their deadlines for completion of the awarded projects but have been built at a much greater cost than initially envisaged. There are various reasons for such overruns...

1. Land acquisition
2. Funding constraints

3. Post-award changes in the scope of the project
4. Poor planning and execution
5. Delays in clearances

For instance, the Delhi-Gurgaon expressway that got delayed by about 3 years got embroiled in land acquisition problems. Since some areas surrounding the expressway were thickly populated, it became difficult for the government to acquire land. Moreover with the project spread across 2 states, various government agencies made demands for changes in the project alignment and design that resulted in a substantial change in scope, project cost and consequent delay in project execution. Another classic case of cost overruns is the Bandra-Worli sea link. The project that was estimated to cost ₹ 650 crore was finally built at a cost of over ₹ 1,600 crore. In hindsight, it is evident that the government should have addressed the land issue in the Delhi-Gurgaon Expressway before the procurement stage for smooth functioning of the project. For a project of this magnitude, it is important for the government agency to garner adequate public support to ensure smooth implementation. Ideally, such issues should be resolved during the project preparation stage through consultation and inter-governmental coordination.

Lack of robust market assessment and due diligence: At the project preparation stage implementing agencies often go wrong in assessing the demand. For instance, the traffic estimates in the Vadodara Halol Toll Road (VHTR), one of the first state highway widening projects developed on a Public Private Partnership basis were based on the assumptions that the industrial incentives available for the area would continue for the long term. The withdrawal of the incentives led to a 50 per cent fall in traffic compared to what was projected, leading to significant losses. On the other hand, in certain projects, demand is underestimated resulting in post-award changes.

Cancellation of projects leading to uncertainty: The most recent and high-profile case of cancellation of a PPP project has been the scrapping of the Goa-Karnataka road project which was to be developed by IRB Infrastructure. The National Highway authority of India has reportedly said that it was not able to acquire land for the project. Again, the authority should have looked at this issue before awarding the project which was done in January 2010.

Lack of a conducive operating environment: Certain projects have faced difficulties during the operational phase. During the operational phase of the Kakinada Deep Water Port, the Government of Andhra Pradesh reportedly did not allow the concessionaire to handle the cargo mix that was mentioned in the tender forms. This included cargo like fertilizers, oil extractions, sugar, rice and wheat that constituted 70 per cent of the projected volumes at the time of the bid. The company was barred from handling some agricultural commodities after protests from workers of the Kakinada Anchorage port.

PPPs a luxury for the rich: It is now increasingly becoming clear that the model has not proved to be a solution for all states. In a 2009 paper, TCA Anant (Anant is now the country's chief statistician) and Ram Singh of the Delhi School of Economics provide empirical evidence to support the argument that per capita incomes of the state concerned is a significant factor behind the attractiveness of highway projects for private investment. The study establishes that the likelihood of private investment increases in direct proportion to the per capita income. This means that road projects located in rich states can be expected to attract PPPs, in the form of BOT toll as well as BOT annuity contracts. So, private sector participation is likely to help provide more and better infrastructure in rich states like Haryana, Gujarat, Punjab, Tamil Nadu, etc. In contrast, projects located in poor states, like Orissa, Jharkhand, UP, Bihar, cannot draw on private investment. In such states, private sector is likely to invest only in projects if they are located very close to some big city.

So, PPP projects alone will not suffice. For poorer states centrally sponsored projects and public funding is still important.

Gold-plated Projects: Globally, like in India, PPP projects have found many takers and proponents. While India is still grappling with issues related to project development, implementation and operations, in several countries many such projects have been slammed for not being cost-efficient enough<sup>1</sup>.

#### 4. a) PPPs: The Way Forward

The draft National PPP Policy that the ministry of finance drafted last year seeks to address some of the concerns related to Public Private Partnerships in the country. Some of the key proposals in the policy are as follows...

Pipeline of projects: Investors have often lamented the lack of a pipeline of bankable projects for bidding. The draft policy endeavors to correct that. It says the government shall, for each financial year, set out an annual PPP plan which would identify a shelf of projects and specify the extent of private investment for each.

**Table VI: PPP Project Update:**

| Sector                   | Completed  |                |                | Under Implementation |                |                | In Pipeline |                |                | Total        |                  |                |
|--------------------------|------------|----------------|----------------|----------------------|----------------|----------------|-------------|----------------|----------------|--------------|------------------|----------------|
|                          | No.        | Cost (₹ Crore) | Cost (US\$ B)* | No.                  | Cost (₹ Crore) | Cost (US\$ B)* | No.         | Cost (₹ Crore) | Cost (US\$ B)* | No.          | Cost (₹ Crore)   | Cost (US\$ B)* |
| <b>Central Sector</b>    |            |                |                |                      |                |                |             |                |                |              |                  |                |
| National Highways        | 55         | 20,139         | 5.03           | 127                  | 103,455        | 25.86          | 60          | 52,573         | 13.14          | 242          | 176,167          | 44.04          |
| Major Ports              | 29         | 9,677          | 2.42           | 20                   | 34,138         | 8.53           | 24          | 16,964         | 4.24           | 73           | 60,779           | 15.19          |
| Airports                 | 3          | 5,883          | 1.47           | 2                    | 23,310         | 5.83           | 14          | 12,387         | 3.10           | 19           | 41,580           | 10.40          |
| Railways                 | 5          | 1,166          | 0.29           | 4                    | 2,363          | 0.59           | 6           | 95,535         | 23.88          | 15           | 99,064           | 24.77          |
| <b>Total (A)</b>         | <b>92</b>  | <b>36,865</b>  | <b>9.22</b>    | <b>153</b>           | <b>163,266</b> | <b>40.82</b>   | <b>104</b>  | <b>177,439</b> | <b>44.36</b>   | <b>349</b>   | <b>377,590</b>   | <b>94.40</b>   |
| <b>State Sector</b>      |            |                |                |                      |                |                |             |                |                |              |                  |                |
| Roads                    | 141        | 11,438         | 2.86           | 91                   | 28,901         | 7.23           | 234         | 132,668        | 33.17          | 466          | 173,007          | 43.25          |
| Non-Major Ports          | 20         | 26,964         | 6.74           | 40                   | 55,853         | 13.96          | 25          | 41,073         | 10.27          | 85           | 123,890          | 30.97          |
| Airports                 | 2          | 4,957          | 1.24           | 7                    | 4,571          | 1.14           | 9           | 4,265          | 1.07           | 18           | 13,793           | 3.45           |
| Railways                 |            |                |                | 1                    | 500            | 0.13           | 3           | 312            | 0.08           | 4            | 812              | 0.20           |
| Power                    | 14         | 19,019         | 4.75           | 96                   | 29,585         | 7.40           | 89          | 82,245         | 20.56          | 199          | 130,849          | 32.71          |
| Urban Infrastructure     | 95         | 8,611          | 2.15           | 103                  | 42,546         | 10.64          | 227         | 81,265         | 20.32          | 425          | 132,422          | 33.11          |
| Others                   | 68         | 3,053          | 0.76           | 94                   | 51,605         | 12.90          | 257         | 91,166         | 22.79          | 419          | 145,824          | 36.46          |
| <b>Total (B)</b>         | <b>340</b> | <b>74,042</b>  | <b>18.51</b>   | <b>432</b>           | <b>213,561</b> | <b>53.39</b>   | <b>844</b>  | <b>432,994</b> | <b>108.25</b>  | <b>1,616</b> | <b>720,597</b>   | <b>180.15</b>  |
| <b>Grand Total (A+B)</b> | <b>432</b> | <b>110,907</b> | <b>27.73</b>   | <b>585</b>           | <b>376,827</b> | <b>94.21</b>   | <b>948</b>  | <b>610,433</b> | <b>152.61</b>  | <b>1,965</b> | <b>1,098,187</b> | <b>274.55</b>  |

Source: Planning Commission

Figures as on March, 2011. \*For arriving at dollar values the benchmark Rs 40/\$ exchange rate has been used to keep figures comparable at 2006-07 prices

<sup>1</sup> In June 2010, Transport for London (TfL), controlled by the London mayor, took back control of the London Underground upgradation project which was awarded to Tube Lines, a consortium, in a massive 30 bn pounds PPP project. TfL felt the cost quoted by Tube Lines of the second phase was too high. In another instance, in 2008, Ontario's Auditor General Report slammed the Brampton Civic Hospital, a public-private partnership. The report said, if the province had borrowed the money directly and built the hospital, it could have saved \$200 million on interest payments and \$50 million on construction cost. Also, privatization of water implemented through the PPP model in Manila has been widely criticized as the private concessionaires, according to reports, have raised tariffs by 1000 per cent since the project was implemented.

Value for Money analysis: The implementing authority, will conduct Value for Money (VfM) analysis to decide whether to develop a project as a PPP project, and subsequently, to affirm whether to award a PPP contract on the basis of the bids received.

Bankability Analysis: Apart from the economic, financial & affordability analysis, at the project development level, the implementing agencies will also conduct a bankability analysis to assess the debt service capabilities of the proposed project structure. A Debt Service Coverage Ratio (DSCR) - a ratio of cash flow available for debt servicing divided by the amount of debt service - is a key measure to assess the credit worthiness of a project. In case the project is not bankable, the implementing agency might consider developing credit enhancement mechanisms, such as viability gap funding, capital grant or maintenance grant.

Procurement and project award: The policy says, transparent, accountable, non-discriminatory, competitive and timely procurement processes would be followed, to encourage maximum participation by private sector and to imbibe public confidence in the procedure<sup>1</sup>.

Contract management and monitoring: The government and the implementing agencies would endeavor to ensure timely and smooth implementation of the project. The implementing agency shall put in place a suitable contract administration framework for monitoring project performance milestones over the contract period<sup>2</sup>.

But the government's draft National PPP policy, the main features of which are summarized above, received a lukewarm response from industry. A number of concerns of potential and existing players remain.

Monitoring performance: The private sector believes that performance of PPP projects during the contract period should be measured by an independent agency to ensure fair, unbiased and transparent assessment. Appointing foreign consultants experts from countries that have successfully implemented PPP projects is also an option.

Dispute Resolution Mechanism: The policy has not elaborated on the role, responsibility, powers and structure of the dispute resolution mechanism that it promises to set up. Those aspects should be defined. The mechanism should be empowered to handle disputes in an independent and transparent manner. The process, including arbitration has scope for standardization, in line with global practices.

Post-award Negotiations: Industry believes that it is essential to factor in the possibility of renegotiation in future, as PPP projects are long duration awards. Research reveals that the incidence of renegotiation is rather high in such projects and while it is not advisable, the fact remains that it is often inevitable. It is almost impossible to predict every possible outcome over the next 20 to 30 years. It is, therefore, advisable to recognize that there could be very compelling reasons for

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<sup>1</sup> Web-based market places, including e-tendering and auction would be promoted based on the project requirements to promote wider participation and transparency in the process. Draft contract agreement, containing provisions on the roles and obligations of the parties, performance standards and monitoring arrangements, reporting requirements, penalty conditions, dispute resolution mechanism and termination arrangements, shall be provided to the prospective bidders as part of the bid documents

<sup>2</sup> The project implementing agency shall establish appropriate mechanisms for project monitoring such as Project Monitoring Unit (PMU) and inter-department committees that would oversee project implementation, facilitate coordination between departments and render assistance during events of dispute resolution or arbitration. The dispute resolution mechanism would be in accordance with contract conditions and applicable legislation. The implementing agency shall endeavor to speedily resolve and dispose disputes during the contract period through appropriate mechanisms including mediation processes.

renegotiation of contracts and therefore it would be prudent to have such a clause in the PPP Contracts. This is also the standard practice in a number of countries such as South Africa, Australia and UK.

Value for Money analysis: The Value for Money Analysis must also include the estimate of economic loss if the project is not implemented and its effect on the economy. Moreover, Industry is apprehensive about the scope of VfM analysis in a situation where there is lack of complete information on costs/ risk and insufficient capacity within government agencies to look at the finer nuances.

Project Completion Timeline: There must be specific timelines and penalties for non-achievement of milestones for government agencies involved. These should be similar to the ones for private entities, as much of the work of the concessionaires is dependent on provision of land, connectivity, approvals etc, provided by the government /statutory bodies.

Operations & Management (O&M): Strong and time-bound legal support for issues affecting the concessionaires need to be put in place. For instance, in Brazil, any cases related to highway toll collections etc, are closed within 30 days.

## **5. Conclusion**

India needs to urgently bridge the infrastructure gaps that industry and people face every day. The slow pace of infrastructure development is quite evident from the list of eleventh plan targets that are unmet. MSMEs that provide employment to 60 million people in the country are the worst-hit by the delay. Lack of adequate power supply and transport infrastructure proves to be a deterrent to the growth of this sector. Though the PPP mode has helped the government speed up infrastructure creation to some extent, there are stumbling blocks in the smooth functioning of the process which need to be removed. Also, the regulatory authorities in the different sectors, especially power have failed to push the reform agenda needed for the sector. An overarching philosophy for infrastructure regulation is needed to make the regulatory authorities in different sectors more efficient, accountable and independent.