

Infrastructure deficit in India: The Role of Public Private Partnerships

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Abstract

It is being increasingly noticed that in order to sustain the high growth rates of 8-9 percent achieved by India in the past few years need to be supported by corresponding improvement in infrastructure. Moreover, the financing in Indian infrastructure is gradually moving away from public to private realm. It is expected in the 12th Five-Year plan 50% of investment in infrastructure will come through the private route. This paper analyzes that India has lot of opportunity to grow using Public Private Partnership (PPP) model, but still the numbers of project undertaken are very less due to the prevalent infrastructure challenges.

Introduction

Infrastructure deficit in India is widely recognised as a constraint on growth. Be it airports or rural roads, a mega power station or a rural supply line, the wheels of growth require well-oiled infrastructure in every segment of the economy. It is also a critical input for broad-based and inclusive growth aimed at improving the quality of life, generating employment and reducing poverty across regions. China and other East Asian economies have been investing over 10 per cent of their GDP in infrastructure as compared to about 4-5 per cent in India. It shows, public sector resources are not sufficient. Therefore, private investment is necessary for infrastructure development. In such a scenario Public Private Partnership (PPP) is a preferred mode for attracting private investment. A PPP refers to a contractual arrangement between a government agency and a private sector entity that allows for greater private sector participation in the delivery of public infrastructure projects through concession agreements.

Infrastructure deficit in India -

The fast growth of the economy in recent years has placed increasing stress on physical infrastructure such as electricity, railways, roads, ports, airports, irrigation, and urban and rural water supply and sanitation, all of which already suffer from a substantial deficit from the past in terms of capacities as well as efficiencies in the delivery of critical infrastructure services. The pattern of inclusive growth of the economy projected for the Eleventh Plan, with GDP growth

averaging 9% per year can be achieved only if this infrastructure deficit can be overcome and adequate investment takes place to support higher growth and an improved quality of life for both urban and rural communities.

Table 1 Infrastructure Deficit and Eleventh Plan Physical Targets

Sector	Deficit	Eleventh plan physical targets
Roads/High ways	65,569 km of national highways carry 40% of the traffic; but only 12% of these highways are 4-laned; 50% are 2-laned; and 38% are single-laned	Six-laning 6,500 km of Golden Quadrilateral and selected national highways, four-laning of about 20,000 km of national highways, widening 20,000 km of national highways to two lanes, developing 1,000 km of Expressways, constructing 8,737 km of roads including 3,846 km of national highways in the North- East
Ports	Inadequate berths, low drafts and bottlenecks in rail / road connectivity adding to costs and delays	Capacity addition of 485 million MT in major ports, 345 million MT in minor ports
Airports	Inadequate runways, aircraft handling capacity and terminal buildings causing congestion and delays	Modernisation and redevelopment of 4 metro and 35 non-metro airports, constructing 7 greenfield airports, constructing 3 greenfield airports in the North-East, upgrading CNS/ATM facilities
Railways	Old technology, saturated routes, slow speeds and low payload imposing constraints on operations and growth	Constructing the Eastern and Western Dedicated Freight Corridors on trunk routes, 10,300 km of new railway lines; gauge conversion of over 10,000 km, modernisation and redevelopment of 21 railway stations, introduction of private entities in container trains for rapid augmentation of capacity
Power	13% peaking deficit; 9% energy shortage; 40% transmission and distribution losses and absence of competition	Additional power generation capacity of about 78,000 MW, reaching electricity to all un-electrified hamlets and providing access to all rural households through the Rajiv Gandhi Grameen Vidyutikaran Yojna (RGGVY)
Irrigation	1,123 billion cubic meters of utilisable water resources, yet per capita availability and storage are low; only 43% of the net sown area is irrigated	Developing 16 million hectares through major, medium and minor irrigation works
Telecom/IT	Only 18% of the market accessed; obsolete hardware; acute human resource shortages	Achieving a telecom subscriber base of 600 million, with 200 million rural telephone connections, achieving a broadband coverage of 20 million and 40 million internet connections

Source: Eleventh Plan Document, Planning Commission, GOI.

Public and Private Investment: Projections for Eleventh Plan

Public investments in infrastructure have been the dominant form of infrastructure financing in India. In the face of budgetary and other constraints, government has recognized private sector as a means of meeting the financing requirements for infrastructure development. The Planning Commission in its Twelfth Five Year Plan Document (2012-17) expects investments in infrastructure projects to be worth of US\$ 1 Trillion over the five years of the plan. The total investment as a percentage of GDP is also expected to be in the range of 7-9%. As per the 12th plan document, the Planning Commission targets to achieve 50% private and PPP funding in total infrastructure investments, compared to a little more than 30% in the 11th Plan.

Table 2 Public and Private Investment: Projections for Eleventh Plan

Sectors	Investment (Rs. Crore)		Share in Total (%)	
	10 th Plan	11 th Plan	10 th Plan	11 th Plan
Electricity	2,91,850	6,66,525	33.5	32.4
Roads and Bridges	1,44,892	3,14,152	16.6	15.2
Telecommunication	1,03,365	2,58,439	11.9	12.5
Railways	1,19,658	2,61,808	13.7	12.7
Irrigation	1,11,503	2,57,344	12.8	12.5
Water Supply and Sanitation	64,803	1,43,730	7.4	7.0
Ports	14,071	87,995	1.6	4.3
Airports	6,771	30,968	0.8	1.5
Storage	4,819	22,378	0.6	1.1
Gas	9,713	16,855	1.1	0.8
Total	8,71,445	20,60,193	100.0	100.0

Source: Eleventh Plan Document, Planning Commission, GOI.

The above table 2 compares projections for the 11th plan with investment levels anticipated to be achieved during the 10th plan. The PPP model is a suitable way to bridge the infrastructure gap in India. For projects which are financially viable, PPPs are increasingly becoming the preferred mode of project implementation, especially in sectors such as highways, airports, ports, railways and urban transit systems. Projections for the 11th plan period envisage a spending of Rs 7, 65,622 crore (53 per cent of public investment) by the centre and Rs 6, 74,979 crore (47 per cent of public investment) by the states, aggregating a total public sector investment of Rs 14, 40,602 crore. Investment by the private sector makes up the balance of Rs 6, 19,591 crore.

Table 3 Infrastructure Projects through PPP

Sector	Total Number of Projects	Based on 100 crore	Between 100 to 250 crore	Between 251 to 500 crore	More than 500 crore	Value of contacts
Airports	5	-	-	303.0	18808.0	19111.0
Education	17	424.2	365.5	460.0	600.0	1,849.7
Energy	56	337.6	934.0	3,083.0	62,890.0	67,244.6
Health Care	8	315.0	343.0	275.0	900.0	1,833.0
Ports	61	86.0	1,745.3	4,304.8	74,902.1	81,038.2
Railways	4	-	102.2	873.0	594.3	1,569.6
Roads	405	4,364.6	11,696.5	38,520.5	122,143.3	176,724.9
Tourism	50	1,132.6	1,503.5	800.0	1,050.0	4,486.1
Urban Development	152	2,812.0	3,136.9	6,688.2	16,838.0	29,475.0
Total	758	9,471.9	19,826.9	55,307.5	298,725.8	383,332.1

Source: <http://pppinindia.com/database.php>

Table 3 shows that currently, there are 758 projects in pipeline through PPP. The road projects account for 53.4% of the total number of projects and 46% by total value because of the small average size of projects. Ports though account for 8% of the total number of projects have a larger average size of project and contribute 21% in terms of total value. The Indian power sector has attracted much private investment in the past years. With 56 projects for a total consideration, the sector accounts for 18% of the total value of PPP projects across sectors, though only 7% of the total number of PPP projects. India is expected to make great investments in the power sector due to rapid urbanization, rural electrification and industries across the country. PPP is likely to be the preferred route for such ventures.

Challenges to develop infrastructure projects through PPP model –

1. Financial sector constraints to private financing of infrastructure

The Government of India has encouraged private sector investment, both domestic and foreign, in almost all infrastructure units through the PPP mode. Private sector investors would look for the commercial viability of investments. Infrastructure projects are complex, capital intensive, long gestation projects that involve multiple and often unique risks to project financiers. Infrastructure projects are characterized by non-recourse or limited recourse financing, i.e.,

lenders can only be repaid from the revenues generated by the project. This limited recourse characteristic, and the scale and complexity of an infrastructure project makes financing a tough challenge.

2. Land Acquisition

Land being a pre-requisite for any infrastructure project, acquiring land has become a curse for many potential projects. Local communities feel cheated out from the path of development, which leads to distrust and disputes. In addition, rehabilitation packages are not planned meticulously and execution is inefficient. For instance, the National Highways Authority of India (NHAI) bids out highway projects even when it has acquired only 10-15% of the land, or even less, assuming that the balance land will be acquired by the time financial closure of the project is achieved. Almost 70% of PPP road projects witness delayed financial closure and commencement of construction.

3. Approvals, Red tape and Government Administrative Capacity

Infrastructure projects require multiple clearances at centre, state and local levels, resulting in serious delays. The time taken to obtain all the requisite approvals for an infrastructure project can vary between a low of 18 months to as much as four to five years. In spite of many states having introduced, on paper, 'single window clearance', the fact remains that when most projects apply for approvals at the state-level, these have to go through multiple clearances at various levels.

4. Limited capacity within government to execute PPPs in infrastructure

Both the central government and the states are aiming to use PPPs more extensively to help meet gaps in the provision of basic services in the country. But PPPs represent a claim on public resources that needs to be understood and assessed. They are often complex transactions, needing a clear specification of the services to be provided and an understanding of the way risks are allocated between the public and private sector. Their long-term nature means that the government has to develop and manage a relationship with the private providers to overcome unexpected events that over time can disrupt even well-designed contracts.

5. Deficiencies in Sector Policy and Regulatory Frameworks

There are also a number of sector specific policy and regulatory impediments, which vary considerably across sectors. In some, such as telecom, the obstacles and contradictions during the initial phase of the 1990s are things of the past. Through learning-by-doing, the Telecom

Regulatory Authority of India (TRAI) has truly established itself as an efficient, fair, expeditious and independent regulator which is respected as a body for creating a level playing field and fostering the rapid growth of telecom in India. In sharp contrast, the regulatory environment in power leaves much to be desired; and as yet there is no independent regulatory institution in place for ports or airports.

6. Uneven private participation

The record so far of the infrastructure sectors in regard to private participation and even within segments of the same sector itself is very uneven. Only the telecom sector has crossed the hurdles of privatisation though the allotment of spectrum for 3G services and infrastructure sharing in rural areas are yet to be resolved. The Ports sector has functioning examples of fully privately owned ports. However, further scope exists for private participation in select areas of port operation. In the case of Airports, Green field airports have come up in the private sector. There are also successful cases of upgradation of metro airports under the PPP mode. To garner investments for upgrading the second tier of airports there is urgency to develop suitable PPP models. The Power sector where the need for private investment is the greatest provides an example of uneven progress within the sector itself. The progress is most inadequate in the distribution sector despite some successes and the need to overcome this drawback is of the highest priority because efficient distribution holds the key to efficient pricing as well as overall efficiency of the sector itself. The roads sector has developed a viable model for private entry on the basis of built, operate and transfer (BOT) and its variants but faced problems of implementation.

Conclusion

The public sector is expected to continue to play an important role in building infrastructure. However, the resources needed are much larger than the public sector can provide and public investment will therefore have to be supplemented by private sector investments, in PPP mode. This strategy was followed in the Eleventh Plan and it has begun to show results. The private sector has responded to the government's attempts to encourage private sector-led growth and investment for meeting infrastructure deficit. The barriers posed by the absence of a sufficiently sophisticated financial sector, red tape and procedural inefficiencies that have contributed to project delays and discouraged private investors, and constraints arising from the absence of

adequate infrastructure regulation that aggravate risks and uncertainties for investors are needed to be addressed to realize the projected infrastructure targets.

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