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Public-Private Partnership and Infrastructure Development In India: An Introspection

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Abstract

A Public-Private Partnership (PPP) is a long term contractual agreement between a government agency and a private partner for the delivery of goods or services.PPP can take various forms and include both collaborative (non-legal binding) or contractual (legally binding) agreements. Infrastructure bottleneck has been a serious concern in India in its way of robust pace of economic progression. While many advanced economies and fiscal constrained developing countries have developed their physical infrastructure successfully either through private participation or through public-private partnership (PPP) model, in India, private participation in the process of infrastructure development has received lackluster response. While private telecom services is a success story in India, the PPP constitutes a miniscule share in overall infrastructure building despite initiation of various policy adjustments and sector-specific reform programmes. In an emerging economy like India the importance of PPP model has gained greater momentum for increasing and sustaining the current pace of socio-economic development. The main focus of this paper is to provide an analytical abstract of sector-wise infrastructure developments in the country and the status of private participation and the PPP in building such public infrastructure. This paper raises some specific concerns in the power, transportation, telecom, petroleum, and urban infrastructure sectors and puts forth suggestive measures to enhance the private participation. It also identified some generic issues such as inadequate transparency of procedures, inappropriate risk allocation, proper project appraisal, cost and time overruns, overlapping of regulatory independence, dearth of good governance, etc., which need attention to attract private investors to participate in the public infrastructure building. The present study is exploratory in nature to provide a clear guidance for empirical research. For this purpose secondary data were collected. The secondary data were collected through newspapers, magazines, books, journals, conference proceedings, Government reports and websites.

Keywords: *Emerging economy, Infrastructure, Public-Private Partnership, Socio-economic development.*

Introduction

Physical infrastructure is an integral part of development of an economy and provides basic services that people need in their everyday life. The contribution of infrastructure to economic growth and development is well recognized both in academic and policy debates. Well developed physical infrastructure provides key economic services efficiently, improves the competitiveness, extends vital support to productive sectors, generates high productivity and supports strong economic growth. Physical infrastructure covering transportation, power and telecommunication through its forward and backward linkages facilitates growth; social infrastructure including water supply, sanitation, sewage disposal, education and health, which are in the nature of primary services, has a direct impact on the quality of life.

Over the years, the basic infrastructure in India has been developed to an extent, which is not sufficient enough while considering India's geographical and economic size, its population and the pace of overall economic development. Infrastructure bottleneck has been a serious concern in India and basic infrastructure like roads, railways, ports, airports, communication and power supply are not comparable to the standards prevalent in its competitor countries.

To develop the Indian infrastructure to a world class and to remove the infrastructure deficiency in the country, the investment requirements are mammoth, which could not be met by the public sector alone due to fiscal constraints and mounting liabilities of the Government. This would call for participation of private sector in coordination with the public sector to develop the public infrastructure facilities. In this direction, the economic reforms initiated in the country provide forth the policy environment towards public-private partnership (PPP) in the infrastructure development. Sector-specific policies have also been initiated from time to time to enhance the PPP in infrastructure building. While the PPP is spreading to develop basic infrastructure worldwide, in India, the participation of private sector in the infrastructure building has not been much encouraging, despite several rounds of policy reforms.

Objectives & Methodology of the Study

Infrastructure bottleneck has been a serious concern in India in its way of robust pace of economic progression. While many advanced economies and fiscal constrained developing countries have developed their physical infrastructure successfully either through private participation or through public-private partnership (PPP) model, in India, private participation in the process of infrastructure development has received lackluster response. While private telecom services is a success story in India, the PPP constitutes a miniscule share in overall infrastructure building despite initiation of various policy adjustments and sector-specific reform programmes. In an emerging economy like India the importance of PPP model has gained greater momentum for increasing and sustaining the current pace of socio-economic development. The main focus of this paper is to provide an analytical abstract of sector-wise infrastructure developments in the country with special emphasis to Transportation sector namely Roads and the status of private participation and the PPP in building such public infrastructure. It also identified some generic issues such as inadequate transparency of procedures, inappropriate risk allocation, proper project appraisal, cost and time overruns, overlapping of regulatory independence, dearth of good governance, etc., which need attention to attract private investors to participate in the public infrastructure building. The present study is exploratory in nature to provide a clear guidance for empirical research. For this purpose secondary data were collected. The secondary data were collected through newspapers, magazines, books, journals, conference proceedings, Government reports and websites.

Structure of PPP – Literature Survey

What is Public-Private Partnership?

The expression public-private partnership is a widely used concept world over but is often not clearly defined. There is no single accepted international definition of what a PPP is (World Bank, 2006). The PPP is defined as "the transfer to the private sector of investment projects that traditionally have been executed or financed by the public sector" (IMF, 2004). Any arrangement made between a state authority and a private partner to perform functions within the mandate of the state authority, and involving different combinations of design, construction, operations and finance is termed as Ireland's PPP model. IN UK's Private Finance Initiative (PFI), where the public sector purchases services from the private sector under long-term contract is called as PPP program. However, there are other forms of PPP used in the UK, including where the private sector is introduced as a strategic partner into a state-owned business that provides a public service.

The PPP is something referred to as a joint venture in which a government service or private business venture is funded and operated through a partnership of government and one or more private sector companies. Typically, a private sector consortium forms a special company called a special purpose vehicle (SPV) to build and maintain the asset. The consortium is usually set up with a contractor, a maintenance company and a lender. It is the SPV that signs the contract with the government and with subcontractors to build the facility and then maintain it.

Thus, the PPP combines the development of private sector capital and sometimes, public sector capital to improve public services or the management of public sector assets (Michael, 2001). The PPP may encompass the whole spectrum of approaches from private participation through the contracting out of services and revenue sharing partnership arrangement to pure non-recourse project finance, while sometime it may include only a narrow range of project type. The PPP has two important characteristics. First, there is an emphasis on service provision as well as investment by the private sector. Second, significant risk is transferred from the Government to the private sector. The PPP model is very flexible and discernible in variety of forms. The various models / schemes and modalities to implement the PPP are set out in Table 1.

Table 1: Schemes and Modalities of PPP

Schemes	*Modalities*
Build-own-operate (BOO) Build-develop-operate (BDO) Design-construct-manage-finance (DCMF)	The private sector designs, builds, owns, develops, operates and manages an asset with no obligation to transfer ownership to the government. These are variants of design-build-finance-operate (DBFO) schemes.
Buy-build-operate (BBO) Lease-develop-operate (LDO) Wrap-around addition (WAA)	The private sector buys or leases an existing asset from the Government, renovates, modernizes, and / or expands it, and then operates the asset, again with no obligation to transfer ownership back to the Government.

Schemes	*Modalities*
Build-operate-transfer (BOT) Build-transfer-operate (BTO) Build-own-operate-transfer (BOOT) Build-rent-own-transfer (BROT) Build-lease-operate-transfer (BLOT)	The private sector designs and builds an asset, operates it, and then transfers it to the Government when the operating contract ends, or at some other pre-specified time. The private partner may subsequently rent or lease the asset from the Government.

Source: Public Private Partnership, Fiscal Affairs Department of the IMF.

Current status of PPPs in India

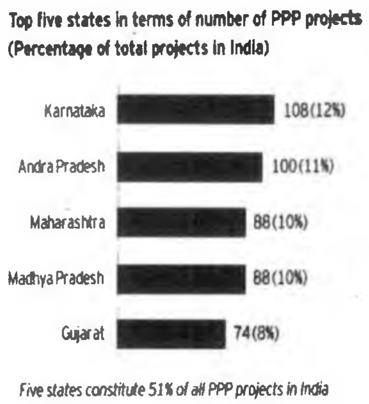
India has had **881 PPP projects worth more than INR5.4 trillion** in awarded/underway status (i.e., in operational, construction or in stages where at least construction/implementation is imminent) as per data available till August 2012.

- Roads dominate the PPP scenario in India, accounting for 52% of all PPP projects.
- There is a need for mainstream PPPs in several areas, such as power transmission and distribution, water supply and sewerage, and railways. These are sectors where there are significant resource shortfalls, and a need for efficient delivery of services.
- There is also a need to focus on social sectors, especially health and education, which currently accounts for only 3.7% of PPP projects in India.

Private sector to push infrastructure growth in the Twelfth Five Year Plan (FYP) 2012-2017

The Government of India (GOI) realizes the importance of accelerating infrastructure development through increased private sector participation in order to boost the country's slowing economy.

- The Planning Commission has projected that investment in infrastructure will almost double to reach INR55.7 trillion during the Twelfth FYP (2012-2017), as compared to INR24.2 trillion in the Eleventh FYP (2007-2012).
- Out of this total investment, 48% is expected to come from the private sector, which accounted for 36% of investments in the Eleventh FYP.



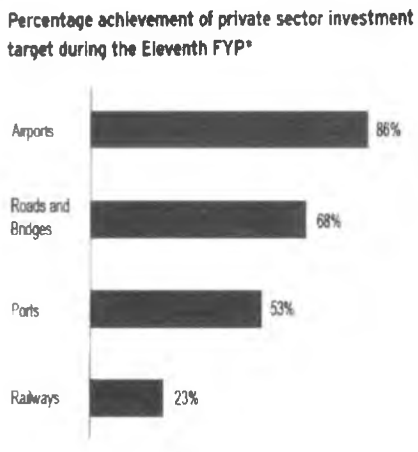
Key sectors for PPP

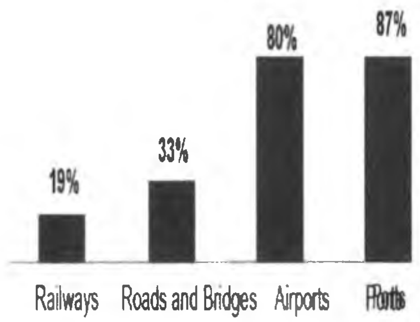
Roads, railways, ports and airports are the key infrastructure sectors for PPP in India. As on August 2012, these four sectors constituted 60% (534 projects) of the total PPP projects in India. Among the four sectors, roads top the list with a share of approximately 85%, followed by ports (12%), railways (2%) and airports (1%).

Over the last few years, private sector participation, especially in transport infrastructure sectors, has slowed down due to various regulatory and financial hurdles. Private investment in railways, roads, airports and ports lagged behind and did not meet their investment targets during the Eleventh FYP. Railways were the least successful in attracting private investment, achieving only 23% of its planned target investment.

The strategy for the Twelfth FYP encourages private sector participation directly as well as through various forms of PPPs, wherever desirable and feasible. In the Twelfth FYP, the GOI will focus on increasing private participation, especially in the railways sector. Private sector participation in railways is expected to increase from 5% in the Eleventh FYP to 33% in the Twelfth FYP. Private investment is expected to not only expand capacity, but also improve the quality of service, besides minimizing cost and time overruns in the implementation of transport infrastructure projects

Private sector investment in infrastructure during Twelfth FYP (Percentage of total)





Source Draft Twelfth FYP (2012-2017), Planning Commission GoI

The government has envisaged a total private investment of approximately INR6.5 trillion during 2012-2017 in these four sectors.

Roads

India's 4.7 million km of road network transports more than 60% of total goods and 85% of total passenger traffic. The majority of the roads are district, urban and rural roads, which account for 95% of the total road network. National highways (0.08 million km) and state highways (0.15 million km) account for only 5% of the total road network. The GOI has stated that the development of highways is a strategic priority for the country, and the private sector is expected to play a key role in its development.

PPP slowed down in recent years: When the National Highways development Program (NHDP) had laid down ambitious targets for private participation, PPP in the roads sector had increased by leaps and bounds. Long concession periods and expectation of high returns had fuelled competition. Projects were awarded at premium as the sector saw aggressive bidding by developers. Of 51 projects awarded by NHAI, 31 were at a premium.

However, the sector has been facing multiple challenges over the past two years, such as high interest rates, increase in cost of raw material and reduced availability of funds. With limited equity and credit lines, developers are staying away from bidding for new projects. NHAI has been able to award only 879 km on PPP mode in FY 13 (as compared to 7,900 km in FY 12).

Current status of PPP

National highways

Most of the NHDP projects have been developed or are under development on PPP basis through the BOT Annuity and the BOT Toll mode. With a considerable number of new projects on offer under PPP in the roads sector, there exist several investment opportunities for investors and companies with diverse business lines, such as engineering companies, civil work contractors, O & M contractors and toll operators.

PPP in NHDP across various phases

	Number of PPP projects awarded	*Length (km)*	*Total cost (INR billion)*
NHDP Phase I	17	930	59.5
NHDP Phase II	40	2,076	227.0
NHDP Phase III	117	10,292	834.9
NHDP Phase IV	28	3,990	297.0
NHDP Phase V	31	4,080	429.8
NHDP Phase VII	2	41	23.3
Total	**235**	**21,409**	**1,871.5**

Source: NHAI, as on December 2012

No projects have been awarded under NHDP Phase VI yet

- As of December 2012, out of the 235 projects awarded for national highways on PPP basis, 186 (79%) were awarded through the BOT (Toll) mode and the rest were awarded through the BOT (Annuity) mode.
- Use of PPP in NHDP Phase III picked up substantially, and as many as 117 projects were awarded under it in that phase.
- Since 2008-09, more than 90% of national highway projects have been awarded on PPP basis. Furthermore, the Planning Commission has recommended that 85% of the NHDP projects in the later phases need to be developed through PPP.

State highways

With significant progress being made in case of national highways, PPP in state highways development also holds potential. Lack of appropriate PPP policy at state level, absence of regulatory authority, such as NHAI and institutional weaknesses to manage PPP have been hindering the growth of PPP in state highways. However, things are changing and state highways are also witnessing increased private participation.

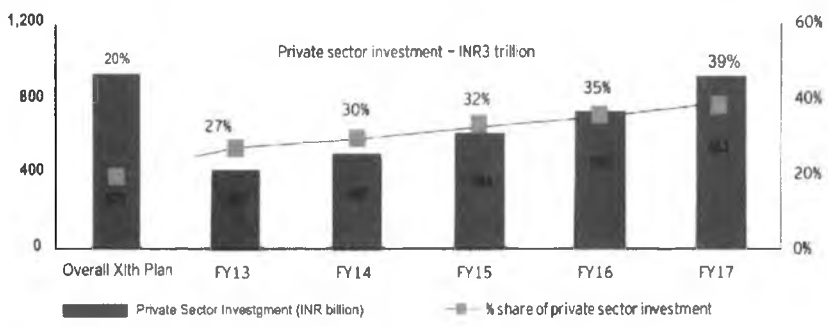
- Private sector investment worth INR1 trillion is being made in 278 road projects in 13 Indian states. Of these, 148 projects have been completed at a total cost of INR165 billion, while 130 projects worth INR895 billion are under implementation.
- States are taking various initiatives, such as mobilization of Private investment and multi-lateral funding to develop their respective roads networks.
- Several states, such as Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab and Rajasthan have witnessed substantial growth in the commissioning and initiation of road development projects.
- Gujarat State Road Development Corporation has six upcoming roads PPP projects worth more than INR 10 billion.
- Punjab has commissioned a PPP project to convert the Ropar-Phagwara expressway to six lanes, with an estimated investment of INR7 billion

Private sector investment in roads to increase by 3.3 times in the Twelfth FYP

In the Twelfth FYP, the planned investment for development of roads and bridges has increased by more than 50% from the Eleventh FYP. Cumulatively, the private sector is expected to contribute 33% of the sector's planned investment, up from 20% in the previous plan.

Approximately 8,270 km of the National Highways are expected to be upgraded in FY14. Construction / rehabilitation of 100 bridges and 4 bypasses as standalone projects are also expected to be completed in that year, at an estimated cost of INR233 billion.

Estimated private sector investment in roads and bridges in the Twelfth FYP



Source : Draft Twelfth FYP (2012-17), Planning Commission, GoI

PPP-Generic Issues

When we look at the progress of infrastructure development so far, private participation and PPP arrangements in the development of public infrastructure have still faced several implementation challenges. These challenges typically involve tariff setting and adjustment, regulatory independence or dispute over contractual provision and risk sharing. It may be observed from the discussion so far, the PPP in the infrastructure development is picking up during the recent years, particularly in the road sector and to some extent in the airports and ports sectors. Telecom sector is considered to be a successful sector in attracting private participation on a large scale. This may be due to sector – specific policies and other factors such as Government commitment, increased private interest in these sectors, move towards better competitive process, greater availability of information, size of the projects, acceptable price and encouraging developer return, fiscal concessions, etc. However, considering the size and magnitude of the proposed and ongoing projects in the infrastructure sector as a whole, the lackluster response by the private participation and slow progress in some of the project need to be reversed through investor friendly policies, transparent procedures and other conducive measures. The PPP model will not be feasible in all types of infrastructure but they are possible in many areas, which are to be exploited fully. The key to making PPP model acceptable is to create an environment where PPPs are seen to be a way of attracting private projects. Towards this direction, the following generic issues, therefore, need the attention to make the PPP model as a success story in the infrastructure development as in the case of some of the developed and developing economies.

Transparency: There is a widespread consensus among economists that transparency is crucial in the case of PPP projects. At present, the process of executing the projects in India involves various stages and each stage is to pass through complicated policies and programmes. Though, the process of bidding and awarding the contract is stated to be much transparent, still there is scope for improvements. The PPPs can sometimes run into controversy if the private partner is seen to have received unduly favourable treatment. This can be overcome by ensuring that the terms of concession agreements are transparent and protective of public interest. Though this approach has been adopted by the Centre through model concession agreement, the State governments should also adopt transparent approach similarly to ensure that the PPP will be a success story.

Risk Allocation: As the projects in the infrastructure sector requires huge investments and involve much time frame for their execution, various risks, viz., construction risk, financial risk, market risk, performance risk, demand risk and residual value risk are to be allocated appropriately among the 0nstituents. The risks should not be passed on to others as and when arise, which would affect the cost and progress of the project and create unnecessary litigations. Too many risks assumed by Government will likely put unjustified pressures on taxpayers. On the other hand, too few will prevent potential private investors from participating in the venture.

Project Appraisal: Execution of infrastructure projects should have a clear choice about its implementation whether by the Government or private or both under PPP. Also, the technicality of the project should be clear regarding its soundness, viability and return. When we look at the PPP programme, while there are a number of successful projects, there have also been a number of poorly conceptualized PPPs brought to the market that stood little chance of reaching financial closure. Clear appraisal of the project before its execution would avoid many litigations. At the same time, it is important to avoid a possible bias in favor of the private sector.

Cost and Time Overruns: Many of the projects under the PPP are delayed due to litigations, which had to cost and time overruns in their implementation. For instance, as per the Ministry of Statistics and Programme Implementation, out of 491 central sector projects of more than Rs. 100 crore at the end of March 2008, about 231 projects have witnessed delays in their execution due to varied reasons. The cost overrun of these projects has, though, come down from 51.8 per cent of the original cost in March 2004 to 13.9 per cent in March 2008; still it constitutes a significant share, which is to be reduced through implementation of the projects on schedule.

Government Guarantee: Generally, investors look for Government guarantee for their investments and their return before entering into a venture. Constant changes in the procedures for offering Government guarantees discourage the investment opportunities. Though, Government guarantee for private investment is not a preferred option in the fiscal angle, transparent policies and guidelines towards Government guarantee will provide clear perception and encouragement towards the PPP even in the risky areas of investment. But at the same time, the guarantee should not put the Government into pecuniary loses due to lack of clarity as in the case of Dabhol power.

Centre-State Disagreement: Execution of some of the projects like airport development, road, etc., are delayed due to disagreement between the centre and the State Governments in various aspects, particularly locational choice, cost sharing structure, political disagreement, etc., which are to be avoided with appropriate policies, political will, cooperation, coordination, dedication and determination.

Regulatory Independence: In the infrastructure sector, regulatory bodies like Telecom regulatory Authority of India, Central Electricity Regulatory Commission, State Electricity Regulatory Commissions, Tariff Authority of major Ports, National Highway Authority of India and Airport Authority of India have established as autonomous agencies to regulate the activities coming under their jurisdiction. Though regulatory independence is vital for speedy implementation of policies, there are instances of disagreements between the regulatory authorities. To reduce the risk of arbitrary and ad-hoc policy interventions due to disagreement between the authorities, principles on key issues need to be specified upfront in sufficient detail.

Corporate Governance: Good corporate governance will succeed in attracting a better deal of public interest because of its apparent importance for the economic health of corporate and society in general. The corporate governance framework should ensure that timely and accurate disclosure is made on all material matters. The corporate governance practices of the parties involving in the PPP have to match with the benchmarking corporate governance practices with the best in the rest of the world.

In addition, appropriate institutional framework is a prerequisite for the success of the PPP in the infrastructure development due to its size, investment requirements, structure and dimension. Foreign investment will freely flow into a country when there is sound, stable and predictable investment policy. Frequent changes in the policies will be an irritant to the investors, which is to be restricted in an emerging economy like India. Overall, in addition to sector-specific issues, the generic issues also need the attention of all concerned to make not only the PPP model a successful but to attract more private participation to upgrade the Indian infrastructure into a world-class.

Conclusion

The Twelfth FYP intends to achieve a huge infrastructure investment target through PPPs. Currently, PPP in infrastructure is at the crossroads with initial euphoria around the PPP models slowing down. Delay in clearances, poorly defined contracts and red tapism are pushing away the private sector from taking up new projects.

The Government needs to work on each stage of PPP development – planning, designing, contracting, financing and monitoring. New models for PPP are required to be created to cater to the current challenging business climate. Unless project agencies are suitably empowered for effective and time-bound decision making, PPP agenda of the country is going to take time to evolve and develop. There needs to be a clear demarcation of the risks to be borne by public and private parties.

Despite various bottlenecks, PPP in infrastructure holds great potential in a country like India. A long-term sustainable infrastructure plan needs to be developed that will create an environment for increased private sector investments for faster execution of the projects. Collective efforts by both the private and the public sector and enabling policy provisions may help in achieving the infrastructure PPP agenda of the government.

Select References

Efraim Sadka, Public-Private Partnerships: A Public Economics Perspective, International Monetary Fund, WP/06/77, Washington, DC.

Eric C. Wang (2002), Public infrastructure and economic growth: A new approach applied to East Asian economies, department of Economics, National Chung Cheng University, Ming-Hsiung, Chia – Yi 621, Taiwan, ROC, June 2002.

Gajendra Haldea, Public Private Partnership in Infrastructure: A Paradigm Shift, Planning Commission, GoI, New Delhi.

Geethanjali Nataraj (2007), Infrastructure Challenges in South Asia: The Role of Public-Private Partnerships, ADB Institute Discussion Paper No. 80, September 2007.

Government of India, Ministry of Petroleum & Natural Gas, Annual Reports, New Delhi.

(2005), Ministry of Finance, Scheme for support to PPP in Infrastructure, New Delhi, July 2005.

Ministry of Finance, Union Budget 2006-07, New Delhi

Ministry of Finance, Economic Survey 2007-08, New Delhi.

Department of Road Transport and Highways, Annual report various issues, New Delhi

Department of Shipping, Ministry of Shipping, Road Transport and Highways, various issues, New Delhi.

Department of Telecommunications, Annual report, various issues, New Delhi.

Ministry of Civil Aviation, Annual Report, various issues, New Delhi.

Ministry of Power, Annual report, various issues, New Delhi.

Ministry of Statistics and Programme Implementation, Review of Infrastructure Sector Performance, 2007-08, New Delhi.

Ministry of Statistics and Programme Implementation Flash Report in Central Sector Projects, March 2008, New Delhi.

Tenth Five Year Plan Document, Planning Commission, New Delhi, December 2002.

Eleventh Five Year Plan Document, Planning Commission, New Delhi, December 2007.

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