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**INFRASTRUCTURE CHALLENGES IN INDIA: THE ROLE AND ISSUES OF
PUBLIC-PRIVATE PARTNERSHIPS**



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Abstract

Infrastructure is the prerequisite for the development of any economy. Roads, telecommunications, energy, water, health, housing, and educational facilities have become part and parcel of human existence. It is difficult to imagine a modern world without these facilities. These are vital to the household life as well as to the economic activity. Infrastructure plays a crucial role in promoting economic growth and thereby contributes to the reduction of economic disparity, poverty and deprivations in a country. Greater access of the poor to education and health services, water and sanitation, road network and electricity is needed to bring equitable development and social empowerment. It is an important pre-condition for sustainable economic and social development. Infrastructural investments in transport (roads, railways, ports and civil aviation), power, irrigation, watersheds, hydroelectric works, scientific research and training, markets and warehousing, communications and informatics, education, health and family welfare play a strategic but indirect role in the development process, but makes a significant contribution towards growth by increasing the factor productivity of land, labour and capital in the production process, especially safe drinking water and sanitation, basic educational facilities strongly influence to the quality of life of the people. This study establishes the relationship between infrastructure and economic growth using growth theories by empirical evidences. Finally it concludes infrastructure and poverty reduction in the Indian context.

Keywords: *Public-Private Partnership, Infrastructural Investments,*



Introduction

India is the fourth largest and most emerging economy in the world. Despite of this there are major issues which are also associated with it. According to the XIth plan, the major obstacle in the growth and development of the Indian economy is the lack of world class infrastructure facility. Estimates suggest that, lackof adequate infrastructure reduces India's GDP growth by 1-2 per cent every year.The fast growth of the economy created bottleneck of basic infrastructural facilities like electricity, railways, roads, ports, airports, irrigation, water supply, and sanitation systems etc.Many theories have shown direct relationship between physical infrastructure, growth and overall development of the country. It is expected that, India can achieve more than 8% consistent growth rate with an objective of inclusion only when country's infrastructure deficit is overcome. One of the key issues behind the lack of the infrastructure facility is the cost associated with the projects. The cost of most of the infrastructure projects is very high and due to this fact it is difficult for the public sector to complete them. This fact was recognized in the eleventh plan and they come up with the solution of involvement of the Public-private partnership. However, to develop infrastructure in the country, the government is expected to review certain issues of which Public –Private Partnerships (PPPs) is most urgent and essential.

In the last decade, public-private partnerships have received more importance especially in the roads and highway projects. PPP's is now contributing to more than 400 projects which are currently in various stages of operations and implementations. Well known examples of the successful projects under PPP's include Mumbai and Delhi airport, Greenfield of Hyderabad and Bangalore projects. Substantial progress has been made in this respect. "The total investment in infrastructure, which includes roads, railways, ports, electricity and telecommunication, oil gas pipelines, and irrigation, is estimated to have increased from 5.7 percent of GDP in the base year of the Eleventh Plan to around 8 percent in the last year of the Plan. PPPs are the most important way by which the fastest growing country like India could solves the issues related to the infrastructure and for surely increase their GDP. Such projects



are expected to have greater accountability and innovations 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. PPP's have many advantages over the sole involvement of the public sector only. Moreover, it will surely help in fastest development of the infrastructure development which might be time consuming if only depend on the public sector. Therefore, the current study was initiated with the aim of following objectives.

Objectives of the study

- To study the history and contribution of PPP's in various sectors.
- To study comparative investment of central, state and private sector in projects under PPP
- To analyze the share of public and private investment in infrastructure
- To analyze the issues faced by PPP's in the infrastructural investment.

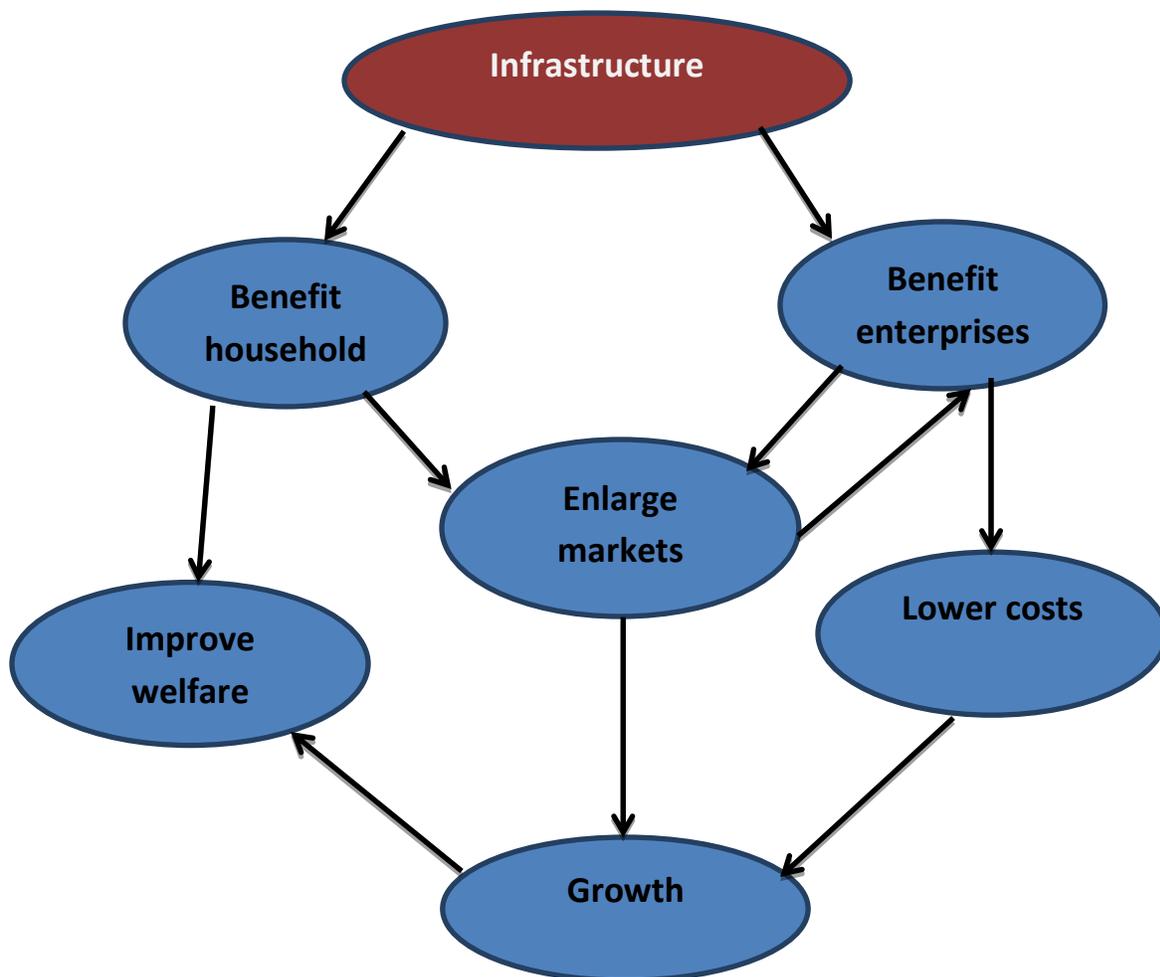
How Infrastructure Contribute to Growth

Infrastructure investment generally has two types of effects. First, it has demanded creation effect in other economic activities which is flow impact. Second, it has stock impact which makes better availability of services and improves productivity of the private sector and the economy as a whole. Therefore, infrastructure development contributes to investment and growth through increase in productivity and efficiency as it links between resources to factories, people to jobs and products to markets.

- Reducing transaction costs and facilitating trade flows within and across borders.
- Enabling economic actors individuals, firms, governments to respond to new types of demand in different places.



- Lowering the costs of inputs for entrepreneurs, or making existing businesses more profitable.
- Creating employment, including in public works (both as social protection and as a counter-cyclical policy in times of recession)
- Enhancing human capital, for example by improving access to schools and health centers; and
- Improving environmental conditions, which link to improved livelihood Better health and reduced vulnerability of the poor.





A) History of PPP

The Public-private partnership (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). PPP involves a contract between a public sector authority and a private party, in which the private party provides a public service or project and assumes substantial financial, technical and operational risk in the project. There are two main components of PPP, viz. Public and private partner. The public partner is represented by the government at a local, state and/or national level. The private partner can be a privately-owned business, public corporation or consortium of businesses with a specific area of expertise.

Due to the high cost owe by public infrastructure facilities the Governments sought to encourage private investment in infrastructure, initially on the basis of accounting fallacies arising from the fact that public accounts did not distinguish between recurrent and capital expenditures. Initially, most public–private partnerships were negotiated individually, as one-off deals, and much of this activity began in the early 1990s. The idea that private provision of infrastructure represented a way of providing infrastructure at no cost to the public has now been generally abandoned; however, interest in alternatives to the standard model of public procurement persisted. In particular, it has been argued that models involving an enhanced role for the private sector, with a single private-sector organization taking responsibility for most aspects of service provisions for a given project, could yield an improved allocation of risk, while maintaining public accountability for essential aspects of service provision.

A common challenge for PPPs is allowing for these fluctuations and reinforcing the intended partnership without diminishing either sector. Multi sectorial , or collaborative, partnering is experienced on a continuum of private to public in varying degrees of implementation according to the need, time restraints, and the issue at hand. Even though these partnerships are now common, it is normal for both private and public sectors to be critical of the other’s approach and methods. It is at the blend of these sectors that we see how



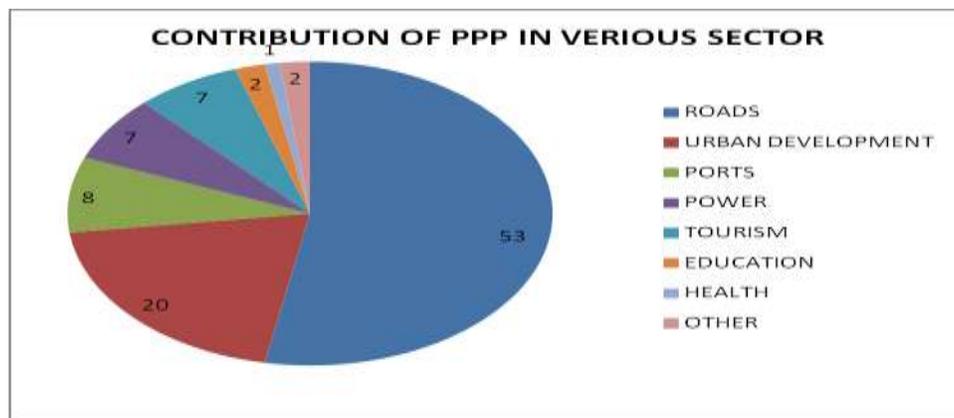
a unified partnership has immediate impact in the development of communities and the provision of public services.

Some of the major infrastructural facilities developed due to the collaboration between public and private sector under PPPs in India are as follows:

1. Delhi, Mumbai, Hyderabad and Bengaluru airports.
2. Ultra-mega power projects at Sasan (Madhya Pradesh), Mudra (Gujarat), Krishnapatnam (Andhra Pradesh), and Tilaiya (Jharkhand).
3. Container terminals at Mumbai, Chennai, and Tuticorin ports.
4. 15 concessions for operations of container trains.
5. Jhajjar power transmission project in Haryana.
6. 298 national and state highway projects.

B) Contribution of PPP in various sectors

Following figure provides the brief idea about the contribution of the PPP in various sectors in India. According to the data available, maximum PPP was observed in case of the roads, whereas minimum PPP for the health. Followed by the roads, urban development receives maximum PPP. However, ports, power and tourism has more or less equal PPP which is almost half of the urban development individually and equals to urban development together. Education as well as health care sectors receives second minimum investment by PPP.





The current data showed that, India has maximum PPP in case of the roads which seems to be very important. Geographically India stood 7th in the largest land available and contribute 2.4 % of the total land of the world. Due to such huge amount of the land availability, the connectivity using the highways is extremely necessary. Connectivity will be surely helpful in many cases like transportation of different goods. Transportation facility will surely helpful in terms of the rural areas wherein 70% of the population resides and fails to reach the global market due to the lack of proper connectivity via roads and highways.

Due to the presence of the extraordinary intelligent and maximum youth power with India investment of PPP in urban region seems to very important because in order to get employment and to stay in urban area. Urban investment of the PPP will surely increase the sustainability of the modern youth as well as also prevent the outward migration of the Indian youth in other countries.

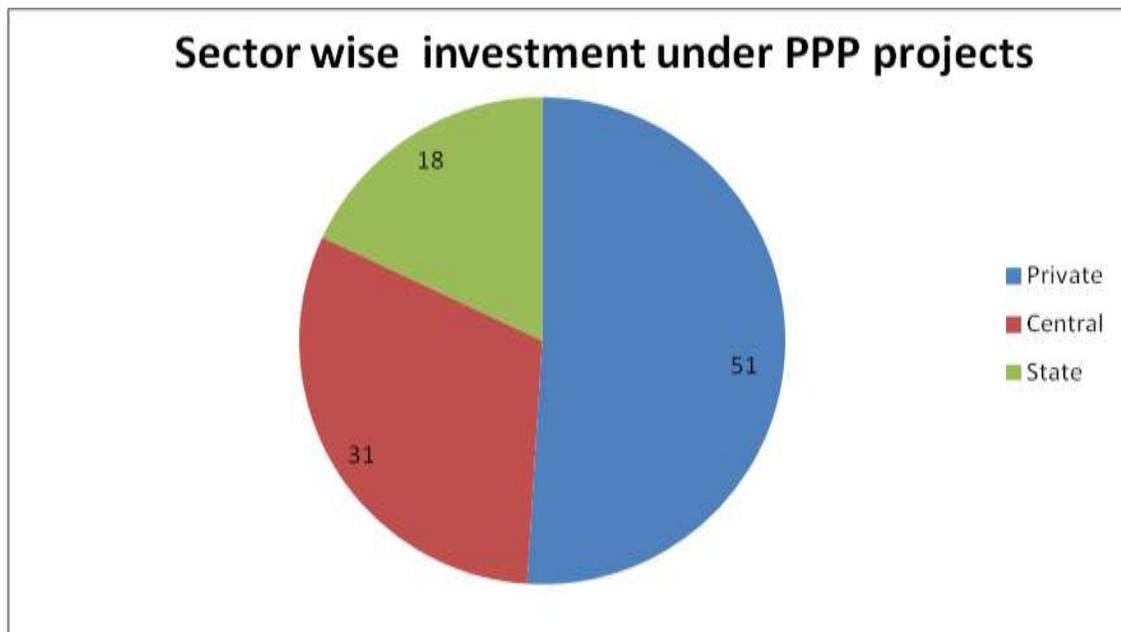
Involvement of the PPP in ports even though looks less as compare to the roads but as per as the total requirement of the ports for import export the available ports are enough but not sufficient for future. On the other way, investment of PPP in power is not satisfactory and need to increase substantially. Since India is developing country and the production sector totally depends on the energy we need to have more and more alternative sources for power generation because every year there is 4.5% increases in the energy requirement. But unfortunately, there is drastic reduction in the resources available like coal, oil and natural gas every year. In power sector Government is totally focusing on the conventional energy resources but giving less priority to the non-conventional energy resources. Most of the solar, wind and tidal energy projects running in India are only by the private companies and not by the Government. Government has to take concrete step towards collaborating with private sector and try to invest a lot in non-conventional energy resources since they are the only long term solutions for the future. For tourism, education and other sectors receives substantially good PPP.



C) Comparative contribution of central, state and private sectors in projects under PPP

Following figure shows the total investment of the Government as well as private sector in different projects under PPP. Projects funded by the PPP receive maximum funding from the private sectors (51%) whereas the state Government contributes least (18%). Central Government contributed 31% which is just half of the investment by the private sector.

The investment put forth by the private sector in projects under PPP even though looks very high as compared to the central or state Government, but it needs to increase which will surely be helpful in the fastest development of the infrastructure facilities. Central as well as State Government most of the money is involved in public welfare schemes and other non-planned expenditures like natural disaster and catastrophic events like Tsunami, earthquakes, landslides etc. Therefore, in India there is further need for investment of the private sector in projects under PPP.



Central, State and Other PPP's in India



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Sectors	No. of Projects	Project Cost (Rs. Cr.)
1:CENTRAL		
Roads	172	96,152
Ports	21	14,735
Airports	05	19,111
Railways	07	2,418
Energy	04	17,500
Total	209	149,916
2: STATE		
Roads	273	123,386
Ports	41	66,479
Airports	-	-
Railways	02	1,494
Urban Infrastructure	166	84,914
Energy	65	56,185
Tourism	50	4,497
Total	597	3,36,955



3: OTHERS(Like Local Bodies)		
In All Sectors	3 4	3,756
Grand Total(1+2+3)	8 4 0	490,627

D) Issues in infrastructure financing (Overview)

In India, both public as well as private sectors face many issues in relation to the infrastructure financing. The challenge to infrastructure financing comes both from within the sectors as well as from the domestic financial system. There are challenges to the ability of the domestic financial system to contribute the sector with enough financial capital. The reasons are well known that, domestic sector keep most of the money as backup for non-planned expenditures which is very much important. Under government ownership, the investment needs of the sector were mostly met through budgetary provisions. With the increasing participation of the private sector and limit to government's budgetary support, there is a greater dependence on the domestic financial system. However, the existing regulatory provisions limit the ability of the banks and financial institutions to meet the requirement of the infrastructure sector.

Issues faced by PPP in the Infrastructure development (Sector-wise)

A) Roads

- 1) Project for road development and maintenance failed to evoke interest from large reputed foreign and international firms
- 2) No uniform tolling policy
- 3) Disparity in tolling rates between private-funded projects and public-funded projects leading to user resistance



- 4) Acquisition of land is an impediment that delays in project implementation
- 5) Traffic figures of government are on the higher side, leading to independent traffic projections by entrepreneur and project lender(s) causing delay in financial closure

B) Urban development

- 1) Lack of interest of most of the reputed and international firms in urban development
- 2) Lack of communication between the private and government authority
- 3) Non-availability of the skilled manpower for proper planning of the project
- 4) Slow working habit of the most of the government agencies/authorities
- 5) Failure to provide the freedom for carry out the work with non-necessary involvement of politicians
- 6) Time wastage in the unnecessary procedure and documentation
- 7) Bised contract sanctioning for most of the public work

C) Railways

- 1) Ministerial, commercial, and regulatory powers are vested with a single entity: the Railway Board
- 2) Indian Railways as an enterprise is integrated with the government and hence is not able to function with commercial objectives
- 3) The vertically integrated monolith structure of Indian Railways leads to product pricing and costing being determined on non-commercial principles.
- 4) Wagon Investment Scheme (formerly Own Your Wagon scheme) started in 1990s to increase private investment in rolling stock but private interest was limited by one-sided clauses favoring Indian Railways as well as the inability of Indian Railways to adhere to service levels
- 5) Lack of customer orientation by Indian Railways
- 6) Non-concomitant by Indian Railways to agree to known freight rate formula

D) Airports

- 1) Aviation Authority of India (AAI) is both an operator and regulator



- 2) Lack of independent regulator in the sector
- 3) Currently, the Ministry of Civil Aviation is regulating all aspects
- 4) Restrictions on foreign ownership of airlines
- 5) Acquisition of the land is tedious process

E) Ports

- 1) Tariff controls by TAMP for major ports, whereas no such overall body exists for minor ports leading to unfair competition
- 2) TAMP vested with limited powers and inadequate role definition and function. No provision to ensure compliance and impose penalties for non-compliance. TAMP does not have sufficient powers to requisition records and cross-examine witnesses for tariff-related issues
- 3) Lack of regulator for ports
- 4) Major ports perform the role of full service ports rather than landlord ports
- 5) No significant manpower rationalization and training for developing multi-skilled workers for major ports which is consistent with traffic and cargo handling requirements

F) Power

- 1) Restrictions on foreign ownership of power plants
- 2) Acquisition of the land is tedious process
- 3) Time consuming procedures for the permission for set up
- 4) Lack of independent regulator in the sector
- 5) Lack of customer orientation by power supply companies
- 6) Non-concomitant by authority to agree to known power supply rate
- 7) Non-availability of the skilled manpower for proper planning of the project

G) Tourism

- 1) Lack of identification of the proper tourist places and most of the large areas which are untapped from the tourist point of view
- 2) The main cause of outflow of Indian tourists is high aviation cost in the domestic sector.



- 3) Neutralization of foreign exchange earnings from tourism because of large number of Indians going abroad.
- 4) Unplanned construction around tourist spot. The Taj Mahal at Agra, the Meenakshi Temple at Madurai, the Lingaraja temple in Bhubaneshwar and the palace in Udaipur are examples of this nature where much of the original beauty and charm is lost due to unplanned constructions around them.
- 5) Lack of proper infrastructure
- 6) Human resources
- 7) Lack of adequate marketing and promotion
- 8) Taxation
- 9) Security
- 10) Regulatory issue

H) Education

- 1) Lack of money. By far one of the most pressing problems is the unavailability of money or inadequate funding of Indian education programs or systems.
- 2) Insensitive school personnel.
- 3) Lack of involvement in and control of educational matters.
- 4) **Too much time spent on assessing the problems, rather than finding suitable solutions**
- 5) **Miss match in supply and demand:** India has the largest population of teens with close to 100 million in number between 17 to 19. But each year only 19 % students enroll into higher education institutes which translates to 20 million according to a joint survey by aspiring minds and Nasscom in 2013.
- 6) **Mushrooming of low quality, money making Institutes:** Politicians, realtors, businessmen/women - basically anybody who wants to mint some serious cash, start to open colleges. (Probably already own half the colleges in the country).
- 7) **Lack of relevant opportunities and project based learning**



- 8) Education System Promotes Rat Race: Our education system basically promotes rat race among our children. They have to read and mug-up entire text book without any understanding of it.
- 9) Education Given is Irrelevant to Job-Market: This is perhaps the most apparent failure of our education system that after completing graduation in any discipline students are not able to get jobs.

I) Health

- Lack of the adequate scale in undeveloped area
- Lack of physical infrastructure and staff
- Issues of regulation and pricing
- Lack of adequate marketing and promotion
- Most of the medical facilities are too costly which cannot be afforded by the common people. Due to which private sector do not show interest in such area.
- Improper management and heavy load of beneficiaries in Government hospitals
- Local competition and political pressure

Conclusions

India need to urgently bridge the infrastructure gap that industry and people face every day. The scope of PPP in India is good. The foreign players are investing with domestic player in PPP projects. But looking at the different problems of the PPP projects in India, most of the private sectors do not show strong interest in project under PPP. But currently, the scenario has changed little bit and most of the foreign investors wish to invest in India for projects under PPP. For instance, Malaysian companies are leading investors in public private partnership (PPP) projects in India, involving nearly all major infrastructure ventures. As a further step, the Indian Government also present budget also Government have increased in institutional funding to Public Private Partnership (PPP) Project refinance: (60 % refinancing on PPP projects by IIFCI) to evolve a takeout financing scheme in consultation with banks to ensure



greater funds to the infrastructure sectors. The Government should also take necessary steps to implement the PPP project in most of the states in order to develop the infrastructure in the country. With this observation both foreign and domestic players join together and developing good relationship among the world with the help of PPP project.

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