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"Nothing Ventured, Nothing Gained"

Successful strategies adopted by Indian states for Public Private Partnerships

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Abbreviations

ADB	Asian Development Bank
BIDI	Board of Infrastructure Development and Investment
BIP	Bureau of Investment Promotion
BOO	Built Own and Operate
BOOST	Built, Own, Operate, Supply and Transfer
BOOT	Built Own Operate and Transfer
BOT	Built Operate and Transfer
CBO	Community Based Organization
DBFOT	Design, Built, Finance, Operate and Transfer
DEA	Department of Economic Affairs
ECID	Empowered Committee on Infrastructure Development
EPC	Engineer, Procure and Construct
EPRC	Economic Policy and Reforms Council
GDP	Gross Domestic Product
GID Act	Gujarat Industrial Developmental Act
GIDB	Gujarat Industrial Developmental Board
GOI	Government Of India
GOTN	Government of Tamilnadu
HDFC	Housing Finance Development Corporation
IC Survey	Investment Climate Survey
iDeCK	Infrastructure Development Corporation of Karnataka Limited
IDFC	Industrial Development and Finance Corporation
IFC	International Finance Corporation
ILFS	Industrial Leasing and Financial Services Company
INKEL	Infrastructure Kerala Limited
IPR	Industrial Policy Resolution
IT	Information Technology
IWIN	ICICI-West Bengal Infrastructure Development Corporation Limited
KINFRA	Kerala Industrial Infrastructure Corporation
L&T Ltd	Larsan and Tubro Limited
LDOT	Lease, Design, Operate and Transfer
MMRDA	Mumbai Metropolitan Region Development Authority
MOSRTH	Ministry of Shipping, Road Transport and Highways
MPPWD	Madhya Pradesh Public Works Department
MPRDC	Madhya Pradesh Road Development Corporation
MSRDC	Maharashtra State Road Development Corporation
NDC	National Development Council
NGO	Non Government Organizations
NHAI	National Highways Authority of India
NPM	New Public Management

NTADCL	New Tirupur Area Development Corporation Limited
O&M	Operate and Maintain
PDCOR	Rajasthan Project Development Corporation
PFI	Private Finance Initiative
PIDB	Punjab Industrial Development Board
PPI	Private Participation in Infrastructure
PPP	Public Private Partnership
SDP	State Domestic Product
SPV	Special Purpose Vehicle
TACID	Tamilnadu Corporation for Industrial Development
TADP	Tirupur Area Development Project
TDS	Total Dissolved Solids
TEA	Tirupur Exporters Association
TLPA	Tirupur Local Planning Area
TM	Tirupur Municipality
TNEB	Tamilnadu Electricity Board
TNRDC	Tamilnadu Road Development Company
TWAD	Tamilnadu Water Supply and Drainage Board
TWIC	Tamilnadu Water Investment Company Limited
ULB	Urban Local Bodies
USAID	United States Agency for International Development
VGF	Viability Gap Fund
WB	World Bank

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Abstract

It is generally recognized that the lack of infrastructure is one of the major constraints on India's ability to achieve 9 to 10% growth in GDP., To achieve this a total investment of Rs.2,056,150 Crore ($514 billion) is required for ten infrastructure sectors over the next five year period. Government realizes that, this demand for investment cannot be met by government alone and private capital from both home and abroad has to be mobilized. It is in this context that PPPs are fast emerging as a way for India to grow. Although the Government of India has been encouraging private sector investment and participation in all sectors of infrastructure, and there has been considerable innovation in the design of PPPs, it is clear that the progress has been uneven. There are islands of progress, with some states having undertaken far more PPPs than others. There is considerable diversity in both the legal and institutional frameworks in place, and the level of transaction capacities and experiences. This paper propose to examine the effectiveness of policy and legal frameworks in place in selected states to identify the critical factors that determine investment inflows in to PPP projects in Indian states, so as to suggest most suitable/needed frameworks and capacities to be developed in states for PPP Programs.

1. Introduction

1.1 Review of PPP in General

Despite becoming the second fastest growing and the fourth largest economy of the world, India continues to face large gaps in the demand and supply of essential social and economic infrastructure and services. Rapidly growing economy, increased industrial activity, burgeoning population pressure, and all round economic and social development have led to greater demand for better quality and coverage of water and sanitation services, sewerage and drainage systems, solid-waste management, roads and seaports, and power supply. Increased demand has put the existing infrastructure under tremendous pressure and far outstripped its supply.[1]

Many analysts argue that the best way to improve service provision is to change the way in which governments administer them in India. For those who believe in neo liberal ideology, privatization is the only way to solve this problem. According to the World Bank, the key task is to 'manage infrastructure like a business, and not like a bureaucracy'(World Bank, 1994,p.2). The neo-liberals call for 'reinventing government' by inspiring a new entrepreneurial spirit (Osbome and Gaebler, 1992; Hammer and Champy,1993). They propose a lean state and lean government and advocate a greater role for private sector in service provision and they argue that 'market type management approaches could be effectively applied to the public sector'(Hood, 1991; Osbome & Gaebler, 1992). The proponents of New Public Management emphasize the need for 'speed and flexibility and touted the advantages of markets for both greater private sector engagement and consumer voice for citizens'(Savas, 1987). The New Public management reform is focused on competition and entrepreneurialism (Warner, 2008). The belief is that the market would make government service provision self correcting in three ways: efficiency, cost minimization and quality delivery. [2]

The recent trend of infrastructure provision in India shows that many of the persuasive arguments and ideologists have influenced the way a number of state governments administer basic services. This includes acknowledging the vital role that private enterprises can play in service delivery and subsequently decentralizing responsibilities to them in the form of public-private partnerships(PPPs). 'Most scholars and public decision-makers advocate thus for a more pragmatic approach which consists of promoting efficient (or at least as efficient as possible) partnership between the public and the private sectors for the provision of major services and public goods' (Martimort 2008: 393).

[1] www.adb.org/Documents/Reports/Consultant/39659-IND/39659-IND-TACR.pdf

[2] http://siteresources.worldbank.org/INTAMSTERDAM/Resources/Awortwi.pdf

PPPs have acquired different meanings in different parts of the world . In the United States, PPPs have traditionally been associated with urban renewal and downtown economic development, In the United kingdom, the Private Finance Initiative (PFI) has become a cornerstone of New Labour's stakeholder society notion. Osborne (2001) notes that PPPs have become a tool for providing public services through Public Community partnerships, and developing a civil society in post-communist regimes such as Hungary, and a mechanism for combating social exclusion and enhancing community development under European union policy. Therefore it is clear that the PPPs are a family of different possible approaches to providing public sector infrastructure and services. (Hodge 2004:156)

If we judge by the way many governments are currently committing themselves to PPP approach, it is evident that Public Private Partnership (PPPs) have become a popular way of providing public sector infrastructure and services. However the approach to PPPs should be based on the principles, which ensure that PPPs are formulated and executed in public interest with a view to achieving additional capacity and delivery of public services at reasonable cost.These partnerships must supplement the scarce public resources for improving the investment in infrastructure sectors, and at the same time improving efficiencies and reducing costs. 'Public private partnerships must aim at bringing private resources into public projects, not public resources into private' (GOI 2007: 256) see also **(**Datta 2009: 73).

Although the Government of India has been encouraging private sector investment and participation in all sectors of infrastructure, and there has been considerable innovation in the design of PPPs, it is clear that the progress has been uneven. 'There are islands of progress, with some states having undertaken far more PPPs than others, and a much heavier use PPPs in some sectors than others'(World Bank 2006:21). There is considerable diversity in both the legal and institutional frameworks in place, and the level of transaction capacities and experiences.

In this regard, there are several related questions that need to be addressed, which include; Are there some developmental conditions (Legal and Institutional frameworks) which are essential for any state to get investments in PPPs ? Why some states are able to attract more number of PPP projects, compared to other states? Are there any commonalities in the policy environment which make these states more conducive for PPP projects?

In order to answer the above and other related questions, this research propose to examine the effectiveness of policy and legal frameworks in place, in both high and low performing states in India (based on per capita investment in PPPs) and will try to identify, critical factors which determine investment inflows in PPPs, which are most essential for investments in PPP projects.

1.2 Relevance of PPPs for India

Investment required in infrastructure

'The economic strength of a country is primarily built upon a good infrastructure'(Sarangi 2002:267). 'Since the early 1990s India has come a long way in

improving its infrastructure, but is still unable to meet the demand that has arisen in the areas of roads, railways, ports and power. It is in this context that PPPs are fast emerging way for India to grow'(GBC 2008:1). It is generally recognized that lack of infrastructure is one of the major constraints on India's ability to achieve 9 to 10% growth in GDP, which is the rate required to make a significant difference to living conditions in the country and achieve inclusiveness over the next ten years.

The eleventh Five year Plan has set an ambitious target of increasing total investment in infrastructure from around 5% of GDP in the base year of the Plan 2006-2007 to 9% by the terminal year 2011-2012. This projection results in a total investment requirement of Rs.2,056,150 Crore ($514 billion) for ten infrastructure sectors over the five year period.

Growing emphasis on private sector participation

The pronounced demand for investment cannot be met by government alone and private capital from both home and abroad has to be mobilized. 'Many scholars believe that the public sector organizations that failed to provide these (infrastructure) services in a cost-effective manner have instead blocked enormous capital resources of the state without yielding adequate returns'(Kundu, 2001:1).The Government realizes this and 'the consequences have been an increase in public-private partnerships and greater scope for foreign investment in comprehensive projects' (Heymann. 2007: 6).

The combined deficit of the Union and state governments is around 10% of GDP. Governments can also not borrow arbitrarily to meet out their requirements for investment in infrastructure. The Approach Paper to the eleventh Plan states that 'One has to reach out to the private sector , and private savings, and to the other mechanisms available in the market today to raise funds' (Planning Commission 2006, " An Approach Paper to the Eleventh Plan") . The National Development Council (NDC) has passed resolution which mentions that 'increased private participation has now become a necessity' to mobilize the resources needed for infrastructure expansion and up gradation.

Given the large resource requirements and the budgetary and borrowing constraints, Government of India has been encouraging private sector investment and participation in all sectors of infrastructure. The expected investment by the private sector, which includes Public-Private Partnership(PPP) Projects, is approximately to the tune of Rs.6,19,591 crore, which is 30 percent of the required total investment during the Eleventh Plan, a much higher share than 20 percent anticipated to be realized during the Tenth Plan. 'The idea behind such project is most often expressed in general language as harnessing the efficiencies and innovativeness associated with a competitive private sector to help government achieve its public service goals at lower cost' (Bettignies 2009: 358).

However there are policy gaps in many states, because most state governments in India are at an early stage in the development of their PPP programs. 'Considerable experience has rendered the conclusion that little can be accomplished to encourage economic growth and improved social welfare unless policies create a climate to promote these goals and institutions are organized to support them' (Grindle and

Thomas 1990: 1163). Therefore it is important that the right frame work and capacities are further developed in the states and agencies where PPP programs are under way already and especially where these are going to be pursued.

As part of infrastructure policy, various investment models such as voluntary cooperation, establishing coalitions and the partnership model discussed here, have been adopted by India based on the area and level of investment. 'The partnership model is a joint venture between the government and the private sector, where the responsibilities as well as the benefits would be shared equally or even enjoyed more by the private partner depending upon the level of involvement'(Sarangi 2002: 268). Apart from that, maximum leverage of private investment is possible in partnership model. 'In other worlds, the partnership model lends itself to investments in infrastructure which are large and have a long gestation period' (Sarangi 2002: 268)

According to Sarangi (2002) the project viability, scale of benefit to the community and community acceptance for such joint ventures are the important criteria for proceeding with PPP projects. Though there were many studies made on individual PPP projects in India analyzing the factors contributing to their success or failure, there were no attempts to comprehensively study the effectiveness of the polices and transaction capabilities for PPPs at state level in India in relation to the incidence of PPPs. This research propose to examine the effectiveness of policy and legal frameworks in place, and the level of transaction capacities and experiences in both high and poorly performing states (based on per capita investment in PPPs) in India and identify the most suitable/needed frameworks and capacities to be developed in states for PPP Programs.

1.3 Scope and Methodology

Research Objectives

Firstly the study is going to look at the patterns of PPP Project formulations in 12 states. (both good and bad performing, based on per capita investment in PPPs).

Secondly, to explore the effectiveness of the strategies policy frame works as well as legal frame works and procedures adapted by these states, to attract more investments in PPP Projects.

Thirdly, to identify other critical factors which determine investment inflows in PPPs

Finally, this study also seeks to examine the first Water supply PPP project in India (New Tirupur Area Development Company Ltd in Tamilnadu) in depth and make a critical analysis to understand the positive and negative outcomes of this project.

Research Questions

Main Research Question:

What are the critical factors that determine investment inflows in PPPs in Indian States?

Sub questions

1. Are there some commonalities in policy environment which makes certain Indian states as more attractive destinations for PPP projects.
2. How do the cost of corruption and cost of regulation, influence the investment inflows in to PPP projects in Indian states.
3. How does the availability of infrastructure, power supply and transportation facilities influence the investment inflows in to PPP projects in Indian states.
4. How does the access to land and availability of external finance influence the investment inflows in to PPP projects in Indian states.
5. What are the positive and negative outcomes of the Tirupur Water Supply Project which is the first water supply PPP project in India?

1.4 Analytical Frame Work

The first empirical attempt to analyze the determinants of PPPs in infrastructure projects was the World Bank's Private Participation in Infrastructure (PPI) database on projects for developing countries during 1990-2003.According to the study the determinants of PPPs have been classified into seven channels, taking into account different incentives and constraints in both public and private sectors. 'These channels are Government constraints, political environment, market conditions, macroeconomic stability, institutional quality, the legal system, and past experience with PPPs'(Hammami et.al.2006: 4).

Sachs (Sachs2002: 1) in his study identifies Currency inconvertibility and Transfer restriction, Expropriation, Breach of Contract, Political violence as risks that are insurable and Legal, regulatory and bureaucratic risks, and Non-Governmental action risks as key non-insurable risks that influence the investment inflows in PPP projects. 'With increasing political risks, PPP (investment) opportunities become less and the costs of PPPs increase as well' (ibid: 1).

Existence of policies need not necessarily motivate the investors to choose a particular state for investment in PPP projects. More than the existence of policies, hassle free implementation of policies matters, when it comes to investment, because bureaucratic inefficiencies and delays add to transaction costs and red-tape/bureaucratic delays often causes holdups in obtaining various clearances and permits, essential for starting a project. 'Nonetheless, poor economic governance due to bureaucratic in efficiencies and cumbersome regulations creates additional fixed costs for investments and particularly hamper firms in the small-scale and medium-scale sectors which typically do not possess the political contacts required to circumvent bureaucratic hassles' (Chakravarthi 2009: 13)

Since most of the states spend a huge portion of their earnings for payment of salaries rather than on investing in infrastructure a 'contraction in the size of the bureaucracy also has the potential to reduce corruption through reduction of red-tape and removal of inefficient officers' Ahluwalia (2002), for example. mentions that the prevalence of large bureaucracies often forces entrepreneurs to fall prey to the "triple vicissitudes of harassment, delay and corruption."

Infrastructure and availability of power supply are other important factors that influence any investment decision in infrastructure projects. Since ,any shortage in infrastructure like power supply, transportation facilities add up to the project cost and affect timely completion of projects, 'a state which can offer reliable power supply at a low cost to industrial and commercial consumers will provide investors with a lower cost of production and be preferred as an investment destination' (Chakravarthi 2009: 13)

According to Veeramani and Goldar (2004) a constant supply of power is one of the factors viewed favorably by investors while evaluating a state's investment climate. They also report that irregular power supply leading to stoppage of work adds to the project cost. 'A high level of physical infrastructure coupled with reliable power supply betters investment prospects in the state by facilitating connectivity with markets and lowering input costs' (Chakravarthi 2009: 13- 19). Therefore, a positive relationship is expected between the power generation capacity in a state and the per capital investment proposals received by the state.

'Prudent fiscal management can have positive impacts on the state's investment climate through enhanced infrastructure development and labour productivity along with a reduction in corruption and bureaucratic delays'(Chakravarthi 2009: 13). Therefore it leads us to expect a negative correlation between the level of bureaucratic corruption and investment proposals in a state.

Deutsche Bank (2007) has undertaken a more comprehensive study in ranking states according to their investment climates with a more empirically grounded methodology. According to this survey 'the investment climate is expressed as a function of the growth rate of state domestic product, population growth rates, share of manufacturing and construction in SDP, and level of infrastructure, measured through the length of roads constructed under the Golden Quadrilateral programme in the state' (Chakravarthi 2009: 22).

However for our purpose of our study, the explanatory variables for answering the research questions can be identified as follows. 1) Legal and Institutional frame works 2)Cost of Corruption 3)Transaction costs 4)Availability of infrastructure 5)Accessibility to land and external finance in the states. In this research, it is proposed to analyze the data collected on the above variables and establish the patterns of relationship between these variables and the performance of top ranking states in utilizing the PPP model for infrastructural service delivery, so that lessons can be drawn for capacity building in public sector for robust PPP program.

The analytical framework followed in this research is summarized and given below.

1. Investment Climate for PPPs in States is a function of various critical governance and infrastructure dimensions such as Legal and Institutional frame work, Cost of Corruption, Transaction Costs, Availability of Infrastructure & Accessibility to land and external finance etc.,

2. Proper legal & Institutional frame work in place instills investor's confidence and creates a positive environment for investments in projects, therefore it

should have a positive correlation with the performance of states in PPP investments.

3. Cost of Corruption and Cost of Regulation increases the Project Cost, therefore it has a negative correlation with performance of states in PPP investments. States with low cost of corruption and low cost of regulation may be assumed to attract more investment in PPP projects compared to other states.

4. Availability of Reliable Power supply reduces the cost and time over runs of any infrastructure projects, similarly availability of good road infrastructure reduces the transportation cost of raw material for the infrastructure projects, therefore they have a positive correlation with the performance of states in PPP investments. States with good infrastructure, and reliable power supply and good transportation facilities attract more investment in PPP projects compared to other states.

5. Accessibility to land is not a major problem foreseen in PPP projects, because in PPPs states takes the responsibility of providing required land to the concession contractor for the execution of the projects. However any delay in acquisition of land for the infrastructure projects will increase the overheads and cost of plant and machinery. Similarly access to external finance for the project is also going to affect the project finance. Therefore these factors have a positive correlation with the performance of states in PPP investments. States with better access to land and external finance can be assumed to attract more investment in PPP projects compared to other states.

1.5 Research Methodology & Boundaries of the Study

This research will be based on both secondary data and primary data collected from different sources. All the data relevant to PPP projects in India and different states are available in the Government of India official website namely http://www.pppinindia.com and this is the main data source, which is secondary in nature. Apart from that there is useful information on infrastructure, investments PPP's etc. on the official website of the committee on infrastructure, Planning Commission at http://www.infrasturcture.gov.in and the official website of Investment Commission of India http://www.investmentcommission.in The data available on these websites are regularly updated and the website is directly under the control of Ministry of Finance, Government of India.

Primary data collection was done through semi structured interviews and focus group discussions. A few interviews with senior level Indian Administrative Service Officers who are in charge of implementing PPP projects in India and responsible persons like State level nodal officers for PPP projects were conducted in order to fully understand the emerging patterns in PPP's in India. Interviews have been conducted with the Managing Director and other Senior level officials of New Tirupur Area

Development Corporation Ltd., and focus group discussions with other stake holders in the project like Public representatives at Panchayat level were also conducted to understand the positive and negative outcomes of the Tirupur Water Supply Project.

The data collected has been analyzed to understand the patterns of project formations in infrastructure across states in PPP mode. The states are ranked according to the per capita investment in PPP projects in infrastructure and the relationships between the legal and institutional frame works and the performance of states in getting PPP investments were studied and analyzed. To understand the other critical factors which influence the investment flow in infrastructure under PPP mode, a large number of proxies and variables have been analyzed and for this purpose, the findings of Investment Climate survey jointly conducted by World Bank and CII has been extensively used.

Limitations of the study

Though every attempt has been made to study all the important factors that influence inflow of investment in to states under PPP mode, it might have missed out some factors due to non availability of data and time constraint. Regarding the case selected for the study, some of the information required might not be available to the public, or may be restricted or confidential, due to political interests, and there may be so many factors that make a state more conducive for PPP projects, for example, political environment in terms of stable and accountable governments, track record of the governments in honouring the commitments, previous PPP experience with the governments etc., Considering these limitations, this is study going to mainly focus on 1) Legal frame works 2) Institutional frame works 3)Cost of Corruption 4)Transaction cost 5)Availability of infrastructure 6)Accessibility to land and external finance at state level, that make a state more conducive for PPP's, so that lessons can be drawn for building capacities in public sector for better use of PPPs.

2. Theoretical and Conceptual Framework

This research paper will focus on Policy measures under taken by State governments to create enabling environments for PPPs. New Public Management (NPM) and the Theory of policy credibility, suggest some basic fundamentals that need to be right if the expected results of PPPs are not to be elusive.

2.1 Public Private Partnership

The public sector includes all 'organizations and institutions that are financed by state revenue and functions under government budgets. They include government departments, semi autonomous bodies, civic bodies, agencies, etc.'(Venkatraman and Bjorkman 2006:2) National governments, district administration, municipal authorities, local government bodies, parastatal corporations, state universities and research organizations can be considered as a Public sector partners. The private sector consists of both private for profit and not for profit organizations.

Paoletto (2000) defines partnership as 'collaborative activities among interested groups, based on mutual recognition of respective strengths and weaknesses, working towards common agreed objectives developed through effective and timely communication' (Paoletto 2000). For Brinkerhoff, partnership is a 'dynamic relationship among diverse actors, based on mutually agreed objectives, pursued through a shared understanding of the most rational division of labour based on the respective comparative advantages of each partner'(Brinkerhoff 2002: 21) According to Venkatraman and Bjorkman, the common elements that determine partnership are 'beneficence,(---)non-malfeasance,(__)autonomy(of each partner),jointness (shared decision making) and equity (benefits to be distributed to those in need)' (Venkatraman and Bjorkman 2006: 4).

'The term Public Private Partnership (PPP) describes a spectrum of possible relationships between public and private actors for the cooperative provision of infrastructure services. The only essential ingredient is some degree of private participation in the delivery of traditionally public-domain services' (Kumar & Prasad 2004: 36). This definition covers almost all possible investment models like voluntary, coalition, and partnership models. However, Government of India's(GOI) definition on Public Private Partnership (PPP) will be more relevant here, since this study is going to focus on the PPPs in infrastructure in Indian states. According to GOI., 'Public Private Partnership(PPP) Project means a project based on contract or concession agreement, between a Government or statutory entity on the one side and private sector company on the other side, for delivering an infrastructure service on payment of user charges. Private Sector Company means a company in which 51% or more of the subscribed and paid up equity is owned and controlled by a private entity.' [3]

[3] www.adb.org/Documents/Reports/Consultant/39659-IND/39659-IND-TACR.pdf

Though private procurement is not new in government, the 'PPP is the new face of development where the state and private actors, who have had a long history of conflict now work in collaboration' (Datta 2009: 73). Although many commentators consider PPPs to be a new version of privatisation (Minow 2003), PPPs are not privatisation because, in PPP the government retains ultimate responsibility where else in privatisation the government does not exercise any direct role in ongoing operation. When it comes to infrastructure development PPPs are considered as a 'refinement of the private financing initiatives for infrastructure that started in the early 1990s and describe the provision of public assets and services through the participation of the government, the private sector and the consumers'(Grimsey 2005: 346). The difference with the traditional form of procurement is that in PPPs the government takes a more minimalist stance it chooses a private consortium which is asked to design, build and ultimately maintain it as efficiently as possible.'The PPP alternative is thus characterized by two important features. First, the two tasks of building and managing assets are now bundled. Second, the ownership pattern is also quite different' (Martimort 2008: 394).

According to Martimort (2008), the key advantage of bundling both the building and management of infrastructure is getting good design and technology and its impact on operating costs. A 'better design of the infrastructure may help to save on operating costs, the case of a positive externality'( ) 'A better design may also require learning new procedures for managing assets and thus increase operating costs, the case of a negative externality' (Martimort 2008: 394). The idea is that if both the tasks are performed by the same firm the firm will built a quality infrastructure because if building and managing are bundled the firm can internalize the impact that a better infrastructure design has on operating costs. 'The builder and the operator should thus be merged into a single entity. The optimal organization form exhibits thus an important. feature found in public-private partnerships' (Martimort 2008: 394). Also the delay normally found in a publicly procured contracts adds to the costs of the project. Therefore 'transferring these risks to the private sector under a PPP structure and having it bear the cost of design and construction over-runs is one way in which a PPP can potentially add value for money in a public project' (Grimsey 2005: 346).

2.2 Are PPPs value for money?

The Private Finance Initiative of UK offers valuable information on this question. According to Hodge, 'The early analysis of Hall (1998) (also) noted that value for money in PFI Schemes depended on any gains in efficiency through private sector involvement more than compensating for higher finance costs and that it was difficult to obtain clear evidence on this in the absence of an accurate and uncontroversial public sector comparator' (Hodge 2004: 157).

After careful analysis, Arthur Andersen(2000), suggests that there are 'six main determinants of value for money namely: risk transfer; the long-term nature of contracts (including whole-of-life cycle costing); the use of an output specification; competition; performance measurement and incentives; private sector management skills. Of these, competition and risk are seen to be the most important' (Grimsey 2005: 347). If we apply these norms to study PPPs, they have an appeal to be value for money (especially to those in charge of allocating public sector resources) 'because they offer one way of

resolving the large cost overruns and delays in traditional public procurement methods for infrastructure phenomena know as 'optimism bias'(Grimsey 2005: 373).

Grimsey, after quoting two studies of optimum bias in 2002, which confirmed the results of earlier research by Pickrell, argues that, the government is in a disadvantageous position, particularly the government cannot create incentives to the managers as it is done in the commercial organizations, 'By contrast, market competition can be seen as a form of coordination with intrinsic advantages over bureaucratic organizational forms and the discipline and incentives embodied in market contracting arrangements are valuable in injecting greater efficiency into infrastructure delivery'(Grimsey 2005: 373). Therefore on number of scores PPPs have proved to be value for money compared to the traditional form of government procurements.

2.3 New Public Management

There has been a shift in understanding the role of the states in public service delivery over the last few decades. The old public administration emphasized direct government delivery, hierarchical control, and a separation of politics and management to ensure due process for citizens and limit outside influence among public employees. This system was criticized as too slow and inflexible by proponents of the New Public Management who argued market type management approaches could be effectively applied to the public sector (Hood, 1991: Osborne & Gaebler, 1992). New public management emphasized the speed and flexibility and touted the advantages of markets for both greater private sector engagement and consumer voice for citizens (Savas 1987). The new public management reform focused on enhancing values and practices relating to competition and entrepreneurialism inside the public sector (Warner, 2008).

The argument in favour of New Public Management is 'that policy–making and service delivery are distinct tasks and that each benefits from the additional attention it receives if it is not competing for management time with the other. In addition, of course, once purchasing has been detached from policy-making, there are opportunities for creating contract-like arrangements to provide performance incentives' (Manning 2001: 299).

2.4 Policy Credibility

Reforms agenda will fail to achieve its intended results, if the overall 'policy environment' in which the reforms and programmes are undertaken. Investors make their investment decisions based on their perception about the viability and effectiveness of announced policies by the governments, which is again judged by the likelihood of policy reversal or collapse. (Grabel 1999: 3-4).The policy credibility then 'depends on a kind of circular logic: economic policies are deemed effective only if they are credible to private agents; but policies are deemed credible only if they are seen to be effective' (Blackburn and Chiristensen 1989: 1).

If success of policy depends on the perception of investors on its viability, then what should be done by the states on the policy? Shoud they implement a 'correct policy' or should they shade the policy towards the existing sentiments? Kydland and Prescott (1977) offer their valuable suggestion that 'Policymakers should follow rules

rather than have discretion' because 'discretion implies selecting the decision which is best, given the current situation. Such behavior either results in consistent but suboptimal planning or in economic instability' (Kydland & Prescott 1977: 487).

Incorrect policy cannot retain its credibility in case of disruptions that it would encounter in future. 'If in each period, the policy decision selected is the one which maximizes the sum of the value of current outcomes and the discounted valuation of the end-of-period state, the policy selected will be consistent but not optimal'(Kydland & Prescott 1977: 486).

Decision makers and implementers inevitably face opposition when they attempt to pursue reform initiatives, therefore it is important to analyze the feasibility of policy or reform proposals by analyzing the support and opposition for change. It is also important to understand, what interest the reformers and the government which is undertaking reforms are going to serve, and the political and bureaucratic resources need to sustain such initiatives (Grindle & Thomas, 1991). A business environment in which the rules are incredible such as unclear property rights, constant policy surprises and reversals, uncertain contract enforcement , and high corruption most likely translates into lower investment and growth (Brunetti,1998). The need for political continuity and stability are vital for investments in infrastructure, since they have a long-time horizon. 'Investment in infrastructure is highly political in nature and it is often the lack of political stability that holds back necessary investment. Investors are hesitant to make long-term commitments for fear of government intervention and breaches of contractual obligations' (Heymann 2007: 6).

3.PPPs in India

3.1 Status of PPPs in India

PPPs are not new to India. India had a few notable PPPs like, the Great Indian Peninsular Railway Company operating between Bombay (now Mumbai) and Thana (now Thane) (1853), the Bombay Tramway Company running tramway services in Bombay (1874) even in the nineteenth century. The Great Indian Peninsular Railway Company, and the Power Generation and Distribution companies in Bombay and Calcutta (now Kolkata) in the early 20th century are some of the earliest examples of PPP in India.

Since the opening of the economy in 1991 there have been several cautious and tentative attempts to bring investments through PPPs in India. However, most PPPs have been restricted to the roads sector. Large-scale private financing in water supply has so far been limited to a few cities like Visakhapatnam and Tirupur. Most PPPs in water supply projects have been through municipal bonds in cities such as Ahmedabad, Ludhiana, and Nagpur. West Bengal has recorded significant success in using PPPs in housing and health sectors. Gujarat and Maharashtra have had success especially in ports, roads, and urban infrastructure.

However, successfully working PPP models are a more recent phenomenon. The NOIDA toll bridge, Tirupur water supply project, national highways, port development, and telecom industry are some notable examples of successful PPPs. It took a long time for many of these projects to take shape from concept and financial closure and commissioning. Nevertheless, they have offered valuable lessons on how not to handle PPPs and they have been internalized well. However, the commercial viability of water supply and sanitation projects are yet to demonstrated to the public. Absence of regulatory authorities and the desired legal framework are some of the hurdles in the water supply and sanitation sectors (DEA & ADB-Workshop report 2006).

In the last 10 years, Indian states have made considerable innovation with different structures to attract private participation in delivering infrastructure services. But at the same time progress has been uneven; there are islands of progress, with some states having under taken far more PPPs than others, and a much heavier use of PPPs in some sectors than others. In terms of frame works for PPPs, some states have made maximum effort to develop this, including cross-cutting legislation and the development of cross sectoral units that play a role in the identification and preparation of PPPs. Others however have worked within the bounds of their existing organizational structure. (World Bank 2006: 21)

The role of PPPs so far in India

The data related to PPP projects as on 31st July,2009, from the Government of India's database is compiled and given in Table 3.1.1.

Table 3.1.1

PPP Projects in India (Implemented through both the Central and State Agencies)

Contacting Agencies & States	Total Number of PPP Projects	% of PPP Projects	Value of Contracts in Crores	% of Value of Contracts	Value of Contracts in billion (Indian Rs.)
Karnataka	92	22.89	34795	19.55	3479.5
NHAI	82	20.40	31335	17.61	3133.5
Andhra Pradesh	39	9.70	7774	4.37	777.4
Rajasthan	32	7.96	450	0.25	45
Madhya Pradesh	29	7.21	5748	3.23	574.8
Sikkim	23	5.72	16961	9.53	1696.1
Gujarat	17	4.23	13613	7.65	1361.3
Punjab	15	3.73	767	0.43	76.7
Maharashtra	14	3.48	20329	11.42	2032.9
Ministry of Shipping	14	3.48	7592	4.27	759.2
Tamil Nadu	9	2.24	2114	1.19	211.4
Kerala	8	1.99	9547	5.36	954.7
Delhi	6	1.49	503	0.28	50.3
Jharkhand	3	0.75	681	0.38	68.1
Ministry of Civil Aviation	3	0.75	19111	10.74	1911.1
Orissa	3	0.75	3225	1.81	322.5
Ministry of Railways	3	0.75	1007	0.57	100.7
Puducherry	2	0.50	2286	1.28	228.6
Andaman & Nicobar islands	1	0.25	85	0.05	8.5
Bihar	1	0.25	4	0.00	0.4
Chandigarh	1	0.25	15	0.01	1.5
Goa	1	0.25	30	0.02	3
Total	402		177972		17797.2

(Author's own compilation, Data source www.pppinindia.com)

As per the database, both the central and state agencies put together, there are 402 PPP Projects in various stages from bidding to completion. The total value of the PPP Projects is 177972 Crores (Rs.17797 bn). Karnataka has the maximum number of projects ie., 92(23 %), followed by NHAI 82(20%), Andhra Pradesh 39(10%), Rajasthan 32(8%), Madhya Pradesh 29(7%), Sikkim 23 (6%). All other central agencies and state have less than 5% of share in total number of projects.

According to the value of projects, the state of Karnataka tops the list with 92 projects at an estimated value of Rs. 34795 Crores (Rs.3479 bn.) which is 20% of total value of all projects put together for the entire country, followed by NHAI Rs.3133bn (18%), Maharashtra Rs. 2031 bn (11%), Ministry of Civil Aviation Rs.1911bn(11%), Sikkim Rs.1696bn(10%), Gujarat Rs.1361 bn (8%). All other central agencies and States have less than 5% of share in total value of projects so far in the entire country.

Sector wise analysis indicates that, Road sector dominates the list with maximum number of PPP Projects 264 (67%), followed by urban development with 52 No.'s (13%), Ports with 41no's (10%), energy sector 30 (7%), Air port projects 6, and tourism projects 6, and 3 projects in Railways. **Annexure-I** gives details about the sector wise PPP variants. BOT-Toll model is the most popular PPP model (187 are BOT-Toll type out of 402 projects) adopted by central sector agencies in 227 Road sector projects and 21 Port projects, followed by BOOT model in 51 projects. Again from the figures it is clear that BOOT model has been adopted for almost all the projects in the Energy sector.

When looking at the total estimated project cost of PPPs in terms of projects, we see that Road Sector account for 46% of the total (Rs.8171 bn), because of the small average size of project. Ports, with a much larger average size of project, account for 26 percent of the total (Rs.4515 bn). The value of the 6 Airports project is 11% of the total value(Rs.2004 bn). It is noteworthy that if ports and central road projects and airport projects are excluded from the total, there is in fact a relatively small value of flow, at only Rs.3000 bn in basic infrastructure PPPs to-date suggesting a significant potential upside for PPP projects across sectors ,where states, municipalities have primary responsibilities.

3.2 PPPs in Central Government Agencies

Across central agencies, the leading users of PPPs by number of projects have been the Road sector, and the National High Ways Authority of India(NHAI) , with 82 projects. The other central agencies that have been important users of PPPs are Ministry of Shipping, Road Transport and Highways (MOSRTH) (14 projects), Ministry of Civil Aviation (5 projects) and the Ministry of Railways with 3 PPP projects. However, looking at the break up by the estimated project size, we see that Road Projects accounts for 53 percent of total project cost (Rs.3133 bn) due to its four large projects. Ministry of Civil Aviation with Rs.1911 bn (32%) and MOSRTH with Rs.759 bn (13%) are other significant players.

Table 3.2.1

Central Agency wise PPP Projects

Central Government Agencies	No. of Projects	Value in Crores
NHAI	82	31335
Ministry of Shipping	14	7592
Ministry of Civil Aviation	5	19111
Ministry of Railways	3	1007
Total	104	59045

Table 3.2.2 gives the details of State wise investment in PPP Projects implemented through Central Agencies. Delhi tops the list with maximum per capita investment in PPPs though there were only two PPP projects from central agencies followed by Goa with only one PPP project. This is because of the high value of the projects and low population in these states. Among the comparable states like Tamilnadu , Andhra Pradesh, Karnataka, Maharashtra and Gujarat, Tamilnadu is able to get maximum number of projects and maximum per capita investment ,from central agencies.

Table 3.2.2

State wise investment in PPP Projects (Implemented through Central Agencies)

S.No	States	Total No. of PPP Projects	Value of contracts in crores	Per capita investment in Rs.
1	Tamil Nadu	21	8489	1360.3
2	Andhra Pradesh	15	7409	972.2
3	Maharashtra	11	10813	1116.1
4	Gujarat	10	4087	806.6
5	Karnataka	7	4314	816.3
6	Madhya Pradesh	7	2515	416.7
7	Rajasthan	5	1590	281.4
8	Uttar Pradesh	5	2108	126.8
9	West Bengal	5	2055	256.3
10	Chattisgarh	4	838	402.2
11	Haryana	3	863	408.1
12	Kerala	3	2733	858.3
13	Punjab	3	778	319.4
14	Delhi	2	9310	6721.8
15	Bihar	1	418	50.4
16	Goa	1	220	1632.4
17	Orissa	1	505	137.2
	Total	104	59045	631.2

(Author's own compilation, Data source www.pppinindia.com)

Table 3.2.3

State wise & Sector wise details on PPP Projects implemented through Central Agencies

S.No	States	Roads	Ports	Air Ports	Railways	Total number of PPP Projects
1	Andhra Pradesh	14		1		15
2	Bihar	1				1
3	Chattisgarh	4				4
4	Delhi	1		1		2
5	Gujarat	4	3		3	10
6	Goa		1			1
7	Haryana	3				3
8	Karnataka	6		1		7
9	Kerala	1	1	1		3
10	Madhya Pradesh	7				7
11	Maharashtra	7	3	1		11
12	Orissa		1			1
13	Punjab	3				3
14	Rajasthan	5				5
15	Tamil Nadu	17	4			21
16	Uttar Pradesh	5				5
17	West Bengal	4	1			5
	Total	82	14	5	3	104

(Author's own compilation, Data source www.pppinindia.com)

Table 3.2.4

Sector wise details on various PPP Project models adopted by Central agencies

Sector	BOOT		BOT-TOLL		BOT Annuity		BOO		LDOT		Total	
	No. of Projects	Value	No. of Projects	Value	No. of Projects	Value	No. of Projects	Value	No. of Projects	Value	No. of Projects	Value
Roads			56	21254	26	10081					82	31335
Ports			14	7592							14	7592
Airports	2	4408					1	303	2	14400	5	19111
Railways			3	1007							3	1007
Total	2	4408	73	29853	26	10081	1	303	2	14400	104	59045

An analysis of State wise and Sector wise details on PPP projects implemented through central agencies (Table 3.2.3) shows that, the top performers like Tamilnadu, Maharashtra, Andhra Pradesh have maximum projects in Road sectors and Tamilnadu, Maharashtra and Gujarat have got the maximum number of Port Projects as well. In terms of main types of PPP contracts,(Table 3.2.5) out of 104 PPP Projects in central sector 73 are BOT- Toll, Followed by 26 under BOT Annuity, 2 each under BOOT and LDOT and one BOO type.

3.3 PPPs in States

Across states, the leading user of PPPs by number of projects is Karnataka with 92 projects, followed by Andhra Pradesh (39 Projects), Rajasthan (32 Projects), Madhya Pradesh (29 Projects), Sikkim (23 Projects) and Gujarat (17 Projects). However, looking at the break up, by estimated project size, we see that Karnataka dominates with Rs.349 Bn (29%), followed by Maharashtra Rs.2032 bn(17%), Sikkim Rs.1696 bn (14%), Gujarat Rs.1361 bn (11 %), and Kerala Rs.954 bn (8%). Andhra Pradesh accounts for 7 % of total project costs with Rs.777 bn and Madhya Pradesh 5% with Rs.574 bn.

Table 3.3.1

State wise Investment in PPP Projects implemented by State Governments

S.No	States	Total No. of PPP Projects	Value of Contracts in crores	Population	Per capita investment in Rs.
1	Andaman & Nicobar	1	85	356152	2386.6
2	Andhra Pradesh	39	7774	76210007	1020.1
3	Bihar	1	4	82998509	0.5
4	Chandigarh	1	15	900655	166.5
5	Delhi	6	503	13850507	363.2
6	Gujarat	17	13613	50671017	2686.5
7	Goa	1	30	1347668	222.6
8	Jharkhand	5	681	26945829	252.7
9	Karnataka	92	34795	52850562	6583.7
10	Kerala	8	9547	31841374	2998.3
11	Madhya Pradesh	29	5748	60348023	952.5
12	Maharashtra	14	20329	96878627	2098.4
13	Orissa	3	3225	36804660	876.2
14	Puducherry	2	2286	974345	23461.9
15	Punjab	15	767	24358999	314.9
16	Rajasthan	32	450	56507188	79.6
17	Sikkim	23	16961	540851	313598.4
18	Tamil Nadu	9	2114	62405679	338.8
	Total	298	118927	676790652	1757.2

(Author's own compilation, Data source : www.pppinindia.com)

Table 3.3.2

Sector wise PPP Projects implemented by the State Government's

S.no	States	Roads	Ports	Air ports	Urban Development	Energy	Tourism	Total No. of PPP Projects
1	Andaman Nicobar					1		1
2	Andhra Pradesh	36	2		1			39
3	Bihar				1			1
4	Chandigarh				1			1
5	Delhi	1			5			6
6	Gujarat	10	7					17
7	Goa		1					1
8	Jharkhand	1			4			5
9	Karnataka	55	3		23	6	5	92
10	Kerala	1	2	1	3		1	8
11	Madhya Pradesh	23			6			29
12	Maharashtra	7	7					14
13	Orissa	1	2					3
14	Puducherry	2						2
15	Punjab	12						15
16	Rajasthan	32						32
17	Sikkim					23		23
18	Tamil Nadu	4			5			9
	Total	185	24	1	52	30	6	298

(Author's own compilation, Data source: www.pppinindia.com)

Sector wise analysis of PPP projects implemented by the state governments shows that, there are some similarities in project formations compared to central agencies. Here again, Road sector dominates with 185 projects out of 298 projects formed by state governments, followed by Urban development (52 projects), Energy (30 projects) and Ports (24 projects). A very clear indication that both the Central government and State governments are developing Roads on priority. In Urban development again, a close analysis indicates that more number of projects are being undertaken by States for developing urban transportations like flyovers etc., Some states such as Sikkim and Kerala which have natural advantages have developed projects in Energy sector and most of them are Hydro Electric projects. Similarly some states with natural advantages could develop projects for Minor Ports.

In terms of main types of PPP contracts among the states**(Annexure-II)**, almost all contracts have been of the BOT/BOOT type or close variants. Out of 298 total number of PPP Projects 187 are BOT- Toll, followed by 51 under BOOT type, 29 under BOT Annuity, 16 under DBFOT and 10 under BOOST Type. World Bank(2006:34-36) report suggest that a considerable number of unbankable and unrealistic PPP projects are brought to the market by state governments. Data from the Government of India database shows that there were 14 projects that have been moved from PPP mode to Public domain and 4 projects have been cancelled[4]. Of these, several had no good offers forthcoming from private sector firms in response to successive requests for expressions of interest. Although this number is not obviously high compared to the number of projects underway, it nonetheless suggests that there may be significant benefits from capacity building in identification and preparation of PPPs to ensure that more bankable projects are brought to market by the states and private firms.

[4] http://www.pppinindia.com/database.asp

4. Legal and Institutional Frameworks for PPPs

Presentation of Data

4.1 Legal and Institutional Framework for PPPs at State level

In India, State governments have understood that achieving high volumes of private investment in infrastructure is not easy, therefore they found it necessary to develop an environment which is both attractive to investors and also seen to be fair to consumers. **'**The concept and implementation of PPPs is still very nascent in India. Diverse models are being operationalised by multiple stake holders in a wide variety of sectors. Government policy regarding regulatory, legal and institutional framework is still evolving'(Datta 2009: 74). Following are the three main approaches followed by Indian states in structuring the legal and institutional frameworks for PPPs.

- combining dedicated institutions with cross-cutting legislation;
- establishing and using cross-sectoral PPP advisory units to help line departments in the absence of overarching legislation;
- relying on line departments and sectoral agencies to build capacities;

If we apply this framework to analyze the legal and institutional set up, Indian states can be grouped in to three categories.

Category - I

The states of Andhra Pradesh, Gujarat, Karnataka, Orissa and Punjab have developed enabling legislation and established dedicated cross sectoral institutions. These states have constituted specialized agencies and passed legislations to promote PPPs in infrastructure. (Example: Gujarat infrastructure Development Board, The Andhra Pradesh Infrastructure Authority and the Punjab Infrastructure Development board).

Andhra Pradesh

Andhra Pradesh has enacted the Infrastructure Authority Act, to facilitate private investors in securing the required administrative approvals and lays down provisions for arbitrations and fiscal regulation. The legislation covers the infrastructure sectors of highways/bridges, airports, seaports, power, water supply and sanitation, telecommunication networks, gas distribution and waste management. It also covers urban infrastructure, including housing, urban development, medical facilities, and leisure facilities (DEA & ADB 2006: 44).

Gujarat

The state of Gujarat has enacted the Gujarat Infrastructure Development Act, 1999 (GID Act), which provides for a regulatory framework for private sector participation in financing, construction, maintenance and operation of infrastructure projects. This Act provides transparent procedures for selection of private developers and levying user charges for the facilities provided by the developer. The government had setup the Gujarat Infrastructure Development Board(GIDB) as a specialized agency under an ADB-assisted TA Project to promote PPPs in infrastructure. GIDB is responsible for overall planning, removal of policy impediments, coordination between various departments and monitoring the progress. During 1995-99, various sectoral policies have been framed by Gujarat government, covering ports (1995), power(1995), roads (1996) and BOOT policy for ports (1997).

Karnataka

Karnataka has enacted an Infrastructure policy, which provides an option for Public Private Partnerships and collection of user charges for the services provided by the Private investors. This policy applies to township development, commercial development with common-user facilities, water supply and sewerage, waste water recycling, underground drainage, waste management (solid waste/ biomedical/hazardous waste), tourism, energy, industrial infrastructure, agricultural infrastructure, education and health care (DEA & ADB 2006: 46).

Infrastructure Development Corporation Karnataka Limited (iDeCK) is a cross sectoral entity established by Government of Karnataka for project development activities. It is a joint venture of the state government, IDFC and HDFC modeled on 'Partnerships' in UK. It undertakes policy work, development studies, documentation, bid process management and provides advisory services to other departmental government agencies. It also provides advisory services such as enabling frameworks, project development and structuring and management of a Project Investment Fund.

Orissa

The Industrial Policy Resolution (IPR),2001, of the state has accorded high priority for development of physical and social infrastructure through PPPs. A committee on Infrastructure has been set up to formulate strategies, identify projects, develop model documents and establish processes and procedures related to PPPs. A PPP Cell has also been created and a Secretary-level officer has been posted exclusively for it. A PPP Technical Secretariat is being created with subject experts from outside government. Institutional arrangement with ILFS has been put in place with focus on development and implementation of projects in PPP mode and provide direction.

Punjab

The Government has established the Punjab Infrastructure Development Board (PIDB)and passed the Punjab Infrastructure (Development & Regulation)Act, 2002. The PIDB acts as an apex empowered body responsible for overall planning of infrastructure sector and infrastructure projects in the state. It undertakes the policy

formulation and regulation, single-window approvals and award of concession. It also acts as a body to find alternative funding.

The Government has also established the Punjab Infrastructure Initiative Fund, with a corpus of Rs.20 crore to finance project developmental costs, is intended to identify, develop and structure projects to prepare a shelf of financially viable projects, and create a superior model for PPPs in the state through modern project management, monitoring and execution practices (DEA & ADB 2006: 55)

Category II

A second category of states, such as Rajasthan, Uttaranchal, Kerala and West Bengal have developed cross-sectoral facilitation entities, but have not passed comprehensive legislation.

Rajasthan:

Rajasthan has established Rajasthan Project Development Corporation (PDCOR) as a cross sectoral agency to facilitate private investment in infrastructure, including policy advisory services to the state government and institutional support to structure and implement PPPs. Apart from PDCOR, Rajasthan has the following other institutional arrangements as well for facilitating investment in infrastructure and PPPs.

- Economic Policy and Reforms Council (EPRC): it is a state-level think-tank comprising corporate leaders, eminent educationalists, specialists and economists with the chief Minister as Chairperson.

- Board of Infrastructure Development and Investment (BIDI): It is an empowered committee which accords approvals, including concessions to major projects.

- Bureau of Investment Promotion (BIP): It is a single-window agency to facilitate approvals from various departments.

- Empowered Committee on Infrastructure Development (ECID): It is the nodal body for conceptualizing and approving projects, including PPPs.

Rajasthan has enacted Rajasthan Road Development Act, in 2002 to encourage PPPs in the construction of financially viable bridges, bypasses, rail over-bridges, tunnels, etc.

Uttaranchal:

The Government of Uttaranchal has identified tourism, energy, IT and horticulture sectors as future drivers of the state's GDP, and aims to achieve this by improving communication and transport infrastructure. It has developed an Infrastructure Vision with professional support. It has established a Infrastructure Board chaired by the Chief Minister, and two joint venture companies with IDFC and ILFS for developing PPP projects.

West Bengal :

West Bengal has established a cross sectoral entity IWIN (ICICI- West Bengal Infrastructure Developmental Corporation Limited) which is a joint venture between ICICI Bank Group and Government of west Bengal. It is formed with the objective of accelerating the development of infrastructure in the state. West Bengal Government has also notified its policy on Infrastructure Development through Public Private Partnership in August 2003. The major elements of the policy are to ensure reasonable returns on private investment by way of extending 'concessions' tax incentives, VGF (Capital grant/revenue grant), government guarantee, shorter period for deferred annuity, and providing possible safeguard against political and social uncertainty.

Kerala :

Kerala Industrial Infrastructure Corporation (KINFRA) is the key organization to develop infrastructural projects and investments in Kerala. The Government of Kerala, through KINFRA has formed a public private joint venture company called Infrastructure Kerala Limited(INKEL) as a Special purpose vehicle to develop PPP Projects for infrastructure development. Kerala's port policy facilitates Private Partnerships in Port development, it allows the investors to decide tariffs and employee policies.

Category –III

Finally, a third category of states, including MP, Maharashtra and Tamil Nadu, have relied on sectoral and line agencies to develop and implement PPPs.

Madhya Pradesh:

In Madhya Pradesh (MP), initially the MP Public works Department (PMMWD) and then the specially created MP Road Development Corporation (MPRDC) have acted as the agency for development of road projects on BOT basis in the state. In the process of developing projects, MPRDC has developed policy, guidance materials and skills for facilitating PPPs in Road sector.

Maharashtra:

In Maharashtra, the State Road Development Corporation (MSRDC) and Mumbai Metropolitan Region Development Authority (MMRDA) have developed policies for infrastructure development through private sector participation, including a " Policy on implementation of Road & Bridge Projects" through private sector participation.

Tamil Nadu:

There is no state PPP Policy in Tamil Nadu. However the government of Tamil Nadu has enacted an Act in 1998 the "Tamil Nadu Transparency in Tender Act 1998" and relevant rules under "Tamil Nadu Transparency in Tender Rules 2000". This act and rules gives clear procedure for the departments for the procurement of goods and services, construction etc.

Government has given thrust to public Private Partnerships in its following Policy Documents.

1. The New Industrial Policy 2007
2. Housing Policy
3. IT Department G.O. Ms.No.18 dated 11.6.2007
4. Health and Family Welfare Department G.O. Ms. no. 33 Dated 31.1.2008, Facilitating Public Private Partnership in the improvements and upkeep of health facilities in the State
5. Highways Department (Roads, Bridges, Minor Ports and Shipping) Policy note 2008-2009
6. Municipal Administration and Water Supply Department Policy Note on administration of ULBs 2008-2009
7. Tourism and Culture Department Policy Note 2008-2009
8. Agriculture Department Policy Note 2005-2006

The State government has also established several PPP agencies like, Tamil Nadu Water Investment Company (TWIC); New Tirupur area Development Corporation Limited (NTADCL) as SPVs for supply of industrial and drinking water under Tirupur Water and Sanitation Project; Tamil Nadu Road Development Company (TNRDC) to develop road projects.

Annexure III and IV gives a compiled version of Legal and Institutional framework for PPPs in selected Indian states.

5.Case Study

5.1 Tirupur Water Supply Project

(*The entire chapter 5.1 on Tirupur Water Supply Project is prepared based on the factual information from the Power Point presentation on "Tirupur Area Development Program – Financing and Structuring PPP projects – The Tirupur experience" – prepared on 24th October 2007,by the NTADCL, which is authentic and collected by the author of this Research Paper, from the Managing Director of the NTADCL, Chennai. The data collected from the field work is discussed separately in chapter 5.2.*)

Background:

Tirupur is located in Tamil Nadu state 60 km from Coimbatore, in the Coimbatore- Erode textile belt, and it was part of the Coimbatore district till 2008, when the government created Tirupur district with Tirupur as its head quarters. Tirupur Municipality covers an area of 27 Sq. Km and the Tirupur Local Planning Area (TLPA) covers an area of 220 sq.km, Tirupur Municipality had a population of 235,000(as per census 1991) and its population as on date is around 4,50,000, most of them employed in the textile industry.

Knitting as an industry in Tirupur dates back to early 1900s. The number of units has increased from 100 in 1930s to over 8000 now. The town has evolved from a domestic supplier, to supporting exporters from Mumbai & Delhi, to a "direct" exporter (US & EU). Taking into account the indirect exports the town today caters to 50% of India's knitwear exports (direct), valued at over 1.5 billion USD (both direct and indirect).

Water is the key resource used in the processing (bleaching & dying) of knitwear industry. Due to lack of adequate water supply, the industries have turned to groundwater and private tankers for getting assured supply of water. Prior to the NTADCL project 700 tankers operated daily on the average making 10 -15 trips, with demand exceeding 100 MLD. The municipal area was not having an organized drainage system and a sewage collection and treatment system.

The unregulated drawal of ground water not only damaged the underground aquifers, it also had the effect of crowding out water required for agriculture. Water availability is not consistent throughout the year and acute shortage being felt in the summer months. In addition to that the traditional sources of water was inconsistent in quality and has high total Dissolved solids (TDS) and hardness, which needs treatment before use. The opportunity cost of water for Industry is in the range of Rs.70-80 per kilo liter. Therefore in response to the call by the Tirupur Exporters Association(TEA), and the people of Tirupur, Government of Tamilnadu has announced the launch of the Tirupur Area Development Project in 1991,as a comprehensive solution for meeting the infrastructure requirements of the town.

Features of the Tirupur Area Development Project:

The Tirupur Area Development Project (TADP) was setup as a PPP by three partners- the Tamil Nadu Corporation for Industrial Development (TACID), the Tirupur Exporters Association (TEA), and the Infrastructure Leasing and financial Services (IL & FS). They have signed an agreement in August 1994 to develop the TADP on a commercial format.

Tamil Nadu Water Investment Company Limited has been formed as a SPV by Government of Tamil Nadu and IL&FS. TWICL has a paid up capital of Rs. 65 Crores, of which IL&FS holds Rs.35 Crores and Government of Tamil Nadu holds Rs.30 crores of equity. TWICL has also raised subordinate debt of Rs. 40 Crores from its promoters. TWICL has promoted New Tirupur Area Development Corporation limited (NTADCL) for implementing various infrastructure projects in Tirupur, including water supply and sewerage and has invested a sum of Rs.105 Crores in NTADCL as equity.

Scope of the Project

The scope of work under the water and waste water project includes

1. Integrated Water Supply Services

- Bulk Water supply to Tirupur Municipality (TM)
- Bulk Water Supply to Industries located in the TLPA
- Bulk water Supply of Wayside villages (Agreements executed with Government/ agencies for supply)

2. Improvement of distribution network within Tirupur Municipality

3. Sewerage collection treatment and disposal for Tirupur Municipality

4. Low cost sanitation facility within Tirupur Municipality

The NTADCL would be responsible for the operation and maintenance of the project outside the municipal area and Tirupur Municipality would be responsible for operation maintenance within the municipal area. Water for the project would be drawn from the River Cauvery. The off take point is downstream of the confluence of the river Cauvery with Bhavani. The spruce is located at a distance of 55 Kms from Tirupur town. The NTADCL has received permission form Government of Tamil Nadu for drawal of 185 MLD of water from the river (can be increased to 250 MLD later)

The water is allocated in the following manner (net supply)

- Industries 105 MLD
- Tirupur Municipality (domestic) 26 MLD
- Way side Villages 31 MLD

The Project has three separate contracts, two awarded on an Engineer, Procure and Construct (EPC) basis, and one contract on Operate and Maintain (O&M) basis. The EPC1 contractor (Hindustan Construction Company Ltd) is responsible for building a river intake, well and pumping station, a water treatment plant and booster pumping station; a transmission main, and a master balancing reservoir. The EPC2 contractor (Mahindra & Mahindra, L&T Ltd) is responsible for three feeder mains, water distribution stations, distribution networks, a sewerage system and a low cost sanitation. The O&M contractor (Mahindra United Utilities) is responsible for operation & maintenance of the finished water and sewerage facilities.

Financing structure

The project cost of Rs.1023 cr is proposed to be financed through a mixture of debt and equity taken on by government, various commercial financial institutions, and international financing agencies, with debt :equity ratio of 1.5:1

Item	Rs in Crores	US $ (in millions)
Equity	322.7	69
Senior Debt	613.8	132
Subordinate Debt	86.5	18
Total	1023.0	219.0

(Details on the Equity Structure of the Project is given in the Annexure – V)

Security Structure

A comprehensive security package has been put in place for the assignment of project agreements & step in rights, Charge on assets, Charge on receivables (post O&M expenses), Charge on residual insurance proceeds and for securing Cash Flows.

A lean period fund ("Water shortage fund") has been established by GoTN with initial corpus equivalent to six months revenue. This special fund, will be parked in a public deposit account to be drawn by NTADCL. It will be large enough to pay the interest and operative expenses of the project in the event of water shortage in the Bhavani river. For ensuring the receivables from the Tirupur Municipality an irrevocable letter of credit equivalent to one month receivables are escrowed into a special account (3 months reserves) and charged to NTADCL. For ensuring the receivables from industries Bank guarantees from local banks equal to 3 months receivables have been obtained.

Following is the Off-take and Revenue distribution among the intended beneficiaries.

Water Users	Supply	Revenue	Unit Price
Industry	67%	94%	4.5 paise/litre
Tirupur Municipality	16%	3%	0.5 paise/ litre
Way side Panchayats	17%	3%	0.35 paise/litre

The pricing of water supply to industry has been determined on the basis of its opportunity cost, considered to be the rates paid to private tankers. Therefore, the price for industry will be five to six times the amount charged to domestic users. The tariff is linked to the basket of expenditure like power, consumables, O&M costs, etc. The weighted average increase in expenditure is automatically applied to the tariff in July every year and re-priced for industrial consumers, whereas for domestic consumers the revision is done once in three years. The subsidy structure will be maintained throughout the concession period.

This innovative financing structure has facilitated the repayment of funds raised in international and domestic markets, while balancing the interest of share holders. Infrastructure Leasing and financial Services (IL & FS) and USAID provided loan guarantees over 30 years for US$ 25 million. The World Bank provided a line of credit to IL & FS. In addition, the Asian Development Bank through its private arm has a 27% stake in the project. Although ownership of the project assets lay exclusively with NTADCL in its capacity as concessionaire, the consortium has an equity share in NTADCL. The return on equity amounts to 20% per annum, and the average cost of debt is 17%. Most importantly for the government implementation of the project leveraged its investment by about 100 times.

Intended Benefits of the Project

On completion, the Tirupur water supply and sewerage project is expected to deliver the following benefits.

Benefits to the Industry

Availability : 24 hr availability

Delivery : Water at the door step

Quality : Superior and consistent quality

Cost : Overall savings including in process costs

Realization : Improvements in quality (RFT) leading to higher realization

Environment : Helps the industry meet TDS norms

Improvement in quality & availability of water would lead to improvement in export competitiveness and it would act as a catalyst for attracting higher investment in core areas.

5.2 Analysis of the data with respect to Tirupur Water Supply Project

As this project is intended to supply water to 13 wayside villages, to assess impact of the scheme the researcher has collected data from all panchayats on the quantity of water they used to have before the project and the quantity of water available after the implementation of the project.

Since the project intends to supply treated water to way side panchayats, it has to reduce the drawal of ground water by the panchayats and intern is expected to reduce the electricity bill. Therefore to assess the financial implication of the project on panchayats the data relevant to payment of electricity bill before and after the project is collected and it is given in the **(Anneure-VI)**.

The researcher had also discussed about the impact of the project with all 13 panchayat presidents, and with the Assistant Director of Panchayats who looks after the panchayat administration at district level and Engineers of the Water Board and also with the District Collector of Tirupur District. The researcher also had discussions with the Managing Director of NTADCL at Chennai and with the General manager and Manager (Technical) of Tirupur Water Supply Project at Tirupur.

From the table it can be understood that the population has increased many fold from 2001 to 2009. It makes our job difficult to assess the satisfaction level as for as the quantity of water made available to the panchayats through this scheme is concerned. Though the scheme has fetched more water to panchayats, still there is an acute shortage of water in all the 13 panchayats selected for study. Correspondingly the electricity charges have not reduced, because the NTADCL makes the water available to one of the tanks available in all these panchayats, and pumping of water to the house hold connections and public fountains still remains the responsibility of panchayats. Because more water is made available to panchayats by NTADCL, now the panchayats have to spent more money on electricity for the internal pumping of water. Apart from that the panchayats have not done away with their old water resources because of this new projects. Still they continue to use the old resources, and it gets reflected in the electricity charges that the panchayats have to spent.

Regarding the quality of water supplied by the NTADCL, the feed back from the panchayat presidents and field work gives a different picture than what is expected from a world class project. Mr.Rangasamy, the Thottipalayam panchayat president said, "if the water is kept unused for 5 days, it gets spoiled and can not be used for drinking, the odor is bad and people have a dislike for L&T water", the Chettipalayam panchayat president Mr.Marappan said " This water is not fit for drinking, still I buy water from L&T, as it can be supplied and people will use it for other than drinking", and a more apt comment is made by the Pudupalayam panchayat president Mr.Ramasamy " third water scheme offers only a 3rd quality water". Apart from the above presidents almost all people, I have interacted with have expressed the same concern about the quality and odor of the water supplied through this scheme. Interaction with general public and other officials, engineers of this project confirmed these statements. One thing is that the people were comparing the quality of water which was available through other water supply schemes (all these panchayats were getting water from two other different government water supply schemes before the implementation of this project and people generally refer this project as 3rd scheme or as L&T scheme), and the engineers also confirm that there is difference in taste of water from this source. The other reason is that the water supplied to panchayats in this scheme is not fully treated, in the sense that the NTADCL is supplying water without proper chlorination. When enquired, the engineers said that, in the beginning they were supplying water after chlorination, and as it was causing damage to the fabrics in the textile industries and textile exporters were

objecting to the chlorination, they stopped the chlorination and started to supply water without chlorination to panchayats as well. The panchayats are expected to supply the water to public for consumption, only after proper chlorination, which is not done properly and that's why there is a complaint on the quality and odor. This argument is not valid as the NTADCL is expected to supply potable water ready for consumption to way side panchayats as stipulated in the concession agreement.

As there is acute shortage of water every panchayat president have said that they require more water from NTADCL, however the rate should be the same as it is supplied now. Though it is not part of the concession agreement,they expect that the NTADCL should help the panchayats to construct additional tanks in their panchayats for NTADCL water, and to supply water after full treatment including chlorination. The other interesting phenomena noticed in this project was, that it has improved the compliance of panchayats in their payments to the corporation. All these panchayats have paid the cost of water to NTADCL without any due till date.

The panchayat presidents have also informed that the compliance of people paying water charges has improved drastically, now 90% of the people pay water charges due to panchayats on time. The panchayats adjacent to Tirupur municipality went in to say even they are ready to pay more provided if their full demand for water is met by the NTADCL.

From the discussions the researcher had with the Officials the following interesting points came to light. The Tirupur Water Supply Project was originally conceived by the Government agency TWAD (Tamilnadu Water Supply and Drainage Board), to be executed through government funding. Since the government funding was not coming through as expected, the Tirupur Exporters Association had put up more pressure on the Government for speedy execution of the project for their benefit, the Government had to resort to alternate form of financing the project and ultimately it evolved as a PPP project.

Regarding the PPP mode of procurement the Public sector engineers have a different say, at least for this project they are of the opinion, that the project cost is high compared to the government mode of execution. It is evident from the figures that the project cost went up because in Tirupur Water supply project, the Concessions were based on three contracts, two on Engineer, Procure & Construct (EPC) basis and one is an Operate and Maintain(O&M) contract. In EPC contract, the EPC agency or engineering firm is allowed to undertake design, engineering and execution of the project, and the procuring agency (NTADCL), is particular about the quantity and quality of the water supplied (that is the final product) and not the cost involved in design, engineering and execution of the projects. Because of this the engineers feel that the project cost went up. For example in BECTEL design they used MS Pipes where we can use PVC pipes, though MS pipes ensure long life and reduction of leakage, the cost involved is very high. The other interesting example is that the BECTEL has designed the pumping station with a 11 KVA motor, where only a 33 KVA supply is available from Tamilnadu Electricity Board (TNEB), and as per the concession contract the Government has to make the required power supply available to the project execution agency. Here the government had no other option to go for a separate 11 KVA

substation which would have been avoided if the contract agency was ready to change the 11 KVA motor to a 33 KVA motor of the same capacity, it involved an extra expenditure of 9 crores to the government, which could have been avoided if the care was taken while preparing the concession contract.

In general the engineers feel that in such a sensitive project like water supply project the government should always have an upper hand. Even when we have to adopt the PPP mode for its technical superiority the government agency should have a say in design and execution, as it will give option for the government agency to adopt the design to local conditions and requirements and thereby reduce the unnecessary costs involved in procurement of customized spare parts from single agency.

From the discussions the researcher had with the field level officers working in Tiruppur water supply project , it was evident that all is not well with the project, as the private textile units have not come forwarded to take water from the NTADCL. Though the NTADCL can deliver water at their door steps, they don't want to buy the water from NTADCL ,because, if industries buy water from NTADCL it is properly accounted for and they become responsible for letting out the untreated water in to the river source. Because of the stringent norms enforced by Tamilnadu Pollution Control Board (TNPCB) following a Supreme Court order the industries have become cautious and they make a nominal purchase of water from NTADCL and, still they buy water from other sources, since it is not accounted for. Since the entire project is based on the differential pricing mechanism adopted for supply of water to industries and Panchayats, as such it is very difficult to meet out the O&M costs and if the present trend continues and if there is no binding on the textile units to buy water from NTADCL, it will be very difficult for the corporation to ensure continuous supply of water to Panchayats at concessional rates.

Though the NTADCL is running in to rough weather now, still it can become a successful project if the illicit tapping of ground water in the surrounding areas of Tirupur for the industrial purpose is totally curbed and the textile units opt to buy water from NTADCL only. The free power supply made available for the agricultural purpose should not be misused for commercial exploitation of water for the industrial purposes.

6. Data Analysis

6.1 Analysis of Legal & Institutional Frame work and Performance in PPPs

In the past, central government was dominant in infrastructure planning. 'At the moment the state governments are playing an increasingly important role, as regional parties have grown in strength' (Heymann 2007:6). This is also related to decentralization trends in states particularly in infrastructure sectors. It has resulted in a complex bureaucratic system that foreign players find difficult to understand and it has slowed the process of infrastructure development in India. Since the investment flow in infrastructure is governed by the market principles and the incentive schemes offered by the particular regulatory regimes, the 'entry decisions of new infrastructure firms have been associated with sunk cost (i.e. assets-specific investment in infrastructures) and entry assistance such as incentive to invest' (Devapriya 2006: 558).

As discussed in detail in the analytical frame work the existence of proper legal and institutional frame work can be assumed to instill the investor's confidence and creates a positive environment for investments in projects, therefore it should have a positive correlation with the performance of states in PPP investments. To test this proposition we make the following leading hypothesis which is again later assessed for separate dimensions.

- **There are commonalities in policy environment which makes certain states more attractive destination for PPP projects.**

This overall hypothesis leads to

Hypothesis 1

- **Legal and Institutional framework for PPPs in States make the States more attractive destination for investment in PPP projects.**

A detailed analysis has been made on the different legal and institutional arrangements in different states in chapter 4(Table 4.1.1 & 4.1.2). Based on the analysis the states have been grouped in to three categories. Now to test the hypothesis a comparison has been made between the performance of these states in getting investment under PPP mode and the legal and institutional framework that were established in these states.

Table 6.1.1

Legal and Institutional Framework & Performance of in PPP Investments

States	Legal & Institutional frame work	Total Number of PPP Projects (Ranking shown in brackets)	Value of contracts in crores (Ranking shown in brackets)	Per Capita investment in Crores (Ranking shown in brackets)
Karnataka	Category - I	92 (1)	34795 (1)	6583.7 (1)
Kerala	Category - II	8 (8)	9547 (4)	2998.3 (2)
Gujarat	Category - I	17 (5)	13613 (3)	2686.5 (3)
Maharashtra	Category - III	14 (7)	20329 (2)	2098.4 (4)
Andhra Pradesh	Category - I	39 (2)	7774 (5)	1020.1 (5)
Madhya Pradesh	Category - III	29 (4)	5748 (6)	952.5 (6)
Orissa	Category - I	3 (10)	3225 (7)	876.2 (7)
Tamil Nadu	Category - III	9 (9)	2114 (8)	338.8 (8)
Punjab	Category - I	15 (6)	767 (9)	314.9 (9)
Rajasthan	Category - II	32 (3)	450 (10)	79.6 (10)
West Bengal	Category - II	NA	NA	NA

(Author's own compilation, Data source: WB - IFC Investment Climate Survey, 2004 & www.pppinindia.com)

Category-I

Among the category -1 states (Andhra Pradesh, Gujarat, Karnataka, Orissa and Punjab) which have developed enabling legislation and established dedicated cross sectoral institutions and constituted specialized agencies and passed legislations to promote PPPs in infrastructure, there is no consistency in performance with respect to the total investment under PPP mode and the per capita investment these states were able to generate under PPP mode.

Among the 11 states compared, the state of Karnataka distinctly occupies the number one position both in respect of total PPP investments and in per capita investment in PPP, followed by the Gujarat, and Andhra Pradesh occupying 3rd and 5th position respectively in respect of total PPP investments and in per capita investment in PPPs. Where else the performance of the states of Orissa and Punjab is not up to the mark, even though they have established legislation, dedicated cross sectoral institutions and specialized agencies, they occupy only the 7th and 9th position respectively in respect of total investment in PPP projects and in the per capita investment in PPP projects.

Category- II

Among the second category of states (Kerala, Rajasthan, Uttaranchal and West Bengal), who have developed cross-sectoral facilitation entities, but have not passed comprehensive legislation to facilitate PPPs. The performance of Kerala is impressive, it occupies the 2nd position with Rs.2998 crores as per capita investment in PPPs and 4th position with Rs.9547 crores, as for as total investment in PPP is concerned. The

performance of other states like Rajasthan, Uttaranchal and West Bengal who are in the same category is not comparable with Kerala. Rajasthan occupies only the 10th position in the comparison list of 11 states. West Bengal and Uttaranchal don't have even a single project under PPP mode in state sectors.

Category III

Among the third category of states including Madhya Pradesh, Maharashtra and Tamil Nadu which have relied on sectoral and line agencies to develop and implement PPPs, the performance of Maharashtra is very impressive. It occupies 2nd position with Rs.20329 crores as for as total investment in PPPs are concerned and 4th position with Rs.2098 crores, with respect to per capita investment in PPP projects. Elsewhere the performance of Madhya Pradesh and Tamil Nadu are not so impressive occupying only the 6th and 9th position respectively both in total investment and per capita investment in PPPs.

The above analysis shows that, there is no clear link between institutional structures and success in developing PPPs in Indian states. It would seem clear from the experience of Karnataka, Andhra Pradesh, Rajasthan, Madhya Pradesh, Punjab and Gujarat in the development of PPPs for roads that, it is possible to develop a PPP program in a single sector by building up capacities in line departments. The state of Gujarat and Maharashtra have developed capacities for port projects under PPP mode.

The reasons for the inconsistency in performance and the legal and institutional frame work could be the following:

1. India has a well-developed rule of law, but its current legal and regulatory framework is not robust enough to give investors full confidence and therefore it is a serious obstacle blocking the necessary injections of (foreign) private capital into India's infrastructure. The tariff and performance standards for Infrastructure projects are often governed by Concession agreements and they are typically matters of independent regulation (Heymann 2007: 9).

2. In India, many (local) authorities are taking an adhoc approach and applying inconsistent and overly complex rules related to Investments. The reasons are a)the regulatory framework for infrastructure has developed autonomously within each sector. b) Political constraints and vested interests. 'This has resulted in delays, corruption, incompetence and uneven regulatory framework' (Heymann 2007: 9).

3. For Investors, the enforceability of obligations and concessions arrangements are very important. Since, India's constitution distributes legislative and executive powers vertically between the Union, states and local government, enforceability is a major problem in India. 'In reality, each of the sectors is regulated differently' (Heymann 2007: 9)

To quote from the words of Mr.Paneendra Reddy, Managing Director of Tamilnadu Urban Infrastructural Finance Services Limited, who handled the Tirupur Water Supply Project earlier, "Legal and Institutional arrangements may help or may not help in getting investments, but that itself may bind you sometimes". According to him

it is better to keep the option opened, as it gives more flexibility, and we need not necessarily rely on legislative framework & it is not a pre requisite. According to him the key elements in deciding about PPP mode of investment are "cost of fund" and "risk sharing." There should not be any blind following for PPP model, we have to pick and choose depending upon the cost of funds and identification and sharing of risks.

According to Mr.Dawidar , Secretary to Government of Tamilnadu, Energy & Information Technology department, "Policy frame work is not so important in choosing PPP mode of infrastructure financing, if PPP model can offer a better solution to a problem, we can go for it or we may choose PPP model if it brings better technology for a problem solving." According to him more than the legal and institutional frame work, the criteria that should be adopted while choosing PPP model are efficiency, accountability and managerial skills. In his view fundamentals such as investment climate in the states , political commitment towards the use of PPPs, sufficient trained staff, and strong links between built-up capacity and implementation responsibility in the respective line departments are probably the most important ingredients of success.

6.2 Analysis of Investment climate in states and Performance of States in PPPs

Infrastructure development through PPP mode means increased private sector participation in terms of investment in infrastructure projects. According to the World Bank, the key task is to 'manage infrastructure like a business and not like bureaucracy' (World Bank 1994: 2). Any private sector investment in a country whether it is in infrastructure projects or industrial projects, it has 'much to do with the quality of India's investment climate with other investment destinations in Asia' (WB-IFC 2004: 4). Since Investments in infrastructure have a long-term horizon, investors look at political continuity and stability in a state before making investment decisions. They also fear about government intervention and breaches of contractual obligations. 'This implies that investment in infrastructure is highly political in nature and it is often the lack of political stability that holds back necessary investment' (Heymann 2007: 6).

A study using a disaggregated analysis, predicts that 'states successful in maintaining political and fiscal stability stand to gain most from public investments in human capital formation in terms of increased investment inflows,' and the 'investors select states as investment destinations predominantly on the basis of their contemporary social-economic performance as opposed to their past images as investment destinations' (Chakravarthi 2009: 9)

Differences in Investment climate within India

Ahluwalia (2002) indentifies private investments as the primary determinant of economic growth across states. Dollars, Iarossi and Mengistae (2002) also expect a good investment climate to facilitate a higher volume of investment inflows, particularly in the high productivity manufacturing and services sectors, leading to job creating, income growth and. ultimately, poverty reduction. There are certain critical factors which determine investment inflows across Indian states and these factors are state specific. 'Though the federal frameworks of India cause all states to face certain

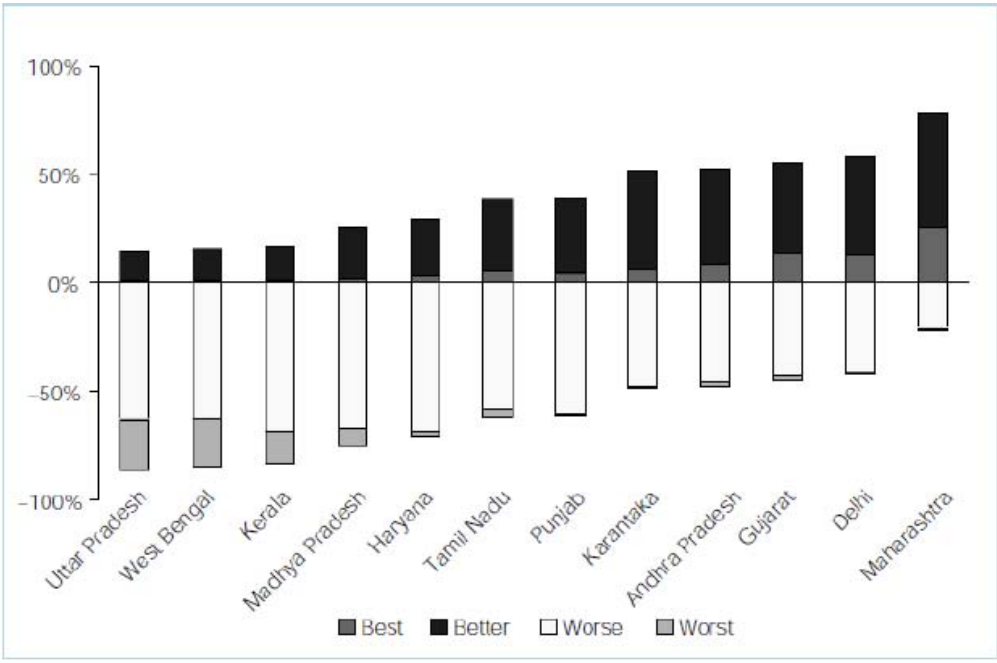
common macroeconomic policies such as monetary policy and trade policy, states too retain extensive control over local administrative regulations, provision of infrastructure' (Chakravarthi 2009: 11)

The determinants' of investment inflow in to a state makes up the Investment Climate of that state. The Investment Climate Survey 2003, conducted jointly by World Bank and Confederation of Indian Industries (CII) shows that "significant investment climate variations exits among India's many states." The ICS of India 2003 asked respondents, to rate the general investment climate in all states other than their own. The resulting pattern was analyzed and found that Maharashtra, Delhi, Gujarat, Andhra Pradesh, Karnataka, Punjab, Tamil Nadu and Haryana were rated as better investment climate states and these states have attracted almost all the FDI in the past (WB-IFC 2004: 5-6). The survey also asked the respondents 'to name which states had the best investment climate and which had the worst. Each of the other eleven states is ranked between these extremes by the difference between the percentage of those identifying it as a better-climate state and the percentage of those identifying it as worse-climate state' (WB-IFC 2004: 44).

Since the investors have the liberty to choose their preferred investment destination amongst the various states in the Indian union, there is an intense competition across states to get a maximum share in the upcoming investment projects. It has 'resulted in most state governments striving to better the investment climate prevailing in their respective states to make them conductive to inflows of domestic and foreign investment' (Chakravarthi 2009: 10). If we look at the total investment over an extended post-reform period, investment trends between 1992 and 1998, we can find that, most "new" private sector investments have a strong coastal bias and were made in previously established locations. There is also evidence to show the 'path dependence' in the process of investment location. Investors , in seeking efficient locations, tend to favor existing industrial clusters with access to the coast (Chakravorty 2003). 'At the same time, they show that investors avoid regions with inhospitable investment climates and friendly local governments' (WB –IFC 2004: 42).

Graph 6.2.1

Outside Respondents Ranking a State's Investment Climate Relative to that of their Own



(Adopted from WB –IFC, Investment climate survey Report, 2004, p44)

Yet another alternative index to rank investment climate is "state's average cost advantage" according to those who thought it had the best climate less its average cost disadvantage according to those who thought it had the worst climate. This is plotted against the percentage of outside respondents rating the investment climate of a state better than their own, and given in Figure 6.2.2. It brings out the following list of "better climate" states; Andhra Pradesh, Delhi, Gujarat, Haryana, Karnataka, Punjab and Tamil Nadu. (WB-IFC, 2004: 44-46)

Graph 6.2.2.

Better Climate States

(Adopted from WB-IFC, Investment climate survey Report, 2004, p44 & 46)

Location Modeling Approach

Location Modeling is an economic model used to understand the profit-maximizing location decision. It shows that agglomeration economies tend to push new investment to established locations and there is an element of path dependency. Analysis of firm-level data also shows that key investment climate indicators are closely correlated with productivity and business growth rates. Investment climate indicators such as unreliable and costly power supply, burdensome tax and customs administration, excessive labor regulation, inadequate land access, lack of access to formal external finance and finally corruption all are negatively correlated with productivity and business growth rates (WB-IFC 2004: 8).

From the above analysis it is clear that there are two main factors that affect the individual firm's location decision. They are (1)" business environment" which includes access to inputs (quality and cost of labor and capital); access to markets; provision of basic infrastructure; institutional environment ; and industry-specific subsides or tax breaks. (2) "agglomeration economies" which are external economies from localization and urbanization that increase returns on scale and can lead to cumulative causation (WB-IFC 2004: 42). It is also clear that the "better climate" states Karnataka, Gujarat, Maharashtra, Andhra Pradesh, Tamil Nadu and Punjab have fared well in attracting PPP investment in infrastructure projects. The states of Kerala, Madhya Pradesh and Orissa have also done well compared to other states in spite of being rated as not having better investment climate in the IC survey. Therefore to explore the reasons for some states attracting more PPP investments compared to other states, and the factors that influence the investment location decisions, we propose to test the following hypothesis 2, 3 and 4.

Hypothesis 2

- **States with low cost of corruption and low cost of regulation, tend to attract more investment in PPP projects compared to other states.**

Analysis

The data related to perception criteria on level of corruption, cost of labour regulation and Tax and customs administration has been compiled from the IC survey and presented in the table 6.2.1.

Table 6.2.1

Cost of Corruption, Cost of Regulation in States and their Performance in PPP investment

States	Per Capita investment in Rs (Ranking shown in brackets)	Investment Climate	Corruption as major obstacle	Tax & Customs as major obstacle	Labour Regulation as major obstacle	Number of Inspections by Govt., officials	Senior Mgt time spent in dealing with Regulations	Days to clear customs
Karnataka	6583.7 (1)	Better IC	66.4%	54.7%	51.8%	5.6	11.2%	7.1
Kerala	2998.3 (2)	Not Better	42.6%	23.0%	5.9%	13.6	21.0%	5.7
Gujarat	2686.5 (3)	Better IC	62.0%	39.3%	7.0%	7.6	24.3%	8.8
Maharashtra	2098.4 (4)	Better IC	46.2%	31.3%	18.9%	5.4	15.7%	8.1
Andhra Pradesh	1020.1 (5)	Better IC	37.5%	16.8%	2.4%	9.3	10.7%	7.1
Madhya Pradesh	952.5 (6)	Not Better	33.6%	17.9%	2.1%	1.9	7.0%	2.6
Orissa	876.2 (7)	Not Better	NA	NA	NA	NA	NA	NA
Tamil Nadu	338.8 (8)	Better IC	65.3%	43.2%	30.3%	10.8	13.4%	7.6
Punjab	314.9 (9)	Better IC	54.2%	15.8%	2.8%	6.8	12.7%	2.6
Rajasthan	79.6 (10)	Not Better	NA	NA	NA	NA	NA	NA
West Bengal	-	Not Better	51.6%	43.5%	9.1%	13.0	17.8%	10.1

(Author's own compilation, Data source: WB - IFC Investment Climate Survey, 2004 & www.pppinindia.com)

Among the issues that influence investment in a state 'regulatory and corruption issues are top priorities for the business community in the "better climate" states, just as they are in other states; infrastructure, customs administration and the rest have more or less the same order of priority across states' (WB-IFC 2004: 6). Karnataka has attracted the maximum per capita investment in PPPs, however the percentage of respondents identifying corruption as a major bottleneck for investment is very high (66.4%) compare to other states. The objective proxies of burden of regulation are also high for Karnataka compared to other states. Same is the case with other better investment climate states such as Gujarat, Maharashtra, Andhra Pradesh, Tamilnadu and Punjab. One-to two-thirds of respondents have responded that corruption is a bottleneck in these better climate states, a result reflected in all our objective proxies of the burden of regulation, which are all higher for these better climate states, including the frequency of inspection visits, management time, cost of regulation and the duration of customs clearance. The better investment climate states have attracted more investment in PPP in-spite of rated as having high cost of corruption and high cost of regulation. This suggests that the better climate states are not, after all, rated because the burden of

regulation and corruption is less onerous. A state could be an attractive investment destination because of so many other factors such as availability of input materials, availability of electricity, transportation facilities, and natural advantages such as close to ports etc., It disproves the assumptions made in the hypothesis.

Hypothesis 3

- **States with good infrastructure and reliable power supply and good transportation facilities attract more investment in PPP projects compared to other states.**

Analysis

Table 6.2.2

Availability of Infrastructure, Power Supply and Transportation facilities and the Performance of States in getting investment in PPPs

States	Per Capita investment in Rs (Ranking shown in brackets)	Investment Climate	Infrastructure as major obstacle	Power supply as major obstacle	Transport as major obstacle
Karnataka	6583.7 (1)	Better IC	61.2%	59.3%	50.3%
Kerala	2998.3 (2)	Not Better	19.8%	5.9%	29.0%
Gujarat	2686.5 (3)	Better IC	24.3%	5.7%	3.1%
Maharashtra	2098.4 (4)	Better IC	31.6%	22.3%	3.5%
Andhra Pradesh	1020.1 (5)	Better IC	17.2%	41.1%	1.4%
Madhya Pradesh	952.5 (6)	Not Better	49.2%	54.0%	2.4%
Orissa	876.2 (7)	Not Better	NA	NA	NA
Tamil Nadu	338.8 (8)	Better IC	40.9%	46.3%	43.5%
Punjab	314.9 (9)	Better IC	11.6%	3.9%	60.0%
Rajasthan	79.6 (10)	Not Better	NA	NA	NA
West Bengal	-	Not Better	31.6%	5.2%	7.8%

(Author's own compilation, Data source: WB - IFC Investment Climate Survey, 2004 & www.pppinindia.com)

The data related to perception indicators for infrastructure, power supply and Transportation has been compiled from the IC survey and presented in the above table. Contrary to the assumption, in the states having better investment climate which have attracted more investment in PPP projects, the percentage of respondents identifying Infrastructure, Power supply and Transportation as major obstacle for investment is quite high. For example, in the state of Karnataka where the per capita investment in PPP is maximum compared to other states, 61.2% of the respondents identify infrastructure as major obstacle, 59.3% respondents identify Power supply as major obstacle and 50.3%of respondents identify Transportation as a major obstacle. Same is the case with Tamil Nadu, the other better investment climate state where 40.2% of respondents identify Infrastructure as a major obstacle, 46.3% of the respondents

identify Power supply as a major bottleneck and 43.5% respondents identify Transportation as an obstacle. The hypothesis holds good with the other better investment climate states such as Gujarat, Maharashtra and Andhra Pradesh.

Hypothesis 4

- **States with greater access to land and external finance attract more investment in PPP projects compared to other states.**

Analysis

Table 6.2.3

Access to Land &Availability of External Finance for Projects in States and their performance in getting investments in PPPs

States	Per Capita investment in Rs (Ranking shown in brackets)	Investment Climate	Access to land as major obstacle	External finance as major obstacle
Karnataka	6583.7 (1)	Better IC	14.5%	37.6%
Kerala	2998.3 (2)	Not Better	11.9%	31.7%
Gujarat	2686.5 (3)	Better IC	6.0%	30.0%
Maharashtra	2098.4 (4)	Better IC	11.2%	24.6%
Andhra Pradesh	1020.1 (5)	Better IC	8.3%	25.9%
Madhya Pradesh	952.5 (6)	Not Better	3.6%	7.9%
Orissa	876.2 (7)	Not Better	NA	NA
Tamil Nadu	338.8 (8)	Better IC	12.6%	43.4%
Punjab	314.9 (9)	Better IC	1.7%	22.5%
Rajasthan	79.6 (10)	Not Better	NA	NA
West Bengal	-	Not Better	26.3%	30.3%

(Author's own compilation, Data source: WB - IFC Investment Climate Survey, 2004 & www.pppinindia.com)

The data related to perception indicators for the Access to land and Access to external finance, has been compiled from the Investment Climate Survey results and presented in the above table. Compared to other indicators that determine investment climate in a state, the percentage of respondents identifying Access to land as a major obstacle is very less. However among the better investment climate states in Karnataka where the investment in PPP is very high, the percentage of respondents identifying access to land as major obstacle is 14.5% and it is 6%, 11.2%,8.3% and 12.6% respectively for Gujarat, Maharashtra, Andhra Pradesh and Tamil Nadu. It only shows that there is no consistency between investment in PPP and access to land as a constraint. It only indicates that, accessability to land is not a critical factor for PPP

investments, since government is a party in PPPs and normally the government undertakes to provide the required land for the PPP projects.

Contrary to the assumption, more respondents have identified external finance as a major obstacle in states which have higher investment in PPP projects. Here again, it indicates that the perception indicator may be applicable to industrial investment generally and not for the investment in PPPs.

7. Findings and Conclusions

Policy environment and Performance in getting investment in PPP projects

The analysis in chapter 6 shows that, there is no clear link between policy environment and institutional structures in a state and its success in getting PPP investments. There are no clear and obvious commonalities in policy environment among Indian states which were successful in getting more PPP projects compared to other states. However proactive states like Karnataka, Andhra Pradesh and Gujarat who have exhibited their political commitment by enacting cross sectoral legislation and establishing dedicated institutions, stand out in their performance in getting PPP investments compared to other states in-spite of actually being seen as states which have many adverse investment characteristics. It is also clear from the experience of Karnataka, Andhra Pradesh, Rajasthan, Madhya Pradesh, Punjab and Gujarat in the development of PPPs for roads that, it is possible for states to get more investments in PPP mode if they develop a PPP program in a single sector by building up capacities in line departments. For example the state of Gujarat and Maharashtra have developed capacities for Port projects under PPP mode and they have attracted more PPP projects in these sectors. Also it is clear that, because of the vertical distribution of legislative and executive powers between central government and states, Indian states have adopted different legal and institutional frame works and there is no uniformity even within the sectors among the states for PPP investments. More than the legal and institutional frame work, the investment in PPP projects in infrastructure are governed by Concession Agreements, which determines the tariff and performance standards. Therefore the actual enforceability of tariff and performance standards are more important, for which the investors look for Independent Regulatory Authorities, which are free from political constraints and vested interests. Therefore, from the data available on legal & Institutional frame work, we can conclude that the Indian states have adopted only an ad-hoc approach instead of developing a robust legal and institutional frame work required for attracting more investment in infrastructure sector.

Influence of cost of corruption and cost of regulation, in the investment inflows in to PPP projects

One very striking and important outcome from the analysis of data related to perceived corruption levels and cost of regulation in states that the states which have been rated as better investment climate states need not necessarily to have low level of corruption and regulation. The top five states which have attracted more per capita investment in PPP projects are Karnataka, Kerala, Gujarat, Maharashtra and Andhra Pradesh. All these states except Kerala have been rated as states having better investment climate, which shows a positive correlation between perceived investment climate and investment in PPPs. However, when we compare the perceived corruption levels in these states, to our surprise these states have been perceived by investors as having high level of corruption. Same way if we compare the proxies for cost of regulation, again these states give a different picture than normally expected, that they have attracted more PPP investment in-spite of having high cost of regulation. Therefore we can conclude that, when it comes to investment in infrastructure

particularly in PPP mode, if the overall cost benefit of the project in the entire concession period is higher, and if the cost benefit can absorb the cost of corruption and cost of regulation, than the states still tend to attract more investment in PPP in-spite of high costs of corruption and high cost of regulation. There is no doubt that, to make these states even more attractive for investment, the states have to minimize the cost of corruption and regulation.

Availability of infrastructure, Power supply and Transportation facilities and the investment inflows in to PPP projects

From the data analysis it can be seen that in-spite of having maximum per capita investment in PPP, the state of Karnataka has been perceived to have more bottlenecks in infrastructure, Power supply and Transportation facilities. It only indicates that there is growing demand for these services in Karnataka and Karnataka couldn't match its requirements with the supply. It is clear from the fact that in-spite of having good power supply and transportation network, the states of Gujarat and Maharashtra have been perceived to have infrastructure bottlenecks due to the mismatch in the demand and supply of these services in these states. The objective proxies for infrastructure like availability of power supply and transport facilities show a positive correlation with the high performance in attracting more investment in PPP projects. The other way to look at the performance in investment in infrastructure projects is that the states which have high demand for such infrastructural services like power supply, and transportation facilities have attracted more such projects in PPP mode.

Access to land and availability of external finance and the investment inflows in to PPP projects

From the data analysis it can be seen that the states which have more PPP investment in infrastructure, except Gujarat and Andhra Pradesh have been perceived to have problems in getting access to land. It may be true to some extent for the projects in the industries sector, as the investment climate survey is conducted by the World Bank and CII, taking opinion from the investors and top management professionals from industries sector. It may not hold good for the PPP projects, since in the infrastructure projects, the government takes responsibility for making the land available for the projects. Coming to the availability of external finance, there is again a contradiction between the assumptions postulated in chapter one and the data presented. The analysis shows that the perception indicator may be applicable to the industrial investment and not to the PPP infrastructure projects. Since Investments in infrastructure have a long-term horizon, and decided based on the factors like value for money, competition and policy credibility which again depends on political stability and other factors.

Critical factors that determine investment inflows in PPPs in Indian States

Availability and enforcement of Legal and Institutional frameworks that are conducive for PPP investment are is no doubt important factors, for the investors while deciding about investment in PPP projects, but it is not a pre requisite for any PPP investment flow in to any states. To some extent they exhibit the government's commitment and willingness for collaborating with private partners in infrastructure projects, but that alone is not sufficient. In fact the investors look for Independent regulatory authorities to enforce the tariff and performance standards agreed upon in a concession contract. If Indian states want to attract more investment in infrastructure projects through PPP mode they should give up the ad-hoc approaches they were following so far and develop a robust legal and institutional frame work required for attracting more investment in infrastructure sector.

Though the analysis shows that the investment flow in PPP projects in infrastructure in to a state is based on the overall estimated actual net-cost benefits by private sector investors, than the cost of corruption and cost of regulation, it indicates that if the cost of corruption and the cost of regulation are less, then the state's investment climate make it more attractive for PPP projects in infrastructure, as it will reduce the project cost and make it more viable.

The availability of infrastructure like power supply and transport facilities in a state shows a positive correlation with the high performance in attracting more investment in PPP projects as it will reduce the project cost and make it more viable in long term. Similarly the states which have high demand for such infrastructural services like power supply, and transportation facilities have the capacity to attract more such projects in PPP.

In infrastructure projects, the government takes responsibility for making the land available for the projects therefore availability of land is not a major factor that determine investment decision for infrastructure projects under PPP mode. Since investments in infrastructure have a long-term horizon, and are decided based on the factors like value for money, competition and policy credibility which again depends on political stability and other factors availability of external finance locally in a state is not a major deciding factor when it comes to investment in infrastructure projects in PPP mode.

As for as the Tirupur Water Supply Project is concerned , the NTADCL was able to complete the project on time, because of its innovative financing structure, which has facilitated the repayment of funds raised in international and domestic markets, while balancing the interest of share holders. No doubt the project design is technically superior, however the project cost could have been further reduced, if it was designed to suit the local conditions. This project has improved the water availability in the wayside panchayats, though the quality is not up to the expected level. This project has made Panchayats accountable for the water usage. It has also brought discipline among the water users as, as it has improved the payment of water charges by the users

up to 90%. The differential pricing mechanism can work, only when the textile units consume the NTADCL water only as promised before the starting of the project. It can happen only when the illicit tapping of ground water for commercial use is stopped completely. This project gives a positive hope that with the support of stakeholders, including industry, the donar community, local government and residents, more such PPPs are possible in future in Water supply sector in India.

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Annexure-I

Sector wise PPP types (Both Central and State agencies put together)

Sectors	BOOT		BOT-Toll		BOT-Annuity		BOO		LDOT		Mgt Contract		Lease		BOOST		DBFOT		Total	
	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value
Roads	1	408	227	68553	35	10605							1	2150					264	81716
Ports	8	10546	21	16820	2	5378									10	13415			41	46159
Air Ports	2	4408			1	930	1	303	2	14400									6	20041
Urban Development	12	1202	9	2714	16	4838					3	224	1	250			11	1985	52	11213
Energy	30	17640																	30	17640
Tourism					1	17											5	179	6	196
Railways			3	1007															3	1007
Total	51	29796	187	59241	29	11687	1	303	2	14400	3	224	2	2400	10	13415	16	2164	402	177972

(Author's own compilation, Data source www.pppinindia.com)

Annexure-II

Sector wise PPP Project Types (Implemented by State Governments)

Sectors	BOOT		BOT-Toll		BOT-Annuity		BOO		LDOT		Mgt Contract		Lease		BOOST		DBFOT		Total	
	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value	No., of Projects	Value
Roads	1	408	227	68553	35	10605							1	2150					182	81716
Ports	8	10546	21	16820	2	5378									10	13415			27	46159
Air Ports	2	4408			1	930	1	303	2	14400									1	930
Urban Development	12	1202	9	2714	16	4838					3	224	1	250			11	1985	52	11213
Energy	30	17640																	30	17640
Tourism					1	17											5	179	6	196
Railways			3	1007															3	1007
Total	51	29796	187	59241	29	11687	1	303	2	14400	3	224	2	2400	10	13415	16	2164	298	118927

(Author's own compilation, Data source www.pppinindia.com)

Annexure-III

Institutional Frameworks for PPPs in India

State	Framework Law	Nature of PPP unit	Approval Power over PPPs	Project advice	Resource centre	Guidance material	Funding for PPP preparation
Andhra Pradesh	Enacted	Autonomous/Quasi	Dedicated PPP unit	Dedicated PPP unit	Dedicated PPP unit	Dedicated PPP unit	Dedicated PPP unit
Gujarat	Enacted	Autonomous/Quasi	Dedicated PPP unit	Dedicated PPP unit	Dedicated PPP unit	Dedicated PPP unit	Dedicated PPP unit
Karnataka	Enacted	State level PPP Cell(Statutary), and iDeCK- Pub/Pvt Joint Venture	Dedicated PPP unit	Dedicated PPP unit	Dedicated PPP unit	Dedicated PPP unit	Limited to some sector/projects
Kerala	X	State level PPP Cell(Statutary), and INKEL- Pub/Pvt Joint Venture	X	Dedicated PPP unit	Dedicated PPP unit	Sector Specific	Limited to some sector/projects
Madhya Pradesh	X	PPP-Cell under Finance Department	X	X	X	Sector Specific	Limited to some sector/projects
Maharashtra	X	PPP-Cell and MUINFRA(Statutory Board)	X	Dedicated PPP unit	Dedicated PPP unit	Sector Specific	Limited to some sector/projects
Orissa	Enacted	PPP-Cell under Planning and Coordination Department	Dedicated PPP unit	Dedicated PPP unit	Dedicated PPP unit	Sector Specific	Limited to some sector/projects
Punjab	Enacted	Autonomous/Quasi	Dedicated PPP unit	Dedicated PPP unit	X	Dedicated PPP unit	Limited to some sector/projects
Rajasthan	X	State level PPP Cell(Statutary), and PDCOR- Pub/Pvt Joint Venture	Dedicated PPP unit	Dedicated PPP unit	Dedicated PPP unit	Sector Specific	Dedicated PPP unit
Tamilnadu	X	PPP-Cell under Finance Department	X	X	X	Sector Specific	Limited to some sector/projects
West Bengal	X	Pub/Pvt Joint Venture	X	X	X	Sector Specific	Limited to some sector/projects

Author's own compilation, Data source: Word Bank 2006, p24 & www.pppinindia.com)

Anneure-IV

Legal and Institutional Framework - States

State/Agency	Legal Framework		Decision Making Responsibility	Project development Responsibility	State support Funding	Conflict Resolution within Govt.	Guidance Materials			Established Regulatory Agency	Dispute Resolution
	Cross-sectoral policy	Sectoral Policies					Standard Document	Model Contracts	Project Preparation Guidelines		
Andhra Pradesh	Infrastructure Policy-2000, AP-Infrastructure Development Enabling Act 2001	AP-Electricity Reforms Act-1998, Information Technology and Communication Policy-2005, AP Tourism Policy-2006, Industrial Promotion Policy-2005, AP Road Toll Policy-2009	Infrastructure Authority	APPIIC (as a nodal agency)	Departments: case to case basis; APIIC/IA involved	Infrastructure Authority	√	√	√	Ó	Conciliation Board
Gujarat	Gujarat Infrastructure Development Act,1999	Power Policy-1995, Port Policy-1995, Road Policy-1996, IT Policy-1999, Gas Distribution Policy-2002	Infrastructure Authority	GIDB	Departments; case to case basis	GIDB	√	√	√	X	GIDB: Case to case basis EX:Power sector - GERC
Kerala	X	Kerala Road Fund Act-2001, Kerala Infrastructure Development Bill, Industrrial Policy-2001, Bio Technology Policy-2003, Policy guidelines for development of Wind Power-2007	Departments and Government agencies	Departments and government agencies such as Kerala Industrial Infrastructure Corporation (KINFRA), KSIDC, Infrastructure Kerala Ltd(INKEL)- a Public Private joint	Departments; case to case basis	X	X	X	X	X	Contractual
Madhya Pradesh	X	M.P.Highway Bill 2001, Tourism Policy 1995, Eco and Adventure Tourism Policy 2001, Captive Power Policy 2001, Industrial Policy and Action Plan 1994	State Level Committee on PPPs, and Departments	Departments and agencies such as MPRDC and MPPWD	Departments: case to case basis;	X	X	X	X	X	Contractual
Maharashtra	X	Sector Specific Guidelines in, State Road Policy-1996, Port Policy-2002, Tourism Policy-2006	Departments	Departments and agencies such as MSRDC	Departments; case to case basis	X	X	X	X	X	Contractual

(Author's own compilation, Data source: World Bank 2006, p 62, 63& www.pppinindia.com))

Annexure-IV (Continuation)

Institutional Framework - States

State/Agency	Legal Framework		Decision Making Responsibility	Project development Responsibility	State support Funding	Conflict Resolution within Govt.	Guidance Materials			Established Regulatory Agency	Dispute Resolution
	Cross-sectoral policy	Sectoral Policies					Standard Document	Model Contracts	Project Preparation Guidelines		
Orissa	Orissa Public Private Partnership(PPP) Policy-2007	Infrastructure Policy 2001, Port Policy-2003, Revised Policy Guidelines for Electricity Projects-2003, Orissa Industrial Policy - 2007	Up to 500 Crores-Empowered Committee on Infrastructure(EOI), more than 500 Crores-High Level Clearance Authority (HLCA)	Departments and governemnt agencies such as Orissa Industrial Infrastructure Development Corporation(IDCO)	Orissa Infrastructure Development Fund(OIDF) In addition to VGF of Govt. of India, Departments; case to case basis	X	X	X	X	X	Contractual
Rajasthan	X	State Road policy-1994, Rajasthan Road Projects Act-2002, State Road Projects Fund Act-2004, Power Generation Policy (Amendment)-2005, Industrial Policy-1998, Tourism Policy, Tourism Unit Policy-2007, Rajasthan Investment Promotion	Empowered Committee On Infrastructure Development(ECID), Board of Infrastructure Development and Investment(BIDI)	Departments and other agencies such as Project Development Company of Rajasthan(PDCOR)-a joint between Govt. and IL&FS	Rajasthan Project Development Fund(RPDF), Rajasthan Social Sector Viability Gap Funding Scheme	X	X	X	X	X	Contractual
Punjab	Punjab Infrastructure Development Act 1998, Punjab Infrastructure (Development & Regulation) Act 2002		Punjab Infrastructure Development Board (also other agencies such as punjab Urban Development Authority-PUDA)	Punjab Infrastructure Development Board	Punjab Infrastructure Incentive Fund (PIIF)	Executive Committee of PIDB	√	√	√	X	Contractual
Tamilnadu	X	The New Industrial Policy 2007, Housing Policy, Information Technology-GO-18/2007, Health&Family Welfare-GO-33/2008, Highways Policy Note-2008, Tourism Policy Note-2008, Agriculture Policy Note-2005-6	Departments	Departments and agencies such as TIDCO, TNRDC, TWIC	Departments; case to case basis	X	X	X	X	X	Contractual
West Bengal	X		Departments	ICICI-WINFRA- Ajoint venture company , WBIDC, KMDA and Departments	Departments; case to case basis	X	X	X	X	X	Contractual

Annexure V

Equity Structure of Tirupur Water Supply Project

Equity and Subordinate Debt Plan

Equity	Rs in crores	
Sponsor holding Company (TWICL)	105.00	Committed
Asian Infrastructure Development Co.Ltd.	90.00	Committed
Contractor Consortium	45.00	Committed
Tirupur Exporters Association	10.00	Committed
Life Insurance Corporation of India	20.00	Committed
General /insurance Corporation of India	15.00	Committed
IL & FS	37.70	
Total	322.70	
Subordinate Debt Plan		
IL & FS	66.50	Committed
TWICL	20.00	
Total	86.50	

List of Rupee Term Lenders

	Rs. in
Industrial Development Bank of India	75.00
Small Industrial Development Bank of India	60.00
Life Insurance Corporation of India	40.00
General Insurance Corporation of India	15.00
IL & FS	180.00
State bank of India and associate Banks	70.00
Indian Overseas Bank	25.00
Central Bank of India	30.00
Punjab National Bank	15.00
Bank of India	10.00
Canara Bank	48.80
Bank of Baroda	20.00
Oriental Bank of Commerce	25.00
Total Debt	613.80

Annexure-VI

Quantity of Water supplied to Panchayats and EB charges paid by Panchayats before and after the Implementation of Tirupur Water Supply Scheme

Sl. No.	Name of Panchayat	2001 Census	2009 Census	Quantity of drinking water supply in Litres		Electricity Charges paid	
				Before NTADC implementation scheme (Before 2005) Litres	After NTADC implementation scheme (After 2005) Litres	Before NTADC implementation scheme (Before 2005) Rs.	After NTADC implementation scheme (After 2005) Rs.
1	Kaniyampoondi	1540	4580	200000	217000	15000	20000
2	Pudhupalayam	6084	7500	60000	200000	20000	60000
3	A.Periyapalayam	2026	6400	70000	207000	184560	34315
4	S.Periyapalayam	4007	15850	100000	364500	236353	151462
5	Andipalayam	11350	68100	297000	1407000	1020000	1860000
6	Chettipalayam	20184	77754	381000	2020000	600000	2709000
7	Iduvai	4413	12563	506000	240000	325000	345000
8	Mangalam	10016	35280	380000	1280000	1022400	1345400
9	Muthanampalayam	9548	45645	293000	1276000	1365000	1869000
10	Mudalipalayam	6267	35960	222000	811000	85000	52000
11	Neruperichal	16372	45866	1011000	1716000	230000	460000
12	Thottipalayam	26818	108118	330000	216000	585600	2550400
13	T.Mannarai	8496	36790	140000	840000	2186540	4075000

(Author's own compilation, Data source: Assistant Director of Panchayats,Tirupur District)

Annexure VII

List of persons interviewed

Sl No	Name
1	Mr PWC Dawidar IAS., Secretary to the Government, Energy, Information Technology department,Government of Tamilnadu, Chennai
2	Mr.Paneendra Reddy IAS.,, Managing Director, Tamilnadu Urban Infrastructural Finance Services Limited & Formerly Managing Director of New Tirupur Area Development Corporation Ltd., Chennai.
3	Mr.R.Thiagarajan IAS., Special Secretary to Government, Finance department, in charge of Special cell for PPPs in Finance department, Government of Tamilnadu, Chennai.
4	Mr.C.Samayamoorthy IAS., District Collector, Tirupur District.
5	Mr.S.S.Palanisamy, General Manager(Operations),New Tirupur Area Development Corporation Ltd.,Tirupur
6	Mr.C.Elangovan, Manager (Technical), New Tirupur Area Development Corporation Ltd.,Tirupur
7	Mrs.S.I.Padmavathy, Assistant Director of Rural Development (Panchayats), Tirupur.
8	Mr.ChettiKaliyappan, President, Kaniyampoondi Panchayat, Tirupur District.
9	Mr.Ramasamy, President, Pudhupalayam Panchayat, Tirupur District.
10	Mr.C.Rengasamy, President, A.Periyapalayam Panchayat, Tirupur District.
11	Mr.D.Ganesan, President, S.Periyapalayam Panchayat, Tirupur District.
12	Mr.Murugasamy, President, Andipalayam Panchayat, Tirupur District.
13	Mr.K.Marappan, President, Chettipalayam Panchayat, Tirupur District.
14	Mrs.Poongodi, President, Iduvai Panchayat, Tirupur District.
15	Mrs.Balamani, President, Mangalam Panchayat, Tirupur District.

16	Mrs.D.Baby, President, Muthanampalayam Panchayat, Tirupur District.
17	Mr.Viswalingasamy, President, Mudalipalayam Panchayat, Tirupur District.
18	Mr.P.Balan, President, Neruperichal Panchayat, Tirupur District.
19	Mr.G.Rengasamy, President, Thottipalayam Panchayat, Tirupur District.
20	Mr.M.Rengasamy, President, T.Mannarai Panchayat, Tirupur District.