Working Paper Proceedings

Engineering Project Organization Conference
Devil's Thumb Ranch, Colorado
July 29-31, 2014

"Publicness" In PPP Projects: A Tale of Two Water Supply PPP Projects in India

Venkata Santosh Kumar Delhi, IIT Madras, India
Ashwin Mahalingam, IIT Madras, India

Proceedings Editors
Paul Chan, The University of Manchester and Robert Leicht, The Pennsylvania State University

"PUBLICNESS" IN PPP PROJECTS: A TALE OF TWO WATER SUPPLY PPP PROJECTS IN INDIA

Venkata Santosh Kumar Delhi[1] and Ashwin Mahalingam[2]

ABSTRACT

The need to provide improved water supply to citizens prompted two state governments in India to venture into water supply projects involving private participation. Interorganizational dynamics played out on these projects during the various stages of their life-cycle highlighted some key learnings related to the institutional environments and the agency on the projects. In this study, we explore the PPP-enabling fields and the agency of the actors in these fields in the shaping and implementation of the projects. In doing so, we try to understand the influence of institutional environments on the shaping of the PPP projects on the one hand and the agency of the actors in the fields in transforming the PPP-enabling field on the other. In this process, we also draw some key conclusions on the influence of interorganizational dynamics on the decision making on PPP projects during the post-award stage. We try to extend the academic knowledge on the governance of PPP projects and understand the nature and dynamics of interactions between the organizational field and the agency of the actors in such fields. Thus, the study adds to the existing literature on the debate between agency and structure on the one hand and infrastructure project governance on the other.

KEYWORDS

Public-Private Partnerships, Infrastructure, Project Governance, Institutional environments, Agency, Structure.

INTRODUCTION

Private participation in the delivery of infrastructure services gained prominence in the late 1990's in India (Ahluwalia, 2002). A number of projects in various infrastructure sectors have since been developed and implemented on a PPP basis across the country (Planning Commission, 2008) . Over the last two decades, several cities in India have made attempts to deliver water supply through PPP means. For long, access to drinking water was considered fundamental to life (Gleick, 1998). Thus historically in India and elsewhere, private sector participation in the water sector has been viewed with mistrust by the general public. In India, several attempts to introduce PPP in water supply witnessed stiff opposition and most projects failed to take off beyond project conceptualization (Water and Sanitation Program, 2011). Despite these experiences, the need to provide improved water supply to their citizens prompted two state governments in India – Tamil Nadu and Karnataka - to venture into water supply projects involving private participation. These projects became some of the first PPP projects to be awarded and implemented in the water sector in the country. In this study we try to understand the various dynamics that played out during the shaping, award and implementation of these two projects.

[1] PhD Candidate, BTCM Division, Department of Civil Engineering, IIT Madras, Chennai, India, email: venkatasantosh@gmail.com.

[2] Asst. Professor, BTCM Division, Department of Civil Engineering, IIT Madras, Chennai, India, email: mash@iitm.ac.in

THEORETICAL BACKGROUND

PPPs are complex project arrangements to deliver key public services including infrastructure which usually involve a number of stakeholders (Bult-Spiering & Dewulf, 2008). A number of organizations affect the implementation of such projects (Grimsey & Lewis, 2004) and constitute the project's 'Organizational Field' – a contemporary unit of analysis used to study the impact of institutions on projects. Organizational fields are defined as the organizations in aggregate that constitute a recognized area of institutional life (Powell & DiMaggio, 1983). These fields consist of a variety of organizations which are connected to each other by the virtue of having influence on a key area of society (Scott, 2008). In the context of PPPs, such fields exert influence on various aspects of the PPP projects through their life-cycle. In a similar vein, Manning (2008) suggested that PPP projects are embedded in such organizational fields which facilitate and constrain the project organization.

Earlier research proposed the use of PPP-enabling fields - the organizational field surrounding the PPP project - as a useful theoretical lens to understand the effect of various organizations enabling PPPs in combination and interaction with the institutional arrangements surrounding such projects (Jooste & Scott, 2011). However, the extant literature falls short of incorporating the idea of agency into organizational fields in the PPP context and the role played by intermediaries in shaping up a PPP field and the effect of such interactions on the shaping of the project. Further, the extant literature falls short of understanding the effect of various activities related to project and field shaping to the episodes and outcomes in the post award stage of the contract. In this light, the present research context provides an empirical setting where the agency of various organizational actors in shaping the PPP-enabling field on the one hand, and the outcomes on PPP projects on the other can be studied. This research focus led us to explore the following research objectives.

RESEARCH OBJECTIVES

In this article we conduct a deep-dive study of two projects right from conceptualization to the operations phase to understand the various decision making processes involved in the project. In doing so, we try to answer the following research questions and related sub-questions

1. How do institutional environments influence the shaping of the PPP projects?
2. How does agency in the shaping process define the structure of such projects?
3. What factors influence public sector decision making on such projects?

RESEARCH METHODOLOGY

We adopted a qualitative case based research methodology in this study (Strauss & Corbin, 1998). Detailed case studies are conducted on the two cases for the purpose of this study (Yin, 2003). Semi structured open ended interviews with various stakeholders on the projects formed the primary source of data for the case studies. To this end a total of 10 hours of interview was conducted for each project. In addition to the interviews, the concession agreements, additional agreements, supplementary agreements and news articles in various news-papers were critically examined. The key points from these secondary sources of evidence were discussed with the key informants during the interviews. Thus the multiple sources of evidence and multiple perspectives from various informants helped in achieving triangulation and developing a consistent narrative for the case studies. Detailed case studies were written based on this data and shared with the stakeholders to ascertain the facts of the case study. These cases were then coded using open and

axial coding techniques. Important lessons pertaining to the role played by the government in the post award phase of the contracts were drawn from the analysis. Now we describe the cases in brief in the following section.

OVERVIEW OF THE CASE STUDIES

Water Supply Project – I

In the early 1990s, as water scarcity threatened the growth of the industrial cluster in a city (CityA), the state government, in which the city is located, (GoSA) sought the help of an infrastructure services company (IFS) to address this problem. As mobilization of financial resources to meet the estimated project cost of INR[3] 12 Billion from budgetary sources was nearly impossible for the state government at that time, the PPP mode was mooted as a possible route for the project. As the project was being conceptualized, GoSA agreed to structure the project as PPP to supply water to the industrial cluster only if the project also included the provision of domestic water supply to the city municipality and to other nearby villages, as well as the development of a sewage system and a sewage treatment plant (STP). In return, the state government agreed to enact a law prohibiting the extraction and use of ground water in the city.

In 1995, a joint venture PPP model was proposed and a company (DCL) was formed with equity from GoSA, IFS and other private sector developers. DCL was then nominated to implement the project. The industrial tariff was proposed to cross subsidize the domestic services and the industry was convinced by the GoSA after several rounds of negotiation. Out of the estimated project cost of INR 10.23 Billion, INR 6.138 Billion were secured as senior debt and 0.865 Billion as sub-ordinated debt. The remaining INR 3.227 Billion were mobilized as equity. Finally, in 2001, after a decade since its conception, the concession agreement between the GoSA, the city municipality and DCL was signed making it one of the first PPP projects in India.

The project came under multiple levels of oversight from various stakeholders during the construction and operation phases of the project. During construction, it was found that the design process failed to take 'constructability' into account which led to revisions of the early designs. The location of the STP had to be shifted following protests by the local residents due to its proximity to a school. Despite all of this, the construction was largely completed on time and on budget. Water supply to CityA through this project commenced in August 2005.

Once the project was operational, the actual industrial demand for water from the project was found to be 40 MLD[4] compared to an estimated demand of 100MLD. Owing to the resulting financial stress, a debt restructuring to reduce the interest rates and deferring the payment of principal was effected in 2006. Meanwhile, a court decision ordered the industrial units to reduce the pollution in the area by recycling used water resulting in further reduction in demand. A second debt restructuring was proposed in 2008 to defer the interest payments further but could not be adopted due to differences among DCL's board members. In 2010, DCL suffered a further setback when the high court directed the closing down of units not complying with pollution control norms, thus reducing the demand from 40MLD to 8 MLD. The company was in no position to start repaying their debt and hence a new round of debt restructuring was again proposed which included the reduction of interest rates, conversion of a portion of senior debt to equity and an offtake of 100MLD water by GoSA. This debt restructuring is currently being discussed and contested in the board as the project suffers huge financial losses from operations every day.

[3] INR – Indian National Rupee, the currency of India. 1 USD is approximately equal to INR 60.

[4] MLD denotes Million liters per day.

Water Supply Project - II

A major tourist city (CityB) in India was suffering from the lack of water supply due to its ageing infrastructure. The state Water and Drainage board (SWDB) established by the state government (GoSB), which was administratively responsible for the city's water supply board (CWSB) decided to upgrade the existing water network. Buoyed by the recent success of pilot PPP projects in the state and the advice of the national renewal fund under the central government of India, SWDB decided to implement the project on a PPP basis. The project was structured close to an EPC + O&M model where the private sector was to bring in necessary investment during the construction stage and was compensated over the operations phase of the project. The project was awarded to Urban Services Company (USC) after competitive bidding. The total contract price, which included a management fee, operating costs and rehabilitation costs, was used as the basis to evaluate and compare the financial proposals of different bidders.

As part of the project, the private sector had to study the existing water network to develop a draft investment plan within one year of the award which would be approved by the SWDB. At this stage, a maximum upward escalation of 1.1 times the project cost bid would be permitted according the contract. During this exercise, USC found out that the numbers projected in the bid documents were incorrect and they found that a total of 1800km of network (175,000 household connections) should be rehabilitated as against the estimated figure of 1281 km (133,000 household connections) leading to an escalation of 63% in project cost. When this investment plan was submitted, SWDB responded by mentioning the threshold clause in the contract that did not permit cost escalation beyond 10%. At this point, USC had the option of exiting the project according to the contract. However, they chose to start rehabilitation according to this revised, but officially unapproved draft investment plan based on what USC claimed was a verbal assurance from SWDB that a fair resolution for outstanding issues would be worked out. USC initiated the rehabilitation in select wards of all the command areas partly on the insistence of SWDB, who were also keen to show improvements all over the city. This ambiguity on the scope and cost of the project continues to exist till date and is currently being contested between USC and SWDB.

Further, the announcement of the project raised a public outcry among citizens who were surprised and angry that they were not consulted during the conceptualization of the project. Concerns were raised about the motivation of the private sector to provide water to the poor sections of society, raises in water tariffs as well as privatization of the historic water supply system and the heritage of the city. A consultation process was then performed by the SWDB in which USC did not take part. Citizens and the media continued to be disappointed that they did not have any access to USC's top management to address their concerns. USC also had to pacify various workers of the city water supply board which came under the management of USC. As relations soured on such issues, and as SWDB failed to ratify the increased project costs, USC alleged non-cooperation from the government and SWDB claimed the aloofness of USC to deal with the lower management of SWDB. As the project stagnated, SWDB issued two default notices to USC which were rejected by USC attributing the non-performance to SWDB instead. While these issues continue to play out on the project, the realization and delivery of service to the citizens of the city hangs in the balance.

DISCUSSION

After presenting an overview of the projects, we now proceed to discuss the various aspects related to the institutional, organizational and contractual aspects of the projects over both the shaping and

the post-award phases of the contract. We start our discussion with the PPP enabling field configurations present surrounding these projects. Then we discuss the agency of the various organizations which was witnessed as the rise of intermediaries or challenging organizations in the fields leading to episodes of contestation and sense-making in the fields in both the projects. These episodes of contestation showcased the huge influence of agency by the organizations in shaping and structuring the projects. Finally, we discuss the various aspects that played out in the post award phase of the contracts bringing to light the effects of the actors and logics in the organizational fields and how they affect the post award phase of such projects.

PPP enabling field configurations

In CityA, the responsibility of providing water supply rested with the CityA Municipality (CAM). The domestic as well as the industrial users were connected to the distribution network and were supplied water by the municipality. The water and drainage board was established by the GoSA to look at the water needs of the various cities in the state. However, the board did not play an active role in the water supply in CityA. Finally, CityA is industrially a key city for the state accounting for textile exports. A strong industrial lobby called the CityA Exporters association (CEA) existed to take care of the needs of the industry.

In CityB, though CityB Municipality (CBM) was responsible for the supply of water to the domestic and industry user within the city, the water supply was actually carried out by CWSB which was established even before the municipality was formed. The CWSB was under the administrative and financial control of the municipality. However, the CWSB was staffed with officers on deputation from the SWDB which was a nodal agency created by the GoSB to take care of the water and sanitation needs of various cities in the state. Thus SWDB was a key player in the water supply of the city.

When the project was conceptualized, in both the cities, there were no regulative arrangements for introduction of private sector participation in water supply and distribution. However, in the case of CityB, the state government had already experimented with PPP model in water supply on a pilot basis in two small towns and was buoyed by the success of these projects. Hence, in terms of governance arrangements present in the PPP enabling field, though there were no regulative supports towards PPPs, the CityB PPP field was inclined more favorably towards the private participation as compared to the CityA field.

The public sector and consumers in the both cities were inclined to the delivery of water by public sector at nominal prices and very often the users did not pay for the water supplied to them. Further, in both instances, the ground water acted as alternate if not primary water source for both households and industries. The need for better water supply to the users prompted the state governments in both instances to initiate projects.

Hence, the incumbent institutional logics in both the states seemed poised against the private participation in such projects, notwithstanding some successful but small-scale pilots in State B. Further, the water was treated as a welfare good and a fundamental right of the users and the concept of water as a commodity did not exist in the two states. Table 1 presents the existing PPP enabling fields at the time when the projects were conceptualized. In such contexts, when the need was felt to improve the water supply to the cities, the projects' PPP enabling fields witnessed the emergence of intermediary actors. From the perspective of a contested perspective of organizational fields (Mahalingam & Delhi, 2012), these new actors challenge the incumbent governance arrangements and institutional logic prevalent in the fields at that time. Various episodes of contestation occurred following the emergence of these key players, who framed the debate in the larger context of the PPPs. Such sense-making activities by the intermediaries had a

profound impact on the shaping of the projects as well as the achievement of new configurations in the resultant settlement of the fields.

Table 1 PPP enabling field configuration surrounding the projects

PPP-Enabling field element		CityA	CityB
Governance Arrangements	Regulative	• No laws or regulations supporting private participation in water sector. • The city municipality was mandated to supply water to the domestic and industrial users.	• No laws or regulations supporting private participation in water sector. • The city municipality was mandated to supply the water. • The state government created the SWDB with a mandate to supersede the municipality to ensure water supply to the city.
	Normative	No arrangements to support PPP projects	Successful pilot PPP project in small towns in the state thus showcasing the ability of implementing such projects.
Institutional Logics		• Successive governments in the state were fundamentally welfare oriented. • The private sector was looked at mistrust in the state. • The water was never treated as a commodity. • Cost recovery was not present in the state. • Citizens considered supply of water as fundamental duty of the government	• The existing CWSB was under mismanagement but was treated with pride by the local citizens due to its rich history. • The water was never treated as a commodity. • Cost recovery was not present in the state. • Citizens considered supply of water as fundamental duty of the government

Sources of agency: Challenger organizations and episodes of contestation

City A Project

In the case of CityA, the GoSA was faced with a serious problem with persistent drought conditions that prevailed thus greatly affecting the industries and domestic users. There was a sense of urgency that prevailed in the government to address this situation. As a result, the GoSA appointed IFS as an advisor to implement the project. IFS became an active promoter of the PPP concept for the implementation of the project and hence became the challenging / intermediary organization in the field. As IFS started professing PPP as a possible mode of project delivery, several objections were raised by the GoSA. However, the challenger organization skilfully framed the PPP debate in the larger context of lack of funding opportunities to undertake such a complex project and aligned the debate with the urgent need to improve the water supply situation to the city.

It should be noted that the PPP enabling field surrounding CityA did not have a strong incumbent actor whose identity was threatened. Further, the lack of confidence in the CityA Municipality to execute such a complex project and the continued persistence by the the city

exporter agency (CEA, a lobby of industries in the city) convinced GoSA to take up the project on a PPP basis. During this time, IFS made use of funds made available by international development aid extended to the water sector in the country. These funds were used to arrange workshops among the officers of GoSA, CityA Municipality and the CEA to educate them about the concept of PPP and with numerous such consultation episodes, the PPP mode of delivery was adopted on the project. However, the existing strong anti-private logic in the field prompted the GoSA to indulge into tough negotiation with the IFS. As a result of these negotiations, the joint venture model was adopted on the project where IFS agreed to become an equity partner on the project. GoSA was resolute in maintaining the existing tariff levels to the domestic users and wanted the project to supply water to wayside villages between the water source and the city at the same tariff levels. As a result the project structure had to adopt a cross-subsidization model where the revenues from the industrial users would compensate the substantially low tariff levels to domestic users. Further, the GoSA also wanted the project to build a Sewage Treatment Plant (STP) free of cost to CityA municipality.

Further, GoSA retained the authority to appoint the managing director for the company (DCL) though the board had private representation. During the episodes of negotiation between the GoSA and the private sector, the private sector agreed to directly supply water to the industrial users and collect revenues from them. On the other hand, the GoSA had to agree to put the responsibility of collecting charges from domestic users on the CityA municipality and the DCL would be paid a bulk fee for the supply of an agreed quantity of water from the municipality. Thus DCL shielded itself from the domestic consumer interface and the collection risks associated with it. Further, the GoSA enacted a specific ordinance for the project allowing DCL to draw water from the water source and supply it to municipality and the industries in CityA. Further, it promised to enact a legislation to prohibit the extraction of ground water by the industries. Figure 2 presents the existing actor configuration in the field and the position of the challenger actors. The DCL replaced the dashed connections between the existing actors. As illustrated by the figure, in the case of this project, the new actors augmented the existing relationships and only replaced the existing troubled water supply to industry users by the municipality.

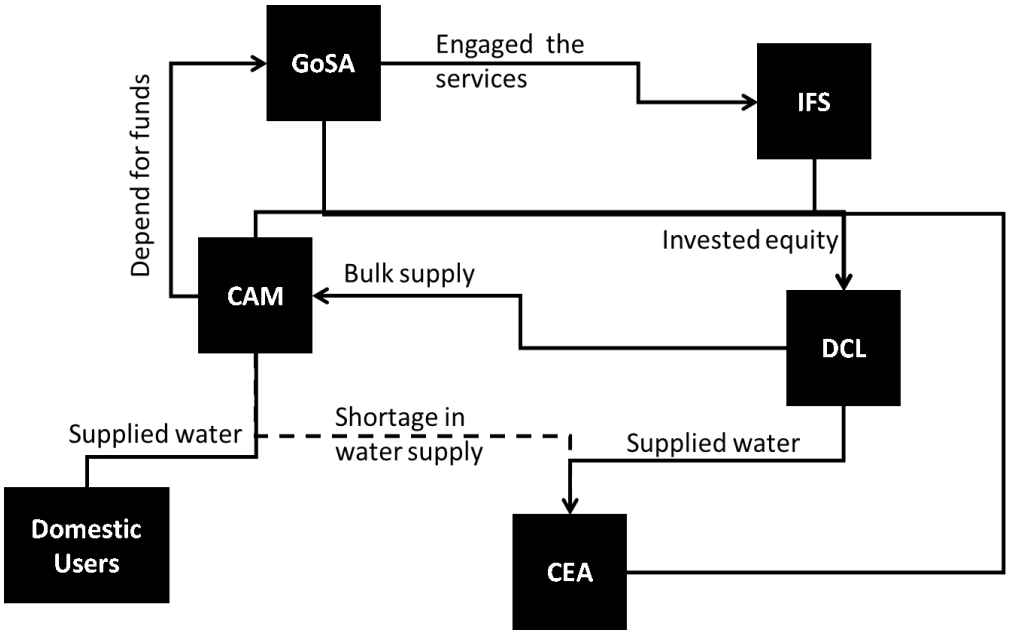

Figure 1 Actor configuration in the CityA water project

CityB project

As the water supply situation deteriorated in CityB under the management of city water supply board (CWSB), the SWDB initiated the proposal to implement a project to rehabilitate the existing water supply network in the city. The lack of funding for the project from the GoSB prompted SWDB to look at other venues to fund the project. At this time, the National Urban Renewal Fund (NRF) was launched by the central government of India to improve the infrastructure in select cities. The NRF encouraged the local governments to evaluate the feasibility of private sector participation in order to avail funding from the scheme. This prompted the SWDB to involve the private sector in this project which led to various episodes of contestation and sense-making among the various actors.

The city water supply board (CWSB) was the incumbent actor on the project. The decision by SWDB to take up the project on a PPP basis led to serious reservations among the employees of the CWSB. The employees were pacified after they were ensured that the project would not lead to any lay-offs. Further, the CityB municipality had to be brought on board. To do this, SWDB undertook several rounds of consultation with the municipality appraising it about the possible advantages of involving private sector in the project. The municipality reluctantly agreed under persistent pressure by CWSB and due to the opportunity to avail the funding from NRF scheme.

As the negotiations were on between the national funding agency (NRF) and the state government bodies regarding the project, the NRF proposed the increase of the scope of the project from intermittent water supply to 24X7 water supply to which the organizations agreed. The city water supply board would come under the management of the private sector but still remain employed by the municipality. The municipality agreed to supply data regarding the existing water network to the project. As the project was bid out competitively, the private sector was selected based on the lowest bid received. The private sector was given a year to understand and evaluate the existing water network and prepare a detailed implementation plan for the project.

As there was a prevalent distrust among the public about the private sector participation in water projects, it was agreed that the municipality would actually communicate with various stakeholders and citizens of the city. The private sector agreed to maintain strict silence on the project. Further, the private sector agreed to take up the collection risk on the project only if the water charges were billed under the name of the municipality. On the other hand, the private sector agreed to take up the management of CWSB and retain the entire staff of the board.

Figure 2 illustrates the actor configuration in the PPP enabling field surrounding the CityB project. The SWDB which was an existing actor in the field donned the role of challenger actor in the field. The private sector USC which was engaged in the project initiated substantial changes in the makeup of the field (represented by the dashed lines in the figure). The CWSB which was the central actor before the project was relieved of various responsibilities and was pushed to a fringe role because of the project. This resulted in several episode of contestation even during the implementation of the project (discussed later).

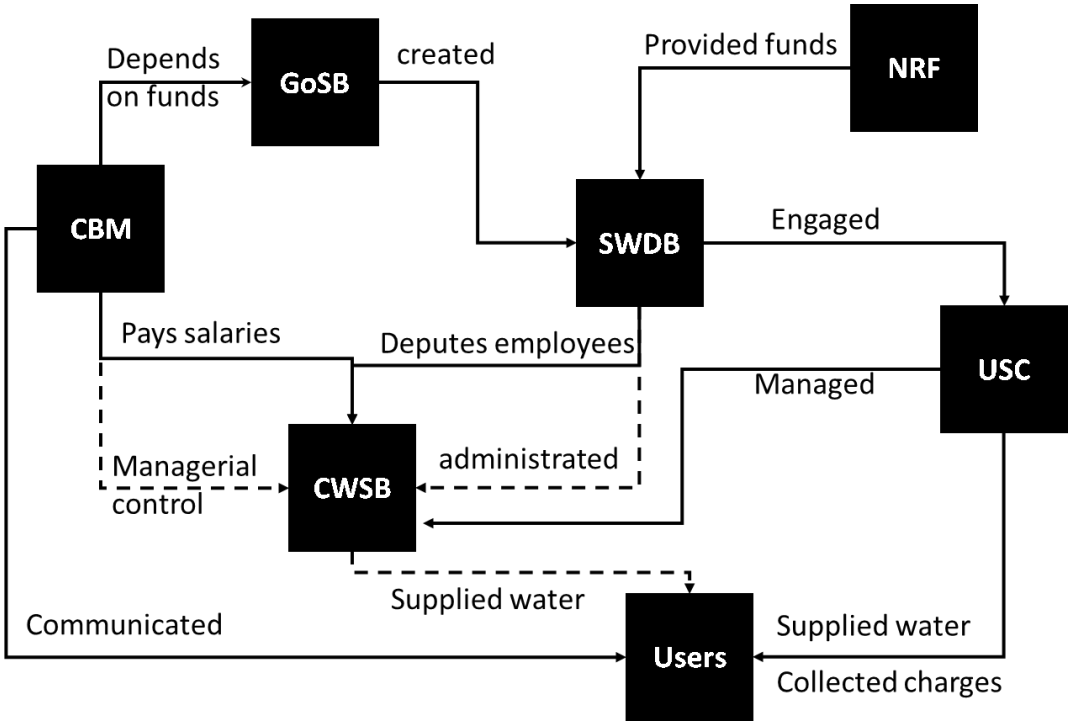

Figure 2 Actor configurations for CityB project

Settlement of project arrangements

As witnessed in both the projects, the challenger organizations had to enact several episodes of sense-making so as to frame the debate of PPP among the various actors of the organizational field in order to garner support for the project. Such episodes often resulted in negotiated settlements on various issues relating to the project. However, there are some fundamental differences in these episodes enacted in the two fields. In CityA, the IFS which was roped in as an advisor, played a strong professing role in the field. The absence of a strong incumbent organization in the field also augured well for the challenger actor in this field. It skilfully framed the debate around the possible funding and efficiency from private sector and the urgent need for the realization of the project, thus moving the focus away from the existing institutional logics of mistrust towards the private sector.

However, in CityB, there was a powerful incumbent player in the form of CWSB. Further, the challenger role in this field was played by the SWDB which by itself is the government organization. Initially SWDB did not pursue the idea of involving the private sector in the project, but was convinced on the use of PPP by NRF. Hence, the episodes of contestation in this field revolved around the possible roles of CWSB and the private sector in the new arrangement under the project. Even though the PPP enabling field was far more averse to private sector participation in CityA as compared to CityB, anti-PPP dynamics played out in the CityB field and the presence of a strong incumbent actor resulted in a reduced scope for private sector participation in CityB as compared to the CityA. However, the skill of the challenging actor was also restricted in the CityA field because of the existing field disposition against PPP and a number of safeguards were created in the CityA project to enable possible government intervention in the future. Table 2 summarizes the discussion so far by illustrating the structure of the project as shaped by the various episodes of contestation among the actors in the field.

Table 2 Comparison of the structure of the two projects

Outcomes	CityA	CityB
Project arrangement	DCL was formed as a JV to execute the project	An EPC+O&M kind of structure was drawn to garner the private sector participation
Managerial responsibilities	Management was entrusted to DCL but was headed by government representatives	The CWSB was entrusted to be managed by the private sector. But the salaries still to be paid by the municipality
Demand Risk	The project took up the demand risk by the industries but not the domestic supply	The project took up the collection risk but not the demand risk associated with it
Local Stakeholder consultation	DCL was actively and constantly engaged in dialogue with various NGOs and stakeholders	The municipality was responsible for communication with the stakeholders and the private sector never communicated or consulted any stakeholders
Flexibility on the projects	The project was free to increase the industrial tariffs to the private sector and decide on which industrial sectors to serve so long as it fulfils its obligations to the domestic supply	The private sector was entrusted with the responsibility of preparing a detailed plan for rehabilitation and given time to conduct a survey of the area on its own before venturing into the project

Post Award Phase of the projects

The effect of PPP enabling fields and the agency of the actors did not end with the award of the contract. In fact, as exhibited by both the cases, the award of the contract to the private sector marked the beginning of the relationship between the public and the private sectors. Various events that emerged in the post award phase of these projects brought to light some critical insights into the public involvement in PPP projects and how the organizational fields continue to play a key role over the life cycle of such projects. They also point to the fact that, though some risks are passed on to the private sector, the ultimate responsibility for the provision of the infrastructure services like water supply still rests with the government. In this section we present some key areas of government interaction with the private sector in the post award phase of the contract. In this respect, we discuss the aspects of the political compulsions, contract stickiness and government interventions as witnessed by both these projects. Then, we discuss the application and implementation of the flexibilities offered to the private sector contractually on both the projects. Finally we end this discussion by analyzing the development of relationships between the public and private sector on the contracts. Table 3 gives an overview of these aspects as they played out in the post award phase of the contracts.

Table 3 Post Award phase of the projects

Post award issues	**CityA**	**CityB**
Political compulsions	• The act prohibiting the use of groundwater was not enacted. • The tariffs were maintained at low levels	The areas to be taken up under 24X7 implementation were altered due to political compulsions.
Contract stickiness	The GoSA could not let DCL go bankrupt as the services would be affected while another agency was selected.	Even under the breach of contract, both sides stuck to the agreement.
Government interventions	Government pumped in equity in to the project. It advanced and interest free loan to the project to meet its debt obligations which was converted into equity	Government changed the field staff of the SWDB and CWSB. The new project cost is being negotiated
Implementation of flexibility	The tariffs for the domestic sector were never increased. The tariffs for the commercial sector were increased after a lengthy debate but were reverted back to initial fares immediately	The private sector had the flexibility to choose the method of implementation but came increasingly under the scrutiny of the public sector.
Ground level public agencies	The ground level staff of water company did not have a good rapport with the other state government officials. The company employees found themselves in a situation where they could not identify themselves with the public sector or the private sector	The ground level employees of both the public sector and private sector could not develop a relationship. The public sector employees who came under the management of USC were all under deputation from SWDB and had loyalties towards CWSB and SWDB.

Both the projects were affected by political compulsions in various ways. In CityA, though the GoSA promised to enact a law to prohibit the extraction of the ground water by the industrial users, it failed to do so due to various political reasons. Further, the domestic tariffs were constantly kept at significantly low levels so as not to upset the citizens of the city. The government feared that the existing distrust among the citizens towards the private sector and the notion that such private sector provision would make such services unaffordable to them would weaken with such a move. Further, the government also witnessed violent protests from the citizens in other parts of the state when such charges were imposed on previously free services. Thus such compulsions constrained the project to maintain low tariff levels despite the fact that it strained the project financially. Similar kinds of influences were witnessed in CityB. The water network was to be rehabilitated in a phased manner where the precedence of the areas to be rehabilitated were to be decided by the private sector on the basis of technical and economic feasibilities. Such phases depended on the hydrological barriers present in the area which constrained the private sector to deliver water to the areas covered under a phase only when the whole network in the area was complete. However, as the project was implemented, the private sector had to increasingly oblige

the wishes of the local political class and prioritize certain areas over others solely based on political compulsions. As a result, parts of the network from different hydrologically bounded areas were simultaneously rehabilitated. The private sector found itself in a position where instead of a phased revamp of the network, it had to reconstruct the whole network before the water was supplied to the users.

Another important aspect which came to the fore in both the instances was the stickiness of the relationship once the private sector was chosen for the project. In the case of CityA, the DCL found itself in difficult situation financially due to the non-materialization of demand from the industries and low levels of tariff. The company was nearing bankruptcy. However, both the public and the private sector stuck to the contract. The private sector had huge investments sunk into the project and could not walk away from the contract. The government was unwilling to let the company go bankrupt as that would affect a key infrastructure service while it replaced the existing project company with a new private sector player. Interestingly, in the case of CityA, the lenders to the project also played a huge role in sustaining the sanctity of the contract. Though they had a right to substitute the private sector in case of default in payments, such an act would leave a substantial impact on their books as they had to declare the project as a non-performing asset. Further, the compulsions from the government forced them to resort to restructuring of the loans when the project company was unable to service debts. Similarly, in the CityB project, the private sector was contractually given an option to walk out of the project if it finds the project infeasible after conducting a detailed study of the water network for one year. As the private sector went about the detailed study, it found out that the data provided by the municipality on the number of connections were substantially lower than those in the field thus increasing the project cost by a substantial portion. However, the private sector chose to stay in the project even though it was aware of possible high cost overruns on the project because of the high costs sunk into the project. The government on the other hand could not terminate the contract with the private sector even when there was non-compliance by the private sector. The high costs of rebidding the contract and possible scenario where another organization could not be identified for the project made the government stick with the present contract.

The projects witnessed various levels of government intervention though not mandated by the contractual arrangements. In CityA, the government had to induce a lot of equity into the project upfront. Further, when the project was in financial trouble, the government had to advance various interest free loans and advances to the project. Later, the government also agreed to convert a portion of these loans to equity on the project in order to restructure the debt on the project. In the case of CityB, though the project cost was pegged at 1.1 times of the bid cost by the private sector, the private sector estimated a substantial increase in the project cost due to the erroneous data on the number of connections provided by the government at the time of award. Though the private sector had an option to walk away from the contract, it did not choose to do so. Later the government started negotiating the project cost. The project also witnessed the government replacing its entire field staff in CWSB deputed from SWDB overlooking the project because of souring of relationships between these officials and the private sector. The government in this way made substantial organizational and financial interventions on the project.

As illustrated in the previous paragraphs, though there were substantial options embedded in the contract in both cases, such flexibilities were not implemented on both the projects due to the existing institutional conditions present on the project. Though the project company had the independence to decide on the level of tariffs to be charged in the CityA project, such flexibility was never exercised by the project company due to the influence of the government and other

actors of the PPP enabling field. Similarly, in the case of the CityB, the private sector chose not to exercise the option to walk away from the project upon the oral assurance by SWDB that the project cost could be negotiated. Thus both the projects illustrated the fact that providing flexibilities on the projects may not be a sufficient enough safeguards on the projects if there are opposing influences in the PPP-enabling field surrounding these projects.

Similar evidence is observed in the development of relationships among the various project participants. In the case of CityA, the strong challenger in the form of IFS had ensured the successful award of the project and also witnessed the organization becoming an equity partner on the project. However, the post-award phase of the contract witnessed increased contestation between the government, IFS and the other private partners in the project. As IFS tried to liaison among the various parties to the project, the role played by IFS was questioned by other private partners who were also not happy with the substantial influence exerted by the government. As a result, the company suffered from substantial episodes of managerial paralysis during the implementation of the project. Further, the employees of the DCL soon found themselves in a unique situation where they were not considered belonging to private sector by the private players and the government agencies did not treat them as equals. Thus, the DCL found itself in a unique situation where it could not identify itself either as public agency or a private organization. In the case of CityB, the influence of NRF supporting the notion of PPP was withdrawn as soon as the PPP was awarded. The SWDB which was influenced by NRF to take up the PPP project remained divided in its opinion on the advantages of private sector participation. The upper management of SWDB were in favor of PPP whereas the field officials deputed from SWDB and who worked for CWSB were disposed against the PPP. In addition to the replacement of CWSB from the role of central actor in the field, the CityB Municipality also found itself sidelined (though ultimately responsible for the water supply to the city) from its responsibilities as SWDB became the key player interacting with the private sector. Such moves in the field led to tensions among the various government agencies and also affected their relationship with the private sector. The private sector found itself in an increasingly difficult situation where it had to deal with various public agencies with diametrically opposite views on various aspects related to the implementation of the project. Thus the two projects also exposed the fact that the public sector itself is not monolithic in nature. The relationships among the various actors in the public agencies in the PPP enabling fields surrounding the projects affect the functioning of such projects.

KEY LEARNINGS

The study brought to light some key nuances in the shaping up of PPP projects and the corresponding interactions among the actors in the PPP-enabling field. Firstly, the shaping of the projects largely depended not only on the initial configurations of the actors in a PPP-enabling field but also on the social skill (Fligstein, 2001) of the emergent intermediary actors/challengers in framing the debate surrounding the need for involvement of the private sector on the project (Lounsbury, Ventresca, & Hirsch, 2003). The resultant project structure is highly path dependent on these episodes of contestations (Fligstein & McAdam, 2011). The PPP enabling fields themselves are usually transformed in such process thus highlighting the concept of agency and structuration at play in such episodes (Barley & Tolbert, 1997; Giddens, 1979). These findings also closely align with the argument that successful PPP projects are shaped over various episodes involving various stakeholders of the project (Miller & Olleros, 2000).

Second, the study highlights the link between the characteristics of the PPP enabling field and the events that played out in the post-award phase of such projects. On one hand, if the shaping process involved the displacement of a centrally placed actor in a field to a fringe role tensions would come to the fore as the projects get implemented. Hence, the projects have to pay special attention to such tensions in the field. On the other hand, irrespective of the structures enacted, such projects should anticipate substantial government intervention in various matters especially when the PPP-enabling fields are not favorably disposed towards private sector participation. Thirdly, the exercise of contractual provisions such as flexible options to the private sector (Marques & Berg, 2011) are highly dependent on the organizational fields. Thus the project proponents should also factor in the institutional characteristics surrounding the projects when incorporating such options on the projects. Finally, the projects also highlighted the fact that public sector side of a PPP contract is far from monolithic in nature. The tensions between the various agencies of the government play a significant role in affecting the implementation of the project. Thus, such agencies need to be taken on board and continuously coordinated to increase the effectiveness and efficiency on such projects.

FUTURE DIRECTION

The present study presents a nuances view on the interaction between the PPP enabling fields and projects and the role of agency of the various actors in the field in both shaping and implementation of such projects. The study draws on the detailed case studies of two projects enacted in India for this purpose. Though the study confines itself to the projects in a single country context, the findings on fields are generic enough and should be considered by policymakers and project proponents in any context. However, the study could be validated by taking up cases of projects from various geographic regions, country contexts to understand the interplay of various elements of the PPP-enabling field and projects. Further, the study compares two projects from the water sector - a sector that is politically highly sensitive in nature. Thus the contestations among the various actors in the PPP-enabling fields are more pronounced and helped us to expose various facets of the interactions. Such a study could be taken up in other sectors as well to understand the difference among various sectors. Further, a larger sample of PPP projects could be taken up to understand the common patterns of such interactions across projects and sectors.

REFERENCES

1. **Ahluwalia, M. S.** (2002). Economic reforms in India since 1991: has gradualism worked? *The Journal of Economic Perspectives*, *16*(3), 67–88.

2. **Barley, S. R., & Tolbert, P. S.** (1997). Institutionalization and structuration: Studying the links between action and institution. *Organization Studies*, *18*(1), 93–117.

3. **Bult-Spiering, M., & Dewulf, G.** (2008). Frontmatter. In M. Bult-Spiering & G. Dewulf (Eds.), *Strategic issues in public-private partnerships: An international perspective*. Wiley. com.

4. **Fligstein, N.** (2001). Social skill and the theory of fields. *Sociological Theory*, *19*(2), 105–125.

5. **Fligstein, N., & McAdam, D.** (2011). Toward a general theory of strategic action fields. *Sociological Theory*, *29*(1), 1–26.

6. **Giddens, A.** (1979). *Central problems in social theory: action, structure and contradictions in social analysis* (Vol. 241). University of California Pr.

7. **Gleick, P. H.** (1998). The human right to water. *Water Policy*, *1*(5), 487–503.

8. **Grimsey, D., & Lewis, M. K.** (2004). *Public and private partnerships. The worldwide revolution in infrastructure provision and project finance*.

9. **Jooste, S. F., & Scott, W. R.** (2011). Organizations enabling public--private partnerships: an organization field approach. In *Global Projects: Institutional and Political Challenges* (pp. 377–402). Cambridge University Press Cambridge, MA.

10. **Lounsbury, M., Ventresca, M. J., & Hirsch, P. M.** (2003). Social movements, field frames and industry emergence: a cultural--political perspective on US recycling. *Socio-Economic Review*, *1*(1), 71–104.

11. **Mahalingam, A., & Delhi, V. S. K.** (2012). A contested organizational field perspective of the diffusion of public–private partnership regimes: evidence from India. *Engineering Project Organization Journal*, *2*(3), 171–186. doi:10.1080/21573727.2012.706749

12. **Manning, S.** (2008). Embedding projects in multiple contexts--a structuration perspective. *International Journal of Project Management*, *26*(1), 30–37.

13. **Marques, R. C., & Berg, S.** (2011). Risks, contracts, and private-sector participation in infrastructure. *Journal of Construction Engineering and Management*, *137*(11), 925–932. doi:10.1061/(ASCE)CO.1943-7862.0000347.

14. **Miller, R., & Olleros, X.** (2000). Project shaping as a competitive advantage. *The Strategic Management of Large Engineering Projects: Shaping Institutions, Risks, and Governance*.

15. **Planning Commission**. (2008). *Eleventh Five Year Plan (2007-2012) Volume I Inclusive Growth*. New Delhi.

16. **Powell, W. W., & DiMaggio, P. J.** (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, *48*(2), 147–160.

17. **Scott, W. R.** (2008). *Institutions and organizations: Ideas and interests*. Sage.

18. **Strauss, A. L., & Corbin, J.** (1998). *Basics of qualitative research* (Vol. 15). Sage publications Newbury Park, CA.

19. **Water and Sanitation Program**. (2011). *Trends in private sector participation in the Indian water sector: A critical review*.

20. **Yin, R. K.** (2003). *Case study research: Design and methods* (Vol. 5). Sage Publications.