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External agencies for supplementing competencies in Indian urban PPP projects

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Abstract

Purpose – The purpose of this paper is to analyze involvement of external agencies for supplementing competencies in Indian urban public private partnership (PPP) projects. There are two key aspects which need investigation before making a decision to involve external agencies in urban PPP projects: reasons for involvement of external agencies and competencies to be supplemented by these agencies.

Design/methodology/approach – A questionnaire survey was conducted among urban PPP experts and ULB representatives for investigating the above aspects. A case study analysis with five urban PPP projects was also performed for investigating involvement of external agencies in the practical realm.

Findings – The reasons for involvement of external agencies to supplement competencies rated high in importance are improvement in quality of deliverables, making available unique competencies for implementing urban PPP projects and transparency in implementation of urban PPP projects. The five most important competencies to be supplemented by external agencies are transaction design, evaluation, project marketing, project development process management and PPP process management.

Originality/value – The study contributes towards the growing body of knowledge on roles and responsibilities of external agencies in urban PPP projects. The results would also help the policy makers to effectively address competency bottlenecks faced by urban PPP projects.

Keywords Competencies, External agencies, Public private partnerships, Urban infrastructure, Urban local bodies, India, Urban areas, Local authorities

Paper type Research paper

Introduction

In India, there is an unprecedented wave of urbanization across many states (Ministry of Urban Development, 2011). The existing urban infrastructure is grossly inadequate to meet the needs of rapid urbanization. Urban local bodies (ULBs) are constitutionally responsible for providing urban services (Aijaz, 2008). These ULBs are facing challenges in mobilizing financial resources and skilled manpower to meet demand of urban services. Policy makers have recommended a series of reforms to address the urban infrastructure deficit issue. Delivery of urban services through public private partnership (PPP) model is one of the recommendations. The uptake of the PPP model has been facing a major hurdle in terms of weak competencies in ULBs to implement PPP projects (ADB, 2006a; Bonu, 2007; Gupta, 2008; Mahalingam, 2010). As a result the competency development in ULBs has become one of the key themes of policy frameworks for urban infrastructure development.

There is growing trend of involving external agencies in Indian urban PPP projects for addressing weak competencies at ULB level. These external agencies include: transaction advisors, PPP nodal agencies, PPP cells, and private advisors



(Dutz *et al.*, 2006b; Government of India, 2007; World Bank, 2007); Jooste (2009) has mentioned that these external agencies are part of emergence of a variety of new governance bridges (or organizational forms) across the world to overcome capacity gaps in implementation of PPP projects.

The external agencies also draw parallel with the wave of agencification in the areas of new public management and regulation of private sector (Caulfield, 2002; Mohan, 1997; Wettenhall, 2005). Some of the key dimensions of these agencies are arm's length relationship with the government, independent decision making, in-house competencies, accountability, and tools for making effective decisions. These dimensions enable the external agencies to overcome government failures in implementation of urban PPP projects such as lack of competencies, high transaction cost, lack of transparency, lack of coordination, and so on (World Bank, 2007). Although, there is a growing recognition of external agencies to achieve the task of addressing governmental failures, there is wide debate in the literature on their design to achieve this task (Caulfield, 2002; Mohan, 1997; Wettenhall, 2005; World Bank, 2007).

World over, there is diversity in institutional design of the external agencies. In India, the earliest method of incorporating external agencies was the appointment of external advisors from open market and the service delivery department defined their role according to the needs of the urban PPP project. However, the government felt the need for institutionalizing the role of these private external advisors based on interaction with the service delivery departments and urban PPP experts (ADB, 2006b). The formation of a panel of transaction advisors by the Central Government is one of institutional mechanisms for engaging external advisors, followed by establishment of PPP nodal agencies by state governments and PPP cells at state level in collaboration with Asian Development Bank and Central Government (ADB, 2006b; Dutz *et al.*, 2006b).

Even in this atmosphere of diversity of external agencies, there has been agreement over the fact that the effectiveness of external agencies depends on the design of its roles and responsibilities according to the problems faced by governments in implementing a PPP program (Dutz *et al.*, 2006a; World Bank, 2007). In this context there are two key aspects that need investigation: reasons for involvement of these agencies and competencies to be supplemented by external agencies.

The competency development system comprises of two components: a demand side and a supply side (Peltenburg *et al.*, 1996). The demand side consists of ULBs whose competencies need to be developed. The supply side includes the developmental organizations, private advisory firms, and research institutions involved in formulation and implementation of policies pertaining to competency development for implementing urban PPP projects. Various research studies have highlighted the need for creating an interface between the demand and supply side for developing competencies and have also underscored the importance of the shift from the supply side to demand-led initiatives for competency development. Mengers (2000) has reported the lessons learned from a capacity building program in Karnataka, India for ULBs. He mentions that the design of capacity building initiative in a bottom driven fashion, by seeking advice of local governments, are a better guarantee for ownership, commitment, and positive results. According to Peltenburg *et al.* (1996) the development of capacity building strategies are complex and demanding activities, and require clarity on the goals and objectives for development to be achieved. The improvement in interface, understanding, and co-operation between those in demand of capacity building services and potential suppliers would provide key inputs to policy making process and help in

tapping the potential of external agencies to the fullest extent. In this context, a research study was carried out with an objective to evaluate the perception of demand and supply side of competency development on aspects related to involvement of external agencies. This paper describes the outcome of this research study.

Research methodology

As part of a systematic study on “Identification and assessment of competencies in ULBs for implementing PPP projects in India,” the competencies required for implementing urban PPP projects were identified by a two step process. In the first step, an extensive literature survey was carried out. The second step involved conducting qualitative in-depth semi-structured interviews with the stakeholders associated with urban PPP projects. The interview transcripts were analyzed at two levels – the textual level and the conceptual level. Repetitive analysis of transcripts at the textual and conceptual level were carried out in line with the process of “moving between induction and deduction” (Strauss and Corbin, 1998). The outcome of this process resulted in the identification of a set of competencies required for implementing urban PPP projects. These competencies, 12 Nos, are represented in the form of a PPP competency framework. Based on the phases of urban PPP projects, these 12 competencies are grouped into four categories – project appraisal, procurement, service management, and project lifecycle. The applicability of PPP competency framework in the practical realm was investigated with case study approach involving five urban PPP projects (Devkar, 2012). The competencies identified are described in the Table I.

There are various reasons behind engagement of external agencies. Based on literature review a preliminary list of reasons was prepared. This list was discussed with urban PPP experts and officials of ULBs. The final list consists of eight reasons:

- (1) lack of manpower in ULBs to handle additional responsibilities of PPP project (Avila, 1995; Goswami, 2008);
- (2) lack of understanding among the ULB officials about PPP in delivery of urban services (Akintoye *et al.*, 2003; Avila, 1995);
- (3) enables the ULBs to make available unique competencies for implementation of PPP project (Bloomfield, 2006; Iossa *et al.*, 2007; World Bank, 2001);
- (4) third-party view on the potential PPP project (Bloomfield, 2006; Iossa *et al.*, 2007; Miller and Hobbs, 2005; Siemiatycki, 2010; Zhang, 2005);
- (5) transparency in implementation of PPP project (ADB, 2006a; Miller and Hobbs, 2005; Murphy, 2008; World Bank, 2001);
- (6) allows the ULBs to focus on its core functions in implementation of PPP projects (Avila, 1995; Trémolet, 2007);
- (7) cost savings (Trémolet, 2007); and
- (8) improvement in quality of deliverables (Iossa *et al.*, 2007; Richter, 1993; World Bank, 2009).

The questionnaire survey approach was adopted in this research study. The respondents to the questionnaire were urban PPP experts and ULB representatives. These two categories of respondents represent the supply and demand side of competency development system, respectively.

Competency	Brief description
<i>I. Project appraisal competency category</i>	
1. Project identification	Ability for identification of service requirement in the municipal area which can be delivered on PPP mode
2. Project conceptualization	Ability to sufficiently define the proposed project for deciding whether to commit resources for project development and maximize the chances of implementing the project on PPP mode
3. Project development process management	Ability to undertake project preparation studies for informed decision making about implementation of project
<i>II. Procurement competency category</i>	
4. Transaction design	Ability for designing the PPP bidding process as well as associated documents to be used in a procurement plan
5. Project marketing	Ability to promote the PPP project among private participants and ensure development of marketplace of urban PPP projects in long run
6. Evaluation	Ability to assess the responses received from private parties at various stages of procurement process for selection of sound strategic private partner.
<i>III. Service management competency category</i>	
7. Contract management	Ability to ensure that the respective roles and responsibilities of parties to the contract are fully understood and fulfilled to the contracted standard during the operation phase of the project
8. Relationship management	Ability to develop and manage the relationships between ULB and private operator involved in the project
9. Service handover management	Ability to facilitate transfer of service to the ULB or other parties for continued delivery of services satisfactorily
<i>IV. Project lifecycle competency category</i>	
10. Stakeholder management	Ability to plan and facilitate a process of stakeholder consultation that leads to transparent and inclusive decision making at various phases of PPP project
11. PPP process management	Ability of planning and monitoring the various processes in PPP project to achieve project objectives
12. Project governance	Ability to provide strategic direction to the project by ensuring adoption of principles of participation, decency, transparency, accountability, fairness, and efficiency in implementation of PPP project

Table I.
Description of competencies

The urban PPP experts play an important role for implementing urban PPP projects in the capacities of providing advisory services to ULBs, designing PPP policy frameworks and researching in the area of competency development. These urban PPP experts are associated with developmental organizations, private advisory firms, and research institutes. Developmental organizations have been undertaking various initiatives to address weak competencies in the implementation of infrastructure projects at state and ULB level (ADB, 2006b). The Central Government and state governments have been increasingly recognizing the role of private advisory firms in implementation of PPP projects. The creation of panel of transaction advisors is one such step in this direction (Government of India, 2007). There has been growing interest among the research community in India about PPP model in provision of urban services. Inputs from these researchers are often solicited by governments while formulating policies for competency development in ULBs. A literature review was performed to identify organizations where urban PPP experts have been involved.

In 2005, the Central Government of India launched an ambitious program in the urban sector, named Jawaharlal Nehru National Urban Renewal Mission (JNNURM). This program has identified 63 cities across India for showcasing improvement in the provision of urban services (Ministry of Urban Development, 2005). The ULBs that come under JNNURM program (JNNURM ULBs) are the focal points of efforts in the direction of competency development, urban infrastructure financing, urban PPP projects, citizen participation, and administrative reforms. Owing to these developments, responses from representatives of JNNURM ULBs were collected in this research study. The municipal commissioners of these JNNURM ULBs are at the helm of affairs relating to the delivery of urban services. Hence, municipal commissioners of JNNURM ULBs were requested to provide responses to the questionnaire. In case of unavailability of municipal commissioners owing to administrative reasons, responses were sought from ULB officials who can provide a holistic view on competency development for implementation of urban PPP projects.

The survey was administered during the period of January to December 2009. A total of 113 questionnaires were mailed to urban PPP experts and ULB representatives, which included 63 questionnaires to JNNURM ULBs and 50 questionnaires to urban PPP experts. Regular e-mail and telephonic follow-ups were carried out to increase the response rate. In many cases the urban PPP experts and ULB representatives were contacted for an appointment and the questionnaire was personally administered. At the end of this exercise, 51 responses were received. Of these, 26 responses were from ULB representatives and 25 were from urban PPP experts. The response rate is 45 percent. The respondents are classified into four groups based on their level of participation in urban PPP projects – high (six to eight projects), medium (three-five projects), low (one to two projects), and no experience. It is seen that most of the respondents have medium to high level of participation in urban PPP projects. These survey respondents are top-level officials in their respective organizations and have long term association with urban infrastructure sector.

Competencies to be supplemented by external agencies

The survey respondents were asked to rate the importance of supplementing the competencies by external agencies based on their perception and experience with urban PPP projects. A five-point scale from “not important” to “most important” was used for rating importance of these competencies. The relative importance index (RII) was used for summarizing the importance of each competency. The RII is calculated as follows (Kumaraswamy and Chan, 1998):

$$RII = \frac{\sum w}{A \times N}$$

where w is the weight as assigned by each respondent in a range from 1 to 5, where 1 implies “not important” and 5 implies “most important”; A the highest weight (5); N the total number in the sample.

The RII of each competency was calculated by considering the perception of each category of respondent as well as combined perception of all respondents. These competencies within each category of respondents were ranked on the basis of RII. Further t -test was carried out for analyzing degree of agreement on importance rating among urban PPP experts and ULB representatives at 5 percent significance level. The combined perception of all respondents as well as differences in perception

between urban PPP experts and ULB representatives are shown in the Table II. The RII of each competency and results of *t*-test were analyzed to identify any emerging pattern and arrive at the appropriate way for discussing the findings.

Based on the analysis it can be seen that there is, in general, a high degree of agreement on importance ratings of competencies supplemented by external agencies except for stakeholder management. The high degree of agreement shows that the respondents have a common understanding of the competencies to be supplemented by external agencies for implementing urban PPP projects. Therefore, the results are discussed based on the combined perception of all respondents on competencies supplemented by external agencies at ULB level.

ULBs need maximum involvement of external agencies for supplementing procurement category competencies

The procurement competency category deals with the selection of private partner for delivery of urban services. The competencies associated with this category have been rated highest in importance by survey respondents among competencies to be supplemented by external agencies. This competency category marks the important transition of the PPP project, as the ULB carries out assessment of the potential of a particular urban service to be delivered in PPP mode and based on the outcome of analysis makes a decision to select private partner for implementation of urban PPP project. The external agencies contribute in two areas: extensive knowledge of the PPP marketplace and best practices for procurement of PPP projects. The urban PPP projects can garner benefits by involving external agencies for supplementing competencies related to selection of private partner. The survey findings are in line with the ongoing policy initiatives in India such as creation of state level PPP nodal agencies and transaction advisors, which assist the ULBs in procurement process of urban PPP projects (Dutz *et al.*, 2006b).

Competency	Urban PPP expert		ULB representative		Combined		<i>t</i> -test	
	RII	Rank	RII	Rank	RII	Rank	<i>t</i> -value ^a	Significance
Project identification	0.58	9	0.59	12	0.58	12	-0.220	0.827
Project conceptualization	0.61	7	0.67	10	0.64	8	-0.909	0.368
Project development process management	0.74	4	0.72	6	0.73	4	0.202	0.840
Transaction design	0.82	1	0.76	2	0.79	1	1.142	0.259
Project marketing	0.73	5	0.76	1	0.75	3	-0.469	0.641
Evaluation	0.78	2	0.73	4	0.76	2	0.847	0.401
Contract management	0.74	3	0.69	7	0.71	6	0.611	0.544
Relationship management	0.56	12	0.65	11	0.6	11	-1.246	0.219
Service handover management	0.58	8	0.69	9	0.64	9	-1.480	0.145
Stakeholder management	0.56	11	0.73	5	0.65	7	-2.805	0.007 ^b
PPP process management	0.71	6	0.74	3	0.73	5	-0.435	0.665
Project governance	0.57	10	0.69	8	0.63	10	-1.761	0.085

Notes: ^a*H*₀: there is no significant difference in importance rating by different category of respondents, *H*₀ rejected at 5 percent significance level, *H*₁: significant difference in importance rating among different category of respondents relative importance index (RII)

Table II. Importance ratings of competencies to be supplemented by external agencies

Project development process management

In the project appraisal competency category, the project identification and project conceptualization competencies have been rated considerably low (ranks 12 and 8, respectively). The project development process management has been rated higher (rank 4) in importance by survey respondents among competencies to be supplemented by external agencies. The potential projects to be implemented by the PPP mode are identified by the ULB representatives and then the external agencies are brought in to develop and structure the PPP model for the project.

The preference of survey respondents towards involvement of external agencies for supplementing project development process management is relevant to the prevailing scenario in India. The absence of robust pipeline of bankable urban PPP projects is a major concern among the private sector and policy makers in India. The root cause of this scenario is weak competencies in ULBs to identify potential opportunities for private sector participation, development of initial project concept, and carry out full fledged feasibility studies (ADB, 2006b). Currently, the Central Government and some of the state governments have initiated measures to improve the quality of project development process by creation of project development funds, panel of transaction advisers, and establishment of state level PPP nodal agencies.

PPP process management

There is a marked difference between the traditional procurement model and PPP model in provision of urban services in terms of management of processes involved in various phases of the urban PPP project (Edelenbos and Teisman, 2008). The external agencies can work as a support mechanism to ULBs for confidently coordinating and overseeing the whole process from development of initial project design till the delivery of services in the operation phase. The survey respondents have rated the PPP process management competency moderately high in importance. Some countries have created an institutional architecture for streamlining processes which are fragmented across many governmental agencies and achievement of long-term benefits by improving management of processes (World Bank, 2007). In India, states such as Gujarat and Andhra Pradesh have crafted systematic procedures to be followed for implementing PPP projects and entrusted the responsibilities for ensuring compliance with these processes to the PPP nodal agencies (Dutz *et al.*, 2006b).

Stakeholder management

The stakeholder management is rated considerable higher in importance by ULB representatives than by urban PPP experts and there is significant difference (at 5 percent significance level) in importance rating by these respondents. The usage of PPP model for provision of urban services complicates the stakeholder landscape and ULBs may face serious bottlenecks in identification, consultation and involvement of stakeholders over project lifecycle (El-Gohary *et al.*, 2006). Therefore, ULB representatives prefer assistance from external agencies to the ULBs for coordinating and managing diverse range of stakeholders.

Contract management

The role of ULB transforms from provider to manager of urban services with adoption of the PPP model (Bloomfield, 2006). The contract management competency focusses on a critical dimension of urban PPP projects, which is management of roles and responsibilities of parties to the contract during construction and operation phase.

The survey respondents have rated contract management competency moderately high in importance. These findings are relevant for design of policy initiatives for supplementing competencies at ULB level. The ongoing initiatives primarily focus on supplementing competencies until selection of private partner (Dutz *et al.*, 2006b). However, it is important for policy makers to realize that the efforts expended in the appraisal of PPP projects and selection of suitable partners could bear fruit with contract management competency (Richter, 1993).

Reasons for engagement of external agencies for supplementing competencies

In the survey, the respondents were asked to rate the importance of the reasons for engaging external agencies by using a five-point scale from “not important” to “most Important.” The RII discussed in the earlier section, was used for summarizing the importance of each reason. The RII of each reason was calculated by considering the perception of each category of respondent as well as combined perception of all respondents. These reasons within each category of respondents were ranked on the basis of RII. Further *t*-test was carried out for analyzing degree of agreement on importance rating among urban PPP experts and ULB representatives at 5 percent significance level. The results presented in Table III show ranking, based on RII, of reasons associated with engagement of external agencies and difference in perception, based on *t*-test, between urban PPP experts and ULB representatives. The RII of each reason and results of *t*-test were analyzed to identify any emerging pattern and arrive at the appropriate way for discussing the findings.

Based on the analysis it can be seen that the ULB representatives have given much higher importance ratings compared to the urban PPP experts except in the case of two reasons (lack of manpower and lack of understanding). In the case of ULB representatives the RII values ranged from 0.62 to 0.85, while in the case of urban PPP experts they have ranged from 0.42 to 0.71. Further analysis was carried out to probe into importance ratings by the respondents. The respondents’ scoring for a reason has been grouped into three categories: category 1 (percentage of respondents scoring more than or equal to 4), category 2 (percentage of respondents scoring equal to 3), and category 3 (percentage of respondents scoring ≤ 2). Except in the case of two reasons (lack of manpower in ULBs and lack of understanding); it has been observed that value of category 1 for ULB representatives is higher compared to the urban PPP experts. This can be result of the possible bias by ULB representatives, based on their urgent need to address weak competencies in ULBs for undertaking PPP projects. Therefore they justify involvement of external agencies with higher importance ratings of reasons related to the value additions by external agencies in urban PPP projects.

To compare the relative rankings of the reasons by the two groups, Spearman’s rank correlation test was performed. The Spearman’s rank correlation coefficient of 0.119 at a significance level of 0.089 shows a very low level of agreement between the two categories of respondents. Therefore, the results are discussed with primary focus on difference in perception between survey respondents on reasons for engagement of external agencies. However, in some instances ranking of these reasons is also elaborated.

External agencies provide requisite competencies and play a role in improvement of quality of services

Over the years the ULBs have nurtured competencies in tune with the traditional design-bid-build model for delivery of urban services. Therefore, the existing

Table III.
Importance of reasons
for engagement of
external agencies
for supplementing
competencies

Reason	Urban PPP RII	expert Rank	ULB representative RII	Rank	Combined RII	Rank	<i>t</i> -value ^a	<i>t</i> -test Significance
Lack of manpower in ULBs to handle additional responsibilities of PPP project	0.69	3	0.62	8	0.66	5	0.926	0.359
Lack of understanding among ULB officials about PPP in delivery of urban services	0.71	1	0.62	6	0.66	4	1.333	0.189
Enables the ULBs to make available unique competencies for implementation of PPP project	0.61	4	0.76	3	0.69	2	-2.798	0.007 ^b
Third-party view on the potential PPP project	0.49	7	0.62	7	0.55	8	-2.297	0.026 ^b
Transparency in implementation of PPP project	0.58	5	0.78	2	0.68	3	-2.956	0.005 ^b
Allows the ULBs to focus on its core functions in implementation of PPP projects	0.54	6	0.73	4	0.64	6	-3.272	0.002 ^b
Cost savings	0.42	8	0.71	5	0.57	7	-3.394	0.001 ^b
Improvement in quality of deliverables	0.7	2	0.85	1	0.77	1	-2.866	0.006 ^b

Notes: ^a*H*₀: there is no significant difference in importance rating by different category of respondents. ^b*H*₀ rejected at 5 percent significance level. *HI*: significant difference in importance rating among different category of respondents relative importance index (RII)

competency base in ULBs is substantially different from the competencies required for implementation of urban PPP projects. Under these circumstances, the external agencies can play a critical role in making available these unique competencies in line with needs of a particular project.

Apart from furnishing required competencies for urban PPP projects, the external advisors bring to the table practical experience gained from working on various PPP projects and interaction with the PPP marketplace. As a result, the external agencies can considerably improve the quality of the processes associated with the urban PPP project and attractiveness of project in the PPP marketplace. Both the reasons – external agencies make available unique competencies for implementing urban PPP projects (rank 2) and improvement in quality of deliverables (rank 1) are rated highest in importance by respondents. This indicates the growing recognition among ULBs and policy makers of the strength of external agencies to overcome competency bottlenecks in implementation of urban PPP projects and value addition brought in by external agencies in urban PPP projects. The involvement of external agencies in response to lack of specialist competencies in the government machinery for implementation of PPP projects and need for quality improvement in project processes has also been discussed in literature (World Bank, 2007).

External agencies have potential to improve transparency in implementation of urban PPP projects

The ULB representatives have rated the transparency in implementation of urban PPP projects considerably high in importance (rank 2, RII 0.78). Among the reasons for engagement of external agencies. The adoption of PPP model for provision of urban services has many public policy concerns due to the long-term nature of contractual agreement, web of relationships between stakeholders, complex financial structuring and risk allocation (Siemiatycki, 2007). In this context, it is essential to garner public confidence in the decision-making process by disclosing relevant financial, technical, and contractual information in the public domain. Additionally, the private players and public do have concerns over transparency and fairness of bidding process (Iossa *et al.*, 2007). Literature has reported that the external agencies can play a central role in addressing both – public and private sector's concern by ensuring transparency in implementation of the urban PPP projects (World Bank, 2007).

External agencies are involved to address lack of manpower in ULBs and lack of understanding among ULB officials about PPP models

The reasons – lack of understanding among ULB officials about PPP model and lack of manpower in ULBs are ranked substantially different (rank difference = 5) by the two groups of respondents. The higher importance rating to these reasons by urban PPP experts directs attention towards the human resource development practices in ULBs. The prevailing scenario on human resources in ULBs indicates that the performance of ULBs has been affected due to long-term vacancy of several positions and very thin top management (Ministry of Urban Development, 2006). The shortage of skilled manpower has been affecting implementation of urban infrastructure developmental projects. This often results in ULBs engaging external agencies to overcome the bottleneck caused by shortage of ULB officials and very weak competencies in ULBs during implementation of urban PPP projects.

However, the quality of deliverables and outcomes of urban PPP projects are adversely affected by these inherent deficiencies in the institutional structures of ULBs.

Akintoye *et al.* (2003) have pointed that lack of understanding among client team members on project risks and scope has eroding effect on the Value for Money, and poses difficulties in communication and mutual understanding. Therefore, the policy makers will have to design interventions at different levels – organizational, human resource, and institutional framework to address the root cause of weak human resource capacity in ULBs.

Involvement of external agencies in urban PPP projects – case studies

In continuation of the questionnaire survey with focus on identification of important competencies supplemented by external agencies and reasons for involvement of external agencies, five urban PPP projects implemented in the state of Tamil Nadu in India were studied for analyzing involvement of external agencies. The evidences for case studies were collected from multiple sources: project documents, press reports, and interviews. However, the major source of data was through conducting several ethnographic or unstructured open-ended interviews. The interviews were conducted with stakeholders associated with the project including officials from ULBs and state government, private operators, non-governmental organizations, local communities, project consultants, private advisory firms, and lenders. Typically for each project, an average of ten participants were interviewed. Multiple respondents from each group of stakeholders were selected in order to compare their opinions and eliminate extreme viewpoints. The interview transcripts along with project documents and newspaper articles were collated to arrive at a “story” for each project from inception until operation phases. The details of these five case study projects are summarized in the Table IV.

The analysis of cases was carried out through a two-stage process as suggested by Eisenhardt (1989) – namely, analyzing within-case data and searching for cross-case patterns. The important competencies to be supplemented by external agencies and reasons for involvement of external agencies provided a guideline for analysis of case study evidence using word tables. The evidence from the case study projects was first displayed using a tabular arrangement. In the second step – searching for cross-case patterns – the tabular displays from the individual case study projects were combined.

In many case study projects, the ULBs sought assistance from various external agencies to supplement competencies. These external agencies had supplemented competencies either fully or partially. Table V shows the analysis of competencies supplemented by external agencies in case study projects. Out of 12 competencies, this analysis has specifically looked into top six important competencies, identified by questionnaire analysis discussed earlier. This analysis helped in understanding which competencies were supplemented across urban PPP projects and identification of areas that need to be addressed with regards to supplemented competencies.

There were various reasons that led to involvement of external agencies in each of case study projects. The analysis of case study evidence along these lines is shown in Table VI. The evidence on a reason for involvement of external agency in a case study project is either strong or weak. This analysis was carried out to investigate how far reasons identified through survey results have led to the involvement of external agencies in case study projects.

The case study evidence indicated that the role of external agencies was primarily focussed on supplementing competencies till the selection of private partner. External agencies were fully involved in supplementing transaction design, evaluation, project marketing, and project development process management competencies in all five

Project details	Alandur Underground Sewerage (UGS)	Chennai Solid Waste Management (SWM)	Name of the project Tirupur Solid Waste Management (SWM)	Alandur Solid Waste Management (SWM)	Tirupur Water Supply and Sanitation (WSS)
Year of award	2000	2007	1999	2007	2000
Type of PPP	BOT	Service contract	BOT	Service contract	BOOT
Concession period	14 years	7 years	20 years	3 years	30 years
Client	Alandur Municipality	Corporation of Chennai	Tirupur Municipality	Alandur Municipality	Tirupur Municipality and Government of Tamil Nadu
Concessionaire	Multi promoter SPV	Single promoter SPV	Multi promoter SPV	Single promoter SPV	Multi promoter SPV
Type of work	Construction of UGS network and sewage pumping station. Construction and operation of sewage treatment plant	Primary collection, secondary collection and transfer of MSW	Construction and operation of MSW compost plant	Primary collection, secondary collection and transfer of MSW	Construction and operation of water supply network. Construction and operation of sewage pumping station
Type of external agency	State-level PPP coordination agency	State-level agency for promotion of industrial development	State-level PPP coordination agency	State-level PPP coordination agency	Leading infrastructure development company
Role of external agency	Preparation of financial and contractual structure, development of bid documents, evaluation of bids, and negotiations, handling stakeholder consultation process	Appraisal of project, designing two-stage bidding process, and selection of the private partner	Structuring of project, preparation of transaction design, and evaluation of bids	Structuring of project, preparation of transaction design, communication with private players, and evaluation of bids	Preparation of financial and contractual structure, handing stakeholder consultation, bid process management, monitoring construction and service delivery

Table IV.
Details of case study projects

BEPAM
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Table V.
Competencies
supplemented by
external agencies

Competency	Name of the project				
	Alandur UGS	Chennai SWM	Tirupur SWM	Alandur SMW	Tirupur WSS
Transaction design	F	F	F	F	F
Evaluation	F	F	F	F	NA
Project marketing	F	F	F	F	NA
Project development process management	F	F	F	F	F
PPP process management	P	P	P	P	N
Contract management	P	N	N	N	F

Notes: F, fully supplemented; P, partially supplemented; N, not supplemented; NA, case study evidence not available

Table VI.
Reasons for involvement
of external agencies

Reason	Name of the project				
	Alandur UGS	Chennai SWM	Tirupur SWM	Alandur SMW	Tirupur WSS
Improvement in quality of deliverables		a	a	a	a
Enables the ULBs to make available unique competencies for implementation of PPP project		a	a	a	a
Transparency in implementation of PPP project		a	a	a	b
Lack of understanding among ULB officials about PPP in delivery of urban services		a	a	b	b
Lack of manpower in ULBs to handle additional responsibilities of PPP project		a	b	a	b

Notes: ^aThere is strong evidence suggesting that the concerned reason led to involvement of external agencies in an urban PPP project. ^bWeak evidence

projects. The remaining competencies namely PPP process management and contract management were either not supplemented or partially supplemented by external agencies. The lack of in-house competencies to manage the delivery of urban services and processes involved across project lifecycle as well as absence of officials mandate of external agencies to supplement these competencies led to challenges in project implementation. As a result, efforts which were put into the preparation of earlier phases such as project appraisal and procurement, did not lead to their expected beneficial outcomes.

There was strong evidence from all five case study projects about the fact that ULBs realized the lack of required competencies in-house and hence, decided to involve external agencies. In the case of four case study projects, the involvement of external agencies was looked upon as a mechanism for improving transparency in implementation of urban PPP projects. The services of external agencies were sought in three case study projects to meet the challenges posed by lack of understanding among ULB officials about PPP model and inadequate manpower in ULBs to handle urban PPP projects.

The case study evidence indicates that the role of external agencies can be expanded to supplement competencies for managing delivery of urban services throughout concession

period and various processes in urban PPP project to achieve project objectives. Also, there is a need to take steps towards strengthening in-house competencies at ULB level in the areas related to urban PPP projects. This involves initiatives such as recruitment of skilled personnel, creation of knowledge sharing networks, and so on. The development of necessary in-house competencies will help in effective utilization of external agencies and successful implementation of urban PPP projects.

Conclusions

This paper focussed on two key aspects related to involvement of external agencies in urban PPP projects, which are competencies to be supplemented by external agencies and reasons for involvement of external agencies in implementation of urban PPP projects. Along these lines, a questionnaire survey was carried out to analyze perception of urban PPP experts and ULB representatives on these two aspects. The survey respondents preferred involvement of external agencies for supplementing competencies related to implementing procurement process, project development process, and management of stakeholders and diverse processes in urban PPP project.

The survey respondents felt that external agencies can add value to the urban PPP projects by making available unique competencies for implementation of urban PPP projects and improving quality of deliverables. It was felt that the involvement of external agencies could lead to improved transparency in implementation of urban PPP projects. The urban PPP experts opined that lack of manpower and lack of understanding among ULB officials about PPP model to be the major reasons for engagement of external agencies. The case study findings indicate that majority of the top six competencies, identified by questionnaire survey, were supplemented by external agencies in case study projects. Similarly, there is a fair degree of agreement between survey based important reasons for involvement of agencies and the actual reasons in case study projects studied. The case study evidence also draws attention towards need for revamping municipal personnel system to develop competencies required for implementation of urban PPP projects.

There are some methodological limitations of this research study. This research study has not focussed on the process adopted for selection, mechanisms for monitoring performance, and outcomes of involvement of external agencies. It will require altogether different case study design and more comprehensive analysis.

The findings of this research study contribute to the growing body of knowledge on involvement of external agencies for supplementing competencies in urban PPP projects and would be of interest to the policy makers associated with urban infrastructure development.

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