Role of Public Private Partnership in Infrastructure Development: Bangladesh Experience

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A dissertation submitted to the University of Dhaka, Dhaka, Bangladesh in fulfillment of the requirements for the degree of masters of philosophy in public administration.

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DEDICATION

This work is dedicated to my respected and beloved parents who has raised me to be the person I am today. I think their sacrifice, dedication, love, guidance and support that they have always given me.

DECLARATION

I declare that the dissertation entitled **Role of Public Private Partnership in Infrastructure Development: Bangladesh Experience** submitted to University of Dhaka, Dhaka, Bangladesh in fulfillment of the requirements for the degree of masters of philosophy in public administration is an original work of mine. No part of it, in any form, has been copied from other sources without acknowledgement or submitted to any other university or institute for any degree or diploma.

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This is to certify that Maruf Ahmad has prepared this thesis entitled **"Role of Public Private Partnership in Infrastructure Development: Bangladesh Experience"** under my direct supervision. This is his original work. This thesis or any of its parts has nowhere been submitted for any degree or publication.

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August 2019 **Maruf Ahmad**

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ADB	:	Asian Development Bank
ANOVA	:	Analysis of Variance
BOLT	:	Build-Operate-Lease-Transfer
BOT	:	Build Operate and Transfer
BOO	:	Build-Own-Operate
BOOT	:	Build-Own-Operate-Transfer
BOLT	:	Build-Operate-Lease-Transfer
BOOT	:	Build-Own-Operate-Transfer
BPSIG	:	Bangladesh Private Sector Infrastructure Guideline
BEPZA	:	Bangladesh Export Processing Zone Authority
CCI	:	Cabinet Committee on Infrastructure
CEO	:	Chief Executive Officer
COI	:	Committee on Infrastructure
CEPZ	:	Chittagong Export Processing Zone
CCEA	:	Cabinet Committee on Economic Affairs
DOE	:	Department of The Environment
DEA	:	Drug Enforcement Administration
DEPZ	:	Dhaka Export Processing Zone
DBFO	:	Design, Build, Finance and Operate
EMP	:	Environmental Management Plan
EIA	:	Environmental Impact Assessment
EPC	:	Engineering, Procurement and Construction
FDI	:	Foreign Direct Investment
FHWA	:	Federal Highway Administration
GOB	:	Government of Bangladesh
GOI	:	Government of India
GDP	:	Gross Domestic Product
IEE	:	Initial Environmental Examination
IPP	:	Independent Power Producer
ISIC	:	International Standard Industrial Classification
IPFF	:	Investment Promotion and Financing Facility
IIFC	:	Infrastructure Investment Facilitation Center
IDCOL	:	Infrastructure Development Company Limited
KPI	:	Key Performance Indicator.
LGA	:	Local Government Association

LPG	:	Liquid Petroleum Gas
LOI	:	Letter of Indemnity
LDO	:	Lease-Develop-Operate
MoF	:	Ministry of Finance
MEMR	:	Ministry of Energy &Mineral Resources
NRB	:	Non-Resident Bangladeshis
NPM	:	New Public Management
NHS	:	National Health System
PPR	:	Public Procurement Rules
PPA	:	Public Procurement Act
PPP	:	Public Private Partnership
PFI	:	Private Finance Initiative
PPR	:	Public Procurement Rules
PSTN	:	Public Switched Telephone Network
PSIG	:	Private Sector Infrastructure Guideline
PPIAF	:	Public Private Infrastructure Advisory Facility
PSPGP	:	Private Sector Power Generation Policy
PPPAC	:	Public-Private Partnership Advisory Council
PICOM	:	Private Infrastructure Committee
PSIDP,	:	Private Sector Infrastructure Development
RFQ	:	Request for Quotation
RFEI	:	Request for Expressions Of Interest
RAPSS	:	Remote Area Power Supply Systems
SIA	:	Social Impact Assessment
SDG	:	Sustainable Development Goals
SPV	:	Special Purpose Vehicle
SPSS	:	Statistical Package for the Social Sciences
TA	:	Technical Assistance
UK	:	United Kingdom
UNESCAP	:	United Nation Economic and Social Commission for Asia
VfM	:	Value For Money
VGF	:	Viability Gap Funding
VGP	:	Viability Gap Financing
WB	:	World Bank

Abstract

For win-win solution of public and private sector, Public Private Partnership (PPP) is increasing popularity in the field of international development cooperation and sustainable development. PPPs present a number of recognized advantages for the public sector to exploit. These include the ability to raise additional finance in an environment of budgetary restrictions, make the best use of private sector operational efficiencies to reduce cost and increase quality to the public and the ability to speed up infrastructure development.

Successful PPPs are designed with careful attention to the context or the enabling environment within which the partnerships will be implemented. The growth of PPPs has in Bangladesh increased the availability of resources, the efficiency, and sustainability of public services especially in the field's infrastructure. In Bangladesh a number of barriers influencing the implementation of PPPs caused the diminishing interests of both local and foreign private investors. Reasons for implementing PPP in Bangladesh was ranked by the respondents included: shortage of government funding, economic development pressure of demanding more facilities, social pressure of poor public facilities, private incentive, and high quality service required. The purpose of this study is to assess the performance of the public sector in infrastructure project, to measure the costs of services and determine service quality, to explore environmental consideration of infrastructure project under PPP; and to investigate the barriers of implementing infrastructure projects under PPP in Bangladesh.

The study shows, role of PPP in infrastructure development is accessing private capital and value for money, encourages innovations and incorporate lifecycle cost/realizing efficiency gains, significant cost savings, improving risk allocation and reduced time on projects delivery.

Sixteenth KPIs of public sector were rated by the respondents and the good performances of public sector in infrastructure projects are land acquisition for infrastructure; exemption of taxes and import duties; linked project; addressing socio-economic issues and legal dispute. On the other hand the poor performances of public

sector are coordination; satisfaction level of private sector; environmental relationship and communications; cost sharing, financial incentive for private sector and operation and maintenance monitoring of PPP projects. To ensure customer satisfaction the main rewards from partner with the private sector are improvements of program performance, cost-efficiencies, better service provisions and appropriate allocation of risks and responsibilities increases the cost of providing services. In this study it is found that EIA has not yet evolved satisfactorily in Bangladesh. In most cases EIA being partially followed before starting infrastructure project under PPP. The barriers are categorized by using SLEEPT approach, that includes; social, legal, economic, environmental, political, and technological factors. Economic barrier is the most important barrier affecting infrastructure development under PPP followed by technological barrier, social barrier, political barrier, legal barrier and environmental barrier respectively as the most influential barriers to PPPs project implementation in Bangladesh.

Therefore, recognition of the barriers and its elimination by the stakeholders in PPPs will allow the partnerships to function effectively and ensuring successful implementation of present and future PPPs.

Keywords: Public Private Partnership, Infrastructure, Performance, Environmental Consideration, Barriers

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Public Private Partnership (PPP/P3) is getting attention as an attractive field of research during the last few decades (Jiménez & Pasquero, 2005) because PPP is being considered as an alternative institutional arrangements and modes of delivery of public goods and services (Jamali, 2007, Wettenhall, 2003, Hodge & Greve, 2005). The primary objective of PPPs is to facilitate the delivery of high-quality public facilities and services by the private sector over an extended period of time at a cost that represents value for money, whilst at the same time transferring an appropriate level of risk to the private sector (Lane & Gardiner, 2003). PPPs imply a sort of collaboration to pursue common goals, while leveraging joint resources and capitalizing on the respective competences and strengths of the public and private partners (Widdus, 2001; Pongsiri, 2002; Nijkamp *et al.*, 2002). PPPs can also work for a range of infrastructures including transportation, water and sewer services, solid waste disposal, municipal parking, and "social" infrastructure such as schools, hospitals, and other public buildings. These include education, housing, health care, transportation, social care and many other areas commonly associated with the public sector (Grimsey & Lewis, 2002). European Commission (2004), in its green paper on PPPs, recognized some common elements of a PPP: long duration cooperative relationship, complex arrangement of shared funding and participant's role at different stages in the project and shared risk. Most supposed PPPs in third world development do not seem to meet this criterion. Donor agencies often promote privatization and government subsidies to private entrepreneurs in the name of building PPPs. However, privatization and subsidies should not be confused with PPPs (Mitchell-Weaver & Manning, 1991). Indeed, though PPP was originally treated as a derivative of the privatization movement, there is a growing consensus today that PPP does not simply mean the introduction of market mechanisms or the privatization of public services. PPP is an institutionalized form

of cooperation of public and private actors, who work together towards a joint target on the basis of their own indigenous objectives (Nijkamp *et al.,* 2002). According to Jamali (2004), Pongsiri (2002), Nijkamp *et al.,* (2002) and Widdus (2001), PPP is a sort of collaboration to pursue common goals by leveraging joint resources and capitalizing on the respective competences and strengths of the public and private partners. Indeed, the nature of relationship between the public and private sectors is seen on the dimension of five types of activities namely- parallel activities, competitive activities, complementary & collaborative activities (Ravindran, 2002), and Contractual activities (Clifton & Duffield, 2006). PPP is the collaboration in which the public and private sectors both bring their complementary skills to a project, with different levels of involvement and responsibility, for the sake of providing public services more efficiently (Efficiency Unit, 2003b). It is a relationship that consists of shared and/or compatible objectives and an acknowledged distribution of specific roles and responsibilities among the participants which can be formal or informal, contractual or voluntary, between two or more parties. The implication is that there is cooperative investment of resources and therefore joint risk taking; sharing of authority, and benefits for all partners (Lewis, 2002). According to Jefferies & McGeorge (2008), a PPP consortium is defined as a temporary organization with a complex network of stakeholders each with competing goals and objectives. Public private partnerships (PPPs) are a policy adopted by government to buy infrastructure (and related ancillary) services over the long term (Torres & Pina, 2001). A PPP is an approach to delivering public services that involve the private sector, but one that provides for a more direct control relationship between the public and private sector than would be achieved by a simple (legally-protected) market based and arms-length purchase (Broadbent , J. & Laughlin, R., 2003). As civil infrastructure projects have grown in scale and scope, their cost has increased accordingly. As a result, we have entered what has been termed the era of the infrastructure megaproject (Altshuler & Luberoff, 2003). Around the world, governments of different countries have tried to avoid using the term ‘privatization’ or ‘contracting out’ in favor of speaking about ‘partnerships’. That may be a part of a general

trend within public management of needing to renew the reform buzzwords from time to time, or the practice of advancing the same policy, but under a different and catchier name (Hodge & Greve, 2009).

Infrastructure is vital to the development of an economy. The availability of essential infrastructure such as water, sanitation, transport, electricity, telecommunications and health services is not only important to the living conditions of the people in the economy, but they are also necessary conditions for investment and development of the economy. For this reason, the United Nations and other multilateral institutions have recognized that the development of infrastructure is the central issue in poverty alleviation if the Millennium Development Goals of having extreme poverty by the year 2015 is to be achieved (World Bank, 2009). The chronic underdevelopment of key infrastructure in Bangladesh slows economic development and exacerbates unemployment, poverty, and health and public service issues. It negatively impacts economic growth, taxing the Bangladesh economy. For instance, power shortages account for an annual estimates loss of 2% of gross domestic product (ADB) and operating deficits within the utility sector account for another 1 % (World Bank, 2009). The country has traditionally relied upon the public sector to develop, deliver, and maintain infrastructure. However, inconsistent project design, poor project implementation and management, and allegations of corruption, compounded by chronic shortage of funding, all result in poor services. Tariff rates, and tax and non-tax fee support are uniformly below the cost of service across all infrastructure sector. Whole the government has sought to increase the involvement and number of private sector participants in infrastructure, these factors signal caution for such endeavors.

Bangladesh's PPP infrastructure development program has not delivered a significant volume of needed projects, and poor procurement performance has held back expanded used of this investment modality. Government entities have tended to take an ad-hoc approach to PPP projects. As a result, bidding processes have suffered from lack of proper preparation by the public sector entities managing procurement, lack of ownership within implementing government bodies, frequent

changes of project management, inconsistent bidding processes, skewed risk allocations in bid documents, and allegations that established procurement standards are not followed. Such empirical evidence serves to undermine confidence in government solicitation processes and results in driving value-added infrastructure participants away from the market. A revised approach to development, bidding, and management of PPP infrastructure is required to create a robust and dependable approach to privately invested infrastructure development and to regain stakeholder confidence. PPP are an evolving tool and should be adapted to the individual nature of the project and the parties. As a result their successful implementation requires a very detailed understanding of a myriad of issues. Successes and failures will be depicted as valuable lessons can be learnt from both. It is important to highlight the need for rigorous preparation and planning to ensure that the PPP approach delivers value for money and is sustainable, sustained political and public sector support to the strategic decisions around the PPP, a conducive legal, regulatory and financial framework supporting the development and implementation of PPP and lastly a true understanding by the parties of the needs and objectives of each other.

Over the last decade, organizations have renewed their interest in measuring organization programs and their impact. This interest is as a result of many factors including efficient planning, the desire for accountability, the increasing interest of multi stakeholders, concerns of funders among others. The use of performance measurement systems is also frequently recommended for facilitating strategy implementation and enhancing organizational performance (Davis & Albright, 2004). Neely *et al.,* (1995) described performance measurement as the process of quantifying action, where measurement is the process of quantification and action correlates with performance. Performance measurement refers to the selection and use of quantitative and qualitative measures of program/project capacities, processes and outcomes to inform the public or designated public agency about critical aspects of a project (Ong'olo, 2006). Neely & Bourne (2003) defined it as the use of a multi-dimensional set of performance measures. The adoption of new

management practices over the years has also led to inquiries with regards to the suitability of existing performance measurement systems. In Bangladesh, there is need to evaluate the performance measurement of public and private sector in order to develop and adopt innovative and robust solutions for organizations.

Therefore, this study is an effort to point out the performance of public and private sector for infrastructure projects in Bangladesh, cost and service quality of PPP projects and different critical challenges factors of PPP are identified so that Bangladesh can successfully implement with a view to maximize the benefits from PPP addressing the challenges.

1.2 Importance/ Significance of the Study

P3 or public-private partnership is a contract-often a long-term contract-between a governmental body and a private entity, most often a corporation. The goal of the partnership is to provide some public benefit, either an asset or a service. A key element of these contracts is that the private party must take on a significant portion of the risk because the contractually specified remuneration-how much the private party receives for it's participation-typically depends on performance (Rodriguez, J. 2018).

The recent socio economic success story of Bangladesh has been widely acknowledged locally and internationally. On the social front Bangladesh has made significant strides in meeting several of the UN Millennium Development Goals such as reducing income disparity ratio, attaining gender parity in education, reduction in infant mortality etc. In addition, Bangladesh has made remarkable progress in reducing the prevalence of underweight children, increasing enrolment at primary schools, lowering the maternal mortality ratio and improving immunization coverage. On the economic front it is one of the few countries to have demonstrated consistently strong GDP growth rate averaging over 6% over the last five years despite the general global slowdown. Over the same period per capita income has increased from $638 in 2009 to over $1000 in 2013. The

foundation to this path of socio-economic growth, success and prosperity for Bangladesh has been set out in the Vision 2021; the Vision that sees Bangladesh progress to a middle income country by the year 2021. The strategy for implementing Vision 2021 identifies the need to increase investments in infrastructure from around 2% to 6% of GDP as one of the key requirements to achievement of the vision. Therefore, the government has identified and prioritized the PPP as one of the key initiatives to meet this investment priority and close the infrastructure gap.

Bangladesh's success has been built on the foundations of a very dynamic and vibrant private sector. The public sector has worked together with the private sector in different modalities in delivering infrastructure projects for nearly two decades. As such it is keen to build on this strength and forge a lasting partnership between the public and private sector for the accelerated development of our country. Through the PPP program the government intends to pursue opportunities that benefit the private sector through generating a profitable revenue stream one that delivers to its citizens much needed social and economic public infrastructure services and fulfill the commitment of government to meet its social obligations and development imperatives.

Public-Private-Partnership is relatively a new concept for Bangladesh. During its first forty years, the country has gone through rigorous nationalization followed by vigorous privatization. With taking power by the new government that believes in "Change" or "Din Bodol", time has come to try the third dimension, the Public-Private-Partnership. To reflect the aspirations of the people, the present government has committed to raise the GDP growth rate to 8% by 2013 (Vision 2021 of Bangladesh Awami League). To achieve this goal, investment in GDP needs to be as high as 35%-40%. Currently this figure hovers around 24%-25% (Position Paper of the Ministry of Finance, Bangladesh) which ironically is lower than the national savings ratio implying nothing but idle capacity. To attain and sustain 8% growth rate by and beyond 2013 requires additional US $28 billion from 2009-2014 (Position Paper of the Ministry of Finance, Bangladesh). Amid the global melt-

down and resulting fall in the purchasing power of the tax-payers of the country, the government is not in a position to mobilize these gigantic additional resources internally. It also reduces the possibility of receiving additional foreign financial assistance. In the back-drop of all these, participation of the private sector through PPP may reduce the investment deficit.

1.3 Statement of the Problem and Research Questions

It is a common difficulty for the government of most developing countries to build infrastructure with their own finance (*i.e.* tax revenues or borrowing). This has pushed the governments to explore new methods for the production and delivery of basic infrastructure and public services. These include contracting-out, outright privatization, and (PPPs). Thus PPP is considered as one of the latest innovations in development discourse gaining popularity across the countries. An interactive partnership between public and private sectors distributes risks and rewards between them, allowing the construction and operation of any piece of infrastructure cheaper than traditional public sector provision. It also allows both the sectors to work together towards a joint target, while leveraging joint resources and capitalizing on the respective competences and strengths.

Development planners in Bangladesh have considered these benefits and made policy commitments and budgetary allocations to involve private sector on a partnership basis in the financing and provision of infrastructure services. In the budget speech for the fiscal year 2009-2010 the finance minister pronounced the adaptation of PPP initiatives to meet the probable investment gap in infrastructure development and maintenance, alongside the government's investment (GOB, 2010). Very recently, Jatiya Shilpaniti-2010 (National Industrial Policy-2010) has promised to allocate resources for PPP initiatives in the construction, development and building of infrastructure and industries (GOB, 2010). The policy also gives priority to establishing public private partnership in nationalized industries.

As the Bangladesh economy needs huge investment in infrastructure development. Government alone is not capable to provide these funds. That is why government has allowed private sector to join the effort towards infrastructure development of the country. Government is ready to welcome both local and foreign investors. It is true that without participation from foreign investors' rapid infrastructure development is not possible. Government of Bangladesh has set target of 8 percent GDP growth rate by 2013. To attain this growth rate huge investments are needed for infrastructure development. Government believes that private participation in infrastructure development might be a good solution to scarcity of government fund in doing so. With a view to encourage private participation from both home and abroad government of Bangladesh has taken different initiatives. This is a view from government side. But from the investors view point whether these initiatives are sufficient or the investors, especially the foreign investors, are confident or not about the protection is the key point for investors. Investors' protection is critical in attracting private participation in infrastructure project development. Investors always prefer that economy which provides them better protection.

Despite these policy commitments of the government, PPP did not roll in the field mainly due to the absence of an integrated policy and an institution framework on PPP. Learning from this failure the government has recently issued a set of PPP guidelines to select and approve projects under PPP initiatives, and steps are being taken to establish a PPP office. Therefore, implementation of PPP initiatives, according to the budgetary allocations, the industrial policy, and the PPP guidelines, is at a very embryonic stage.

But there is no clear idea about the performance of public and private sector in infrastructure projects, environmental requirements, quality and cost of services and finally the barriers and challenges faced by the investors in an infrastructure project in Bangladesh context.

This study is an effort to learn about the performance of public and private sector participation in infrastructure development in Bangladesh focusing the investors'

protection, cost and service quality and also to identify the role of PPP in improving environmental protection by ensuring compliance with environmental requirements in Bangladesh. Finally the study is expected to find out answer of following research questions for an infrastructure projects and assist the investors who are planning to make their investment destination in Bangladesh and make some comments on how to create congenial atmosphere for the foreign investors in Bangladesh. The research questions are:

a. What is the performance of public sector in creating congenial atmosphere for the investing in infrastructure project in Bangladesh?
b. What are the costs of providing services and does the service quality be improved in infrastructure project implemented by PPP?
c. What is the role of PPP in improving environmental protection by ensuring compliance with environmental requirements in Bangladesh?
d. What are the barriers of implementing successful infrastructure projects under PPP?

1.4 Objectives of the Study

Government of Bangladesh has embraced private participation in infrastructure development of the country. Bangladesh needs huge investment in infrastructure development from the private sector since government alone cannot meet the financing fund. So securing sufficient funds for financing such massive PPP projects is a big challenge in Bangladesh. It has been learnt that for the private participation in infrastructure development of a country, creating conducive environment for investment is required. Investors are likely to invest in that environment where they feel protected regarding their investment and return thereof. This is critical for foreign investors. Financing such a large-scale project for rapid infrastructure development requires not only private participation from domestic sources but also foreign investment.

There is the need to identify and allocate all risk factors and barriers associated with PPP projects. There are many public-private partnerships past histories and project experiences to highlight factors critical to the success of future projects. However, no comprehensive study exists to contemplate and measure the performance of public and private sector leading to an effective PPP project execution and in Bangladesh. In the absence of such a study, it is extremely difficult for government agencies, industry personnel, and academics to accurately and effectively analyze PPP projects. Little research attempts have been done to find out the quality and cost of implementing of such projects, consideration of environmental protection and to analyze the risk factor and barriers of infrastructure projects leaving the private and public sectors to risk on projects that are costly to both. Furthermore, there exists a need for a widely applicable performance evaluation of PPP projects to analyze the role in Bangladesh context. Toward realizing the above mention problems, the objective of the study was under taken following objectives:

a. To assess the performance of the public sector in infrastructure project.
b. To measure the costs of services and determine service quality.
c. To explore environmental consideration of infrastructure project under PPP; and
d. To investigate the barriers of implementing infrastructure projects under PPP.

1.5 Assumption of the Study

An assumption is the supposition that an apparent fact or principle is true in the light of the available evidence. The researcher had the following assumption in mind while conducting this study:

1. The respondents included in the sample were capable of furnishing proper responses to the questions included in the interview schedule.

2. The researcher who acted as interviewer was well adjusted to the social environment of the study area. Hence, the data collected by him from the respondents were free from bias.
3. The information provided by the respondents was reliable.
4. The views and opinion furnished by the respondents' representative views and opinions of all the PPP stakeholders of the study area.
5. The findings of the study will have general application to other country with similar physical, socio-economic and cultural conditions of the study area.

1.6 Limitation of the Study

In order to keep the study under manageable limit, meaningful, and considering the time, money and other necessary resources available to the researcher, the following limitations were recognized.

1. Private participation in infrastructure development in Bangladesh is comparatively new and PPP framework has not yet been completely streamlined.
2. From the government point of view it has not yet been possible to find the primary data from a single point. Primary data has been collected from concerned different government offices and private sector offices of Bangladesh. Sometimes there was limited scope for collecting data. Due to government policy all required data could not be making available.
3. Larger number of questionnaire responses would have increased the credibility of the results from the survey analysis. More respondents should be selected with diversity since diverse professional are needed for successful PPP development and implementation.
4. Results would have been more representative if more case studies could have been conducted but due to time limitation and lack of availability of data this was not possible.

5. Resources in terms of time, money and facilities specific PPP materials were scarce; hence comprehensive study could not be carried out for representing perfect general PPP scenario of Bangladesh.
6. Secondary data has been used based on availability on relevant issues.
7. The major areas of investigation were mostly confined to selected PPP projects.
8. There are many performance indicator but only 16 indicators were selected for this study.
9. Population for the study was kept confined to the public and private officials, engineers' who implemented at least one PPP project during data collection.
10. For information about the study, the researcher was dependent on the data furnished randomly from the target respondents by mail and face to face interview. So there may be a chance to information gap.

CHAPTER 2

METHODOLOGY

2.1 Introduction

This chapter is a blueprint of the methodology that was used by the researcher to achieve the research objectives. In this chapter the research methodology is presented in the following order, research design, data collection method and finally the data analysis. The survey was conducted by sending out a questionnaire to selected professionals with experience in infrastructure projects. The survey helped in gathering information on the performance of public and private sector, environmental aspects, cost and service quality of PPP projects, Respondents were also to tell of the challenges associated with PPP projects.

2.2 Population of Study

The researcher undertook a census survey. This involved the collection of information about each member of the given population *i.e.* completes enumeration of the actors. The population for this study was all the infrastructure projects implemented under PPPs as indicated by the PPP Secretariat Bangladesh.

2.3 Research Design

Construction Management research is commonly carried out using four standard methods, these include: (a) Literature review; (b) Case study; (c) Interview; and (d) Questionnaire survey (Chow, 2005).Therefore, this research study combines these methods excepts case study to collect information and data on Public Private Partnership (PPP).The techniques and design of the data collection process were arranged so that the research objectives would be achieved. The research data and analyses were triangulated from other sources to help and improve the credibility of the findings.

2.4 Research Process

2.4.1 Background Study

Literature on the current practice of PPP both locally and internationally were reviewed via books, journals, magazines, newsletter, conference proceedings, workshops, seminars and other sources. Past and current practices of PPP were documented. The review exercise also included the development of an instrument to conduct the interviews and questionnaires. The information collected from these interviews and questionnaires were analyzed collectively firstly to verify the literature study conducted and secondly achieve the proposed research objectives.

2.4.2 Project Experience

From the literature review representative cases were selected from previous implementing infrastructure project under PPP. The selected cases included unique features such as having particular of performances' of stakeholders, cost and service quality, environmental consideration and barriers also. This case consists of PPP project experiences at Bangladesh context. The findings from the case study enable us to verify and triangulate the findings from the other sources of data collection used in this study.

2.4.3 Interviews with Public and Private Sector Expert

Interviews were conducted with experts from the public sector and private sector. The experts were selected based on two main criteria, these included:

- The experts possess adequate knowledge in the area of PPP; and
- Experts have hands-on experience with PPP projects

Four interview questions linking up to the project objectives were derived for the interviews with the public and private sector interviewees-

a. What is the performance of public sector creating congenial atmosphere for the investing in infrastructure project in Bangladesh?

b. What are the costs of providing services and does the service quality be improved in infrastructure project implemented by PPP?
c. What is the role of PPP in improving environmental protection by ensuring compliance with environmental requirements in Bangladesh?
d. What are the barriers of implementing successful infrastructure projects under PPP?

2.4.4 Use of Survey

A survey is a sampling or collection of facts, figures, or opinions taken and used to approximate or indicate what a complete collection and analysis might reveal. The survey asks professionals to respond based on their experience with PPP projects. It was ensured that the survey participants were from both public and private sectors. The various respondents included engineers, contractors, suppliers, designers and subcontractors.

2.4.4.1 Survey Questions

The survey conducted for this thesis asked questions relevant to projects that are procured through partnerships between the public and private sectors. Respondents were asked about their choice and comparison between traditional procurement and PPP for infrastructure projects. They were also asked to tell performance of public and private sector in infrastructure projects were best executed through PPP.

The survey aimed at achieving performance of public sector of PPP projects including: environmental aspects, service quality and cost of services and also the profound problems. Using the survey, the following objectives were achieved: "assess the performances of public sector, measure the cost and service quality of PPP", identify the role of PPP in improving environmental protection by ensuring compliance with environmental requirements and “Investigate the barriers of a successful infrastructure PPP project.”

2.4.4.2 Survey Respondents

Analysis for the survey was based solely on the responses received from survey recipients. The recipients were selected based on adequate knowledge and experience with PPP projects. Most respondents had experience with either private sector, public sector or both.

The organizations identified fell under five groups *i.e.* Government, Developer/Concessionaire, Engineer, Consultants, and Contractors. Professionals that participated on PPP projects were identified by respective organizations and were demanded to be served questionnaire. During the interviews conducted prior to the construction of the questionnaire it was discovered that a number of consultants are usually engaged by the government but they hardly know about public private partnership. These consultants strictly understand their technical areas, they were therefore not considered for this work. Presented in Table 2.1 below is the number of questionnaire administered.

Table 2.1: Number of questionnaires administered

Groups/Type of Establishment	Number Administered
Government	09
Concessionaire	02
Engineer	12
Consultants	04
Contractor	08
Total	**35**

The outcome of the interviews conducted was absorbed in the questionnaire administered for the development of performance indicators for partnerships in infrastructure. This was done in order to prevent total dependence on literature, neutralize the researcher's pre-conceived ideas, and most importantly allow experienced parties to set the indicators. Their responses were then compiled and joined with performance indicators obtained via literature review into the

questionnaire that was administered. The designed multiple choice type questionnaires consist of different tables and check boxes. The first section of the questionnaires contains questions meant to collect data about the general characteristics of respondents, this is necessary so as to check the quality or worthiness of the person giving the information. This section served as a source of information regarding the profession and years of experience of respondents. The other section of the questionnaire was structured with a question relating to objective of the study on a 5-point Likert scale for importance with 5 and 1 being the highest of the rating and the least respectively. Respondents were asked to indicate the importance/suitability of each indicator for measuring the performance of partnerships in infrastructure.

2.5 Data Collection Techniques

Representative practitioners with experience in PPP were targeted. The questionnaire aimed to achieve several key features of PPP projects including: the attractive and negative factors, reasons for implementation, performances of public sector, costs of providing services and does the service quality and also environmental protection under PPP and barriers of PPP project implementation.

The questionnaire template (Appendix: II) designed reviewing literature was adopted for covering objectives of this study. A research questionnaire could be developed based on the literature and interview findings; there were several advantages foreseeable to adopt survey questionnaire rather than designing a new template. There would be no added advantage to reinvent the work that has previously been done by other researchers. In filling out the questionnaires, respondents are required to rate the performance against questions on a scale.

For this study, primary data was collected through the use of questionnaires that were structured to meet the objectives of the study. The questions were both open ended and closed ended. The closed ended questions helped capture the results that were quantified during analysis and were ranked on a Likert scale with 5 being the

highest score. The open ended questions were used to solicit for responses that could not be adequately captured by structured questions. There is also a way for which the survey can be distributed to respondents either through emailing. The service also creates an ease for analyzing responses received. The target respondents were Chief Operations Managers and Public Relation Managers who were to represent the views of the private partners as well as the Technical Expert and Communication Expert at the PPP secretariat, Bangladesh who were to represent the views of the engaging partner, the Government of Bangladesh. For this study, the above people were considered appropriate since given their level of involvement, were considered knowledgeable of the entire projects/program design and implementation process. The questionnaires were administered by the researcher to enhance the response rate.

2.6 Data Analysis

The collected data was coded into SPSS and cleaned for analysis. Descriptive data analysis was undertaken, where statistics such as percentages mean scores and standard deviations were used to relay the results and interpreted accordingly. Thematic content analysis was used to evaluate the open ended question responses. Ranking techniques were also utilized to establish the preferences of the various projects. The results were then presented using tables and charts where necessary for ease of understanding. Ranking technique was used to explore the relative importance amongst the identified performance measurement criteria.

2.7 Expected Outcome

This research is expected to provide adequate insight into the entire process of PPP as well as look into the performance of public and private sector, cost and service quality of PPP project, environmental aspects and barriers of a successful PPP projects. The research will also provide responses and comments from experts and other stake holders associated with PPP projects. This will include views from individuals in the public and private sectors. All responses will be analyzed for

common parameters. This will help provide solutions as to whether the PPP model is an effective method for infrastructure projects.

From the responses suggestions will be made on how to improve the effectiveness of PPP and suggest further areas of research

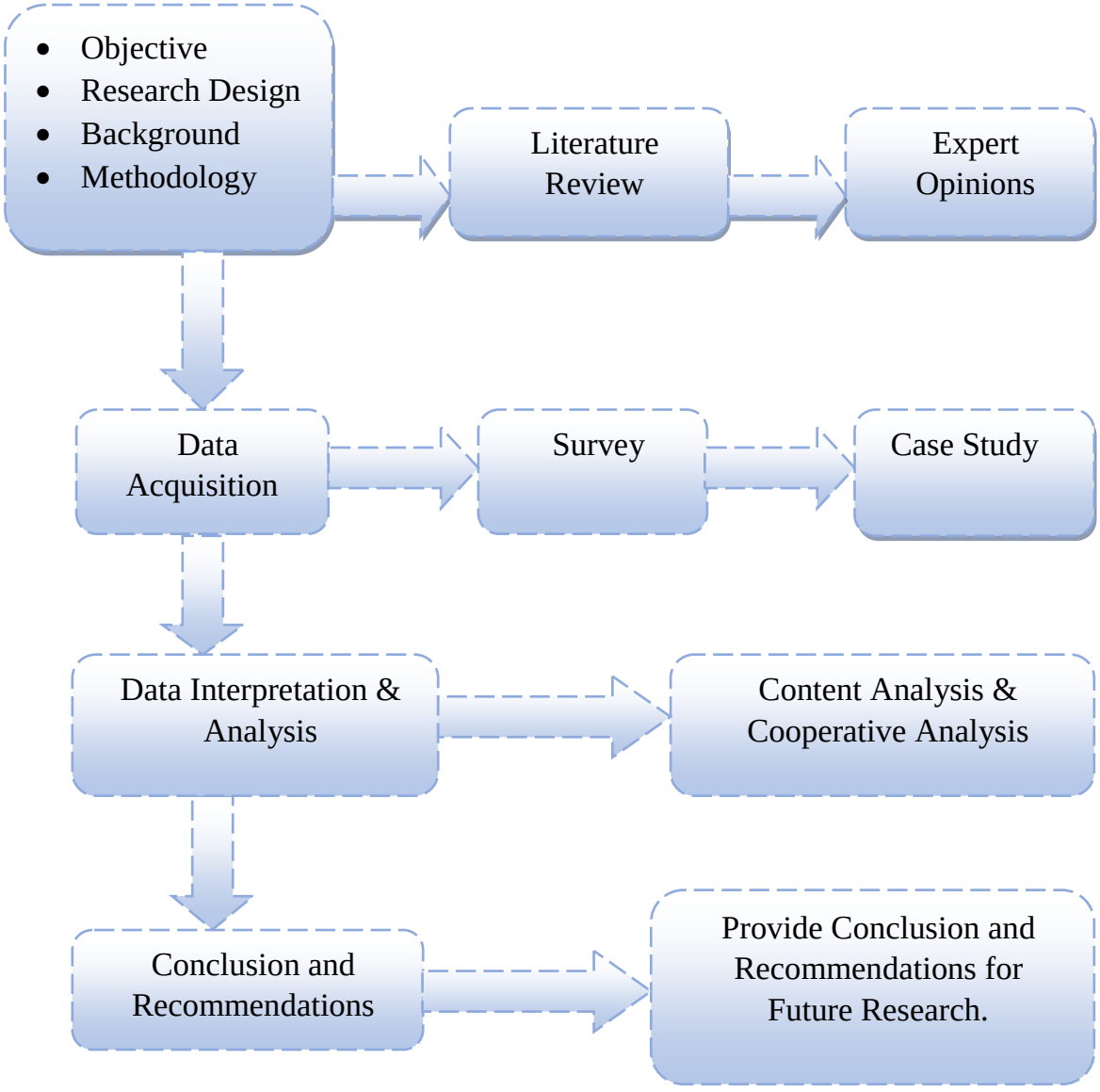


Figure 2.1: Flow diagram of the research process

2.8 Variables of the Study

In this study the variables studies were-

1. General characteristics of the respondents: age, education, experiences of infrastructure projects, experiences of PPP projects, sectors belongs etc.
2. Type of Infrastructure projects
3. PPP delivery model in Bangladesh
4. Practicing Guidelines for PPP Implementation
5. Reasons for Implementing PPP projects
6. Why PPP in Infrastructure in Development?
7. Factors Contribute Success of PPP
8. Ranking of negative factors for adopting PPP
9. Performance of public sector in infrastructure projects under PPP-

Sl. No.	Performance Indicators
(i)	Land acquisition for infrastructure
(ii)	Exemption of taxes and import duties
(iii)	Linked project
(iv)	Socio-economic issues
(v)	Legal dispute
(vi)	Fulfillment of agreement conditions (Production, Commercial Operation Date (COD)
(vii)	On time activities (Proposal to implementation)
(viii)	Project Monitoring and Quality control
(ix)	Procurement plan or procurement system
(x)	Risk Shearing (Market and revenue risks, Operating risks, Environmental risks, Political risks, Public acceptance risks)
(xi)	Operation and maintenance
(xii)	Financial incentive for private sector
(xiii)	Cost sharing

(xiv)	Environmental relationship and communications
(xv)	Satisfaction level of private sector
(xvi)	Coordination

10. Service Quality of infrastructure PPP projects
11. Cost of providing services in infrastructure project under PPP
12. Environmental consideration infrastructure projects under PPP-

A. Environmental Approvals for PPP projects
B. Environmental Impact Assessment (EIA) for infrastructure PPP projects
C. Do these steps of EIA being followed before starting this infrastructure project?
D. Environmental management and monitoring plan in PPP projects for sustainable infrastructure development
E. Did the specific environmental plan follow properly?
F. Do the PPP projects have any environmental monitoring plan?
G. Environmental factors adopting the infrastructure project under PPP arrangement-

Sl. No.	Statements
(i)	Limit and lower air, water, soil and all other forms of pollution,
(ii)	Provide for the stewardship of ecosystems
(iii)	Contribute to ecosystem and biodiversity management and conservation
(iv)	Enhance ecosystem services provided by green infrastructure
(v)	Promote and use clean and environment-friendly technologies
(vi)	Support the conservation and the sustainable and efficient use of natural resources, including water, energy and materials
(vii)	Mitigate greenhouse gas emissions during construction and maintenances
(viii)	Use of resilient technologies to and help protect against extreme

	weather events and other natural disasters such as earthquakes, floods, droughts and extreme heat etc
(ix)	Consider climate change risks in its design, maintenance and operation.

13. Barriers of PPP Projects-

A. Social barriers,
B. Legal barriers,
C. Economic barriers,
D. Environmental barriers,
E. Political barriers, and
F. Technological barriers

2.9 Chapter Summary

A survey was conducted to investigate and obtain information from experts with previous involvement and knowledge with PPP projects. The responses helped develop a perspective on the role PPP in infrastructure projects. The statistical representation of the survey responses helped to evaluate and analyze the various responses received. The mean score ranking was used to rank performance factor, and barriers of a successful PPP project.

CHAPTER 3

LITERATURE REVIEW

3.1 Introduction

An evaluation of the Literature Review on-Public Private Partnerships (PPP) brings forth the body of knowledge as it exists now, leading to the establishment of the need of this study. A thorough review of current literature searched for documentation of all aspects of Public Private Partnership. A general review of texts and literature relating to the PPP was conducted. A select number of journal articles relating to PPP were examined. Sources of literature include textbooks, journal articles, Website of Public Private Authority Bangladesh, Government of Bangladesh Reports, World Bank reports and various other reports.

3.2 Review of Literature on Different Aspect of PPP

According to the Federal Highway Administration (FHWA, 2010c) of United States Department of Transportation, PPP is defined as: "A contractual arrangement between public and private sector entities pursuant to which the private sector is involved in multiple elements of public infrastructure projects".

Private sector involvement in the delivery of public services is not a new concept; PPPs have been used for over three decades, starting in 1970s. Initially focusing on economic infrastructure, PPPs have evolved to include the procurement of social infrastructure assets and associated non-core services. PPPs are used in housing, health, corrective facilities, energy, water, and waste treatment projects. PPP policy has also evolved globally as public sectors budgetary challenges limit potential options. One method of tapping into alternative sources of capital is the public-private partnership.

Standard & Poor (2005) PPP could also be defined as: "Any medium to long-term relationship between the public and private sectors, involving the sharing of risks and rewards of multi sector skills, expertise and finance to deliver desired policy outcomes".

The National Council for Public-Private Partnership (2009) stated that some definitions make it seem as though most of the risks are transferred to the private sector. In reality, there is a relatively equal amount of risk transfer in a properly modeled PPP. However, both the public and private sector shares the risks and rewards potential in the delivery of the service and/or facility develop the necessary skill base to procure infrastructure by way of PPP, including the capacity to create and maintain a regulatory framework.

Nirupuma (2009) reported that private participation in US infrastructure is not a new phenomenon. Roadways were first developed in the eighteenth century by the private sector in the form of toll ways and turnpikes. The private sector was also involved in the nineteenth century in the development of canals and railroads. In the twentieth century, with the growing economy and the need for new infrastructure, the state governments and the federal government assumed the responsibility for providing infrastructure.

FHWA (2003) reported that in the early 1980s private participation in public sector projects emerged, specifically in the increasingly developing southern and western states. The United States Congress, in 1987, approved a pilot program authorizing 35% of federal funding to be channeled into government-sponsored toll road projects in nine states. Australia and most countries in Europe had previously effectively applied public private partnership (PPP) in most projects. There are currently 23 states in the United States as well as Puerto Rico which have passed legislation to allow PPP application in transportation projects.

Nguri (2009) reported that the private sector over the years has become progressively innovative in several developed countries, which has added substantial value to public procurement. The United Kingdom has been a recent initiator of the current private sector involvement with infrastructure projects. This has been the case with the introduction of Private Finance Initiative (PFI). PFIs have been used for the development and delivery of all types of infrastructure and services. Currently in the United Kingdom, PFIs represent 10 to 13% of all UK ventures in public infrastructure. About 100 PFI projects are undertaken per year. Canada has about 20% of all its new infrastructure projects designed, built or

operated by the private sector (Deloitte, 2010). Other developing countries from South America, Asia and Africa have also been looking in PPP procurements (USCAP, 2007).

Bovaird (2004) stated that through PPPs the public sector establishes long-term partnerships which are essentially working arrangements based on a mutual commitment between a public sector organizations with any organization outside of public sector. Relationships between public enterprises and private service providers should be based on trust to make the system sustainable and effective in delivering quality services to recipients. However, a PPP is not simply a joint venture investment or joint decision making between parties, unless this is linked to a PPP contract through networking. (Broadbent, *et al*., 2003) observe that Public private partnerships (PPPs) are contractual arrangements between public sector organizations and private sector investors for joint, symbiotic and collaborative provision and financing of public projects and services. They arise out of the realization that although the public sector is responsible for the delivery of infrastructure projects, it often encounters financial, technical and institutional limitations in availing such projects. Literature provides widespread evidence of a growing utilization of PPPs in the delivery of public infrastructure facilities and services to meet the numerous needs of modern economies.

Hodge (2004) stated that there is no single definition of PPPs. The term PPP has been explained and interpreted widely in the literature to encompass any form of arrangement between the public and private sector to deliver services to the public which was previously provided by the public sector alone. The definitions of PPPs differ in scope and formality of arrangements. PPPs vary from country to country in terms of information and operation even within the developed countries .PPP's can be defined in broad terms or in more narrow terms. In broad terms, it simply means any form of cooperation between organizations in the public sector and the private sector, usually meaning cooperative ventures between the state and private business (Linder, 1999). Contracting out can be viewed as a form of PPP in this perspective (Savas, 2000).

Perrot & Chatelus (2000) told that the PPP approach is expected to eliminate the decision making and managerial bureaucracy associated with the public sector. It further positively draws from the good credit rating and general goodwill of the public sector to consolidate market based procurement of project finances while ensuring less resistance from the general public. The private sector's limitations in managing macro level public infrastructure risks as pointed out by Carnevale (2002) can be overcome through the backing by the government in policy formulation for implementation of PPPs.

Van Ham & Koppenjan (2001) identified the following elements of PPP's: a business-like relationship, common decision-making procedures, risks sharing, and long term contractual relations. A PPP can be defined as "co-operation of some durability between public and private actors in which they jointly develop products and services and share risks, costs and resources which are connected with these products or services".

Linder (1999) observed that PPP's focuses on cooperation of entities: "The hallmark of partnerships is cooperation, not competition; the disciplining mechanism is not customer exit or thin profit margins, but a joint venture that spreads financial risk between public and private sectors". Salamon (1995) found that the institutional form can be a formal joint-venture company, an agreement to cooperate or simply a new organization where both public and private participates. Some institutional forms include cooperation between public organizations and voluntary organizations as distinct forms of partnerships.

Savas (2000) lists a number of possible types of PPPs. This list include infrastructure projects like BOOT, BOT, BOO and other models. These models are highly complex and rest on extensive risk sharing between the parties in the partnership.

Watson (2003) and Carroll & Steane (2000) see PPPs as a new tool of organizational structure and a mechanism for the delivery of public services to enhance efficiency and to establish different types of relationships with private

sector organizations. However, there are views that PPPs can be seen as new forms of governance (Teisman & Klijn, 2002).

Hodge (2004) focuses on the economic and operational aspects of PPPs in which government establishes long-term business relationships with other providers to share risks and returns and allows these partners involvement in financing, designing, constructing, owning or operating public facilities or services.

English (2007) also argues PPPs are time- and cost-specific agreements between the state and a private consortium for infrastructure-based service provision; here the private consortium is responsible for finance, design, construction and providing services and maintenance which is agreed upon for the duration of contract.

Leibenstein (1966) proposed the X-efficiency hypothesis of PPPs according to which government backed public entities are inherently inefficient such that PPPs are necessary to reduce the sources of inefficiency in such organizations. The involvement of the private sector allows public entities to respond to market forces and become more competitive.

According to Sappington & Stiglitz (1987) the value for money postulation for PPPs are desirable in infrastructure financing because they promote technical and allocative efficiency among public projects.

Reeve, A. (2004) argues that PPPs might help derive value for money so long as they are established in an environment rooted in long term cooperative relations among stakeholders. This co-operation should incorporate risk sharing and proper delineation of authority, communication and information channels as well as responsibility and accountability.

Dailami & Klein (1997) stated that the market orientation theory advances the case for PPPs from the market demand point of view while incorporating PPP risk considerations. The reasoning here is that market conditions affect the incentives of private firms to participate in any PPP in infrastructure projects. A private partner is

bound to have a faster recovery of their investment in larger and profitable market segments with considerable purchasing power than otherwise.

Kee & Forrer (2002) note that a competitive market is central to ensuring effective PPPs. Theoretically, a competitive PPP contract model is superior in delivering infrastructure because it encourages efficiency stemming from the inherent competition among the market players.

Kopp (1997) posits that PPPs can enable the public sector to leverage more financial resources by using the private sector as an intermediary. Accordingly, the propensity for a government to use PPPs to finance infrastructure is a function of the fiscal constraints such a government faces. According to this argument, PPPs allow the public sector to consider the implementation of the otherwise unaffordable infrastructure projects. Imperatively, countries facing fiscal problems coupled with deficient external sources of revenue tend to be more open to foreign private investment including in the infrastructure sector. Such countries are more open to the use of PPPs in infrastructure. Despite of the theoretic grounding of the use of PPPs in infrastructure financing, there is widespread documentation of the varied experiences of countries across the globe. In Europe, most PPP models are derivatives of the French concession model and the British Public Finance Initiative (PPP) model.

Karisa & Dantas (2006) indicate that PPPs were instrumental in the development of high-performance roads in France originating from the use of concessions and tolls for financing motorway construction by public companies from the mid-1950s. They document several major issues arising from France's experience with concession as a form PPP. These include the relative advantages and disadvantages of motorway financing through cross subsidies; relative advantages and disadvantages of toll financing of highways; efficiency of private concessions for highways; dilemma of regulating toll rates of concessionaires; importance of guarding against potential conflicts of interest when construction companies participate in concessions and relative ability of public and private sector companies to take environmental considerations into account.

Wolmer (2004) found that besides France, key economic sectors in the UK have benefited from the PPP in infrastructure development especially the health, transport and the energy sectors. For instance the London underground railway network began operating as a public private partnership in 2003. In this context, the issues arising in PPP finance include determination of appropriate sharing of revenues, risks and other issues relating to value for money derived from PPP infrastructure projects.

Li *et al.,* (2005) observed that the most important CSFs, in descending order of importance, are: a strong private consortium, appropriate risk allocation, available financial market, commitment/responsibility of public/private sectors, thorough and realistic cost/benefit assessment, technical feasibility, a well-organized public agency, and good governance. They have classified CSFs into five principle factor groupings: effective procurement, project implement ability, government guarantee, favorable economic conditions, and available financial market.

Koch, C. & Buser, M. (2006) have observed that the roles of the Denmark government in managing PPP projects include: to establish a central counseling unit; to develop a set of guidelines, tools, and standard contracts; to select a set of pilot projects; to subsidize feasibility studies; and to investigate potential sectors for PPP.

Grabow (2005) made a comprehensive and up-to-date review of Public Private Partnership (PPP) projects at federal, land and municipal level. The survey's most important findings reveal that PPP infrastructure projects are now widespread in Germany, particularly at municipal level. Expectations of PPP regarding higher efficiency and faster implementation go a long way to explaining the increase in the number of PPP projects. On the other hand, the survey did not find much evidence to suggest that PPPs are primarily seen as instruments to bridge widening gaps in public finances. The need for private capital injections plays an important role in one-third of projects. However, this does not mean that struggling municipalities have a stronger tendency to pursue the PPP-project option than their more affluent neighbor’s.

English (2007) notes that in the Oceania region the development and implementation of PPPs in Australia in the pre-2000 period was largely steered by non-PPP specific infrastructure procurement policies, that resulted in the Build, Own and Operate (BOO) and Build, Own, Operate and Transfer (BOOT) models of PPPs. These models involved private consortia in building, operation, ownership and transfer of infrastructure projects to the public sector with varying conditions. She shows that in the post 2000 period, control modifications were done resulting in two main PPP models

Jefferies *et al.*, (2002) identified the CSFs from reflection of an Australian sports stadium project, which include: solid consortium with a wealth of expertise, considerable experience, high profile and a good reputation, an efficient approval process that assist the stakeholders in a very tight timeframe, and innovation in the financing methods of the consortium.

Sheppard *et al.*, (1997) observed that in Africa, PPPs have been implemented on a lower scale than in the developed countries and Sub-Saharan Africa receives only a small share of private funds targeted for foreign PPP investment in infrastructure. They suggest that this could be a consequence of the difficulties in accessing project finance mostly because of the low creditworthiness of most African countries, the limits of local financial markets, and the adverse risk profiles typical of infrastructure projects. They further indicate that the ability of the region to attract more private foreign currency funding for infrastructure depends in part on the ability to reduce foreign exchange risks.

Russell & Bvuma (2001) indicate that PPPs in all sectors including infrastructure financing were introduced in South Africa in the year 2000. According to their model, value for money is only achieved if all appropriate risks are transferred to the private sector. The lessons the PPP experiences offer in the country are that there is need for regulatory framework that is effective, affordable and which offers value for money. The PPP Unit (2003) also suggests that procedural certainty coupled with technical assistance and political goodwill can boost infrastructure projects. Ultimately, development of capital markets would enhance accessibility to private debt finance for facilitating PPPs.

Pessoa (2008) summarized that it is evident from the literature that, since the mid-1990s, the role and scope of governments across the globe for providing public services in an effective and efficient way have come under severe criticism at various levels and in different forums

Kettl (2005) reviewing the literature on PPPs has revealed a growing tendency by governments for collaborative efforts that transcend philosophic orientations. Indeed, collaboration is at the center of New Public Management (NPM), but there has been much pressure on governments to provide better services. While the NPM emphasizes market values, PPPs align more with an increased focus on networks, partnerships and collaboration. Thus, a PPP is, as Mohr (2004) argues, a network of independent public and private actors who come together to form a cooperative and interdependent working relationship to provide improved management skills and financial solutions. The emergence of this network has introduced a range of issues about how to manage the interdependence. The collaborative management approach has thus claimed considerable attention as knowledge becomes increasingly specialized and the demand for state and non-state collaboration increases (Ansell & Gash, 2008) due to citizen's demands increasing. This collaborative management is a concept that describes the process of facilitating and operating in multi-organizational arrangement in order to remedy problems that cannot be solved or solved easily by single organization. Thus in recent years governments have widely recognized the necessity of some key elements of collaboration such as informal communication for the purpose of sharing and exchanging information, sharing initiatives, developing trustworthy relationship between the public and the private sectors and stakeholders involvement in the collaborative process through which they can share financial and managerial resources to solve the challenges that neither can address individually (Bryson *et al.,* 2006). This is a strategic response to resource dependency and for pooling technical, managerial and financial resources together as a means of reducing risks and transaction costs and entering into major projects or services.

Vidigni (2002) has therefore underlined how cooperation can take place in an organization where decisions are taken and implemented jointly. However, an

economic aspect of the PPP model cannot be overlooked as it involves substantial finance by both the public and the private sector in PPP projects.

Zhang, X.Q. (2005a) has identified five main Critical Success Factors (CSF) aspects which are economic viability, appropriate risk allocation via reliable contractual arrangements, sound financial package, reliable concessionaire consortium with strong technical strength, and favorable investment environment.

Allen Consulting Group (2007) investigates cost performance and timeliness outcomes of PPPs in Australia relative to budgetary provisions for the management and construction of public infrastructure projects. The study covers largely completed projects that were undertaken from the year 2000 to 2007. Drawing from a population of 206 projects, 50 of which were PPP financed, the study is based on detailed analysis of publicly available data for a sample of 21 PPP projects and 33 traditional projects. On the cost aspect they use value weighted analysis to test and estimate the optimism bias which is the possibility of underestimating costs and overestimating benefits from a PPP financed project.

Athias & Nunez (2007) empirically assess the effects of the bidding competitiveness (which they call the winner's curse) on the auctions for road concession contracts. They use their study to address three questions. First, they investigate the overall effects of the winner‘s curse on bidding behavior in such auctions. Second, they examine the effects of the winner‘s curse on contract auctions with differing levels of common-value components. Lastly they interrogate how the winner‘s curse affects bidding behavior in such auctions after accounting for the possibility of contract renegotiation by the bidders. They cross sectionally investigate a dataset of 37 road concessions worldwide by comparing similar projects across countries. Their findings show that the winner's curse effect is strong among less competitive toll road concession contract auctions. Bidders would bid less aggressively in toll road concession auctions when they expect more competition and weaker when the likelihood of contract renegotiation is higher. This shows that bidders are more likely to employ strategic bidding in weaker institutional frameworks, where renegotiations are easier.

HM Treasury (2003) found early estimates of efficiencies to be gained through PPPs showed cost-savings figures of 17 per cent from in their analysis of 29 business cases and 10 to 20 per cent based on seven empirical cases from the National Audit Office (2000). However, other scholars refute this implied value for money pointing towards contrary evidence. Prominent among these are Pollock *et al.,* (2002) who have been highly critical of PFI arrangements across a wide range of services, including roads, hospitals and rail-transport infrastructure. Their findings indicate that PPPs are more cost efficient than traditional procurement methods. This efficiency ranges from 30.8 percent when measured from the time of project inception, to 11.4 percent when measured from the time of contractual commitment to the final outcome. The study indicates that in absolute terms, the PPP cost advantage is economically and statistically significant. Additionally, with respect to time over-runs, on a value-weighted basis they find that traditional projects are likely to be completed later than PPPs relative to the budget. Between the signing of the final contract and project completion, PPPs are found to be completed 3.4 percent ahead of time on average, while traditional projects are completed 23.5 percent behind time. In their conclusion they note that PPPs provide superior performance in both the cost and time dimensions, and that the PPP advantage increases (in absolute terms) with the size and complexity of projects.

McKee *et al.,* (2006) investigate the success of PPPs relative to the traditional method of procurement of hospital infrastructure projects in Australia, USA, UK, Canada and the European Union. They carry out the study of the two decades leading up to December 2006 by exploring four main issues related to PPPs: cost, quality, flexibility and complexity of the resultant infrastructural project. They use PPP and its variants DBFO, BOO, BOOT and franchising on one hand and public procurement on the other. They combine case study research method with cross-sectional analysis to investigate various types of hospital infrastructure projects in the countries identified above. They conclude that PPP seems to work well on budget discipline and timely delivery aspects assuming that neither budgets nor time are inflated at the contracting time. Such inflation, they observe, is less likely in competitive PPP implementation.

HM Treasury (2003) observed that PPP projects in UK are being delivered on time and on budget as indicated by 88 per cent of the projects met these time and budget constraints. Although comprehensive, the study falls short on time comparisons by using the budgets as the benchmark instead of a more elaborate tool like PSC that takes into consideration time value of money. This is critical given that PPPs are implemented over lengthy periods.

Li *et al.,* (2005) undertook a survey to assess the relative importance of eighteen critical success factors (CSFs) among PPPs that were involved in service provision in the UK's construction industry. Their Data analysis involves descriptive analysis of the data; reliability tests using Cronbach's alpha; one way analysis of variance and factor analysis. The eighteen CSFs evaluated include a strong private consortium in the PPP arrangement; appropriate risk allocation and risk sharing; a competitive PPP procurement process; the commitment/responsibility of public-private sectors; a thorough and realistic cost-benefit analysis; the project technical feasibility; the transparency of the procurement process and good governance practice. Others include a favorable legal framework; available financial market; political support; government involvement by providing guarantees; well organized public agency; sound economic policy; social support; technical transfer and shared authority between the public and the private sectors. The findings reveal that effective procurement processes; project implement ability; government guarantee; favorable economic conditions and the available financial market are the main factors that influence effectiveness of PPPs in financing infrastructure projects.

Low *et al.,* (2005) investigate relative costs and benefits of PPPs in comparison with the traditional procurement methods in Scotland. The study covers all infrastructure PPP projects implemented up to 2005 in that country. The approach involved sending questionnaires to the public authority and private sector contractor responsible for each operational PPP as well as interviewing public and private sector PPP contract managers. 84% of the projects used PSC in project evaluation and indicated the PPP returned a saving versus the PSC. However, from the procurement and construction standpoint, the PPP procurement process is shown to be expensive and particularly burdensome for small projects. Here, the mean time taken to procure the PPP projects surveyed of 28 months was deemed to

be slower than non- PPP procurement. Besides this, the study finds that authorities were satisfied with design quality and innovation levels inspired by PPPs in the construction of infrastructure. In addition they promoted appropriate sharing of risks between the public and private sectors. On the flipside, they find no evidence on the improvement of the standard of service delivery by PPPs against the public sector. Further, the PPP contracts were found to be less flexible than non- PPP contracts. In general, majority of authorities considered PPPs to represent good or excellent VFM.

Vining *et al.,* (2005) evaluate the cost savings of PPP projects in Canada and the USA. They collect evidence on cost aspects of PPPs from six major prison infrastructure projects in these two countries operational at the year 2005. They use qualitative analysis combined with descriptive statistics on the contracting costs of the target PPP projects. They then provide a summary analysis of these PPP financed prisons. Their results confirm that PPP contracting costs are usually high. They conclude that these high contracting costs reflect the presence of complexity/uncertainty and lack of contract management skills by governments. According to them, efficiency and effectiveness of PPP projects would only be realized if public sector managers recognize that they must design contracts that both compensate private sector partners for risk and then ensure that they actually bear that risk.

Pitt *et al.,* (2006) investigate the principal factors which drive value for money within the PPP framework in the UK. They first conduct literature review to identify these factors before they assess them against the existing PPP projects in UK as at the year 2006. This is done through report analysis and interviews with PPP stakeholders. Their results reveal that the positive aspects of PPP incorporate the advantages of competition generated by the concept as well as improved risk management. They however point out that lack of agreed formulae by all stakeholders by which to benchmark VFM coupled with a cynical general public regarding the ability PPP concept to provide VFM provide the biggest challenge to their implementation. Their study identifies the factors that affect a PPPs value for money which they refer to as the drivers of VFM.

Hammami *et al.,* (2006) use panel data analysis on PPPs in infrastructure projects in various countries for the period 1990 to 2003 to empirically investigate cross-country and cross-industry determinants of public-private partnership (PPP) arrangements and their prevalence thereof. Their PPP database incorporates projects in low- and middle-income countries mostly in Latin America, the Caribbean, East Asia, the Pacific, Eastern Europe, Central Asia, South Asia, sub-Saharan Africa, the Middle East and North Africa. They determine the prevalence through counting their occurrence; considering the monetary values of these PPP occurrences and considering the extent of private participation. To analyze their data, they carry out three different regression analyses. Where the dependent variable is the number of PPP projects, they use Poisson or negative binomial regressions with Zero-Inflated Poisson (ZIP) specifications where appropriate (zero counts of PPPs in a year). At the industry level, they find that the determinants PPPs vary across industries depending on the nature of public infrastructure, capital intensity, and technology required. They also find that private participation in PPPs depends on the expected service marketability and the technology required.

Pollock *et al.,* (2002) evaluate the accuracy and challenges of appraisal of VFM focusing on evaluation of the discounting rate that is critical in time translation of project cash flows for comparison with PSC. They use the country‘s National Health System (NHS) data from 1991 to 2002. This corresponds to the time when the NHS was transferred to the PPP system of financing from the traditional public finance. They compare cash costs and net present costs of individual PPP hospital schemes and their risk valuations. Their data, derived from publications in the British House of Commons Health Select Committee Public Expenditure Memorandum of 2000 and 2001 and from full business cases for individual hospitals that benefited from the PPP system finance. Their methodology shows the impact of discounting on cash flows before and after risk transfer. Their results show that the costs of raising the finance account for 39% of the total project costs under the PPP yet publicly financed capital does not incur these costs. On the other hand the PPP approach seems to be only better than PSC after risk transfer was included in the net present value of PPP. This indicates the crucial significance of incorporating risk transfer when appraising the suitability of the PPP yet the

evaluation of risk is quite problematic. For instance the results indicate that the private sector's risk as a proportion of the total capital costs under PPP varies enormously between projects from 17.4% to 50.4%. This presents a difficulty in consistency of the project appraisal process. In addition, the results show that the value of risk transferred to the private sector is remarkably close to the amount needed to close the gap between the public sector comparator and the PPP. This calls to serious doubt the usefulness of PPPs in this sector.

Bovaird, T. (2004) analyses public-private partnership arrangements which are becoming increasingly common in numerous countries around the world. They discuss the formation of partnerships, their pros and cons and what the future may hold for these organizations. Bovaird argues that it is still early days to make definitive judgments about their effectiveness in various sectors.

Devapriya, K.A.K (2006) looks into nature, form and unique governance issues in debt and equity arrangements in regulated PPP organizations. Rather than alleviating a deficit in the institutional capacity of the public sector, the use of PPPs actually depends for its success on the development of a variety of new types of capacity from governments.

According to Dutz *et al.*, (2006) this shift from traditional public sector methods places new demands on government agencies. They need the capacity to design projects with a package of risks and incentives that makes them attractive to the private sector. They need to be able to assess the cost to taxpayers, often harder than for traditional projects because of the long-term and often uncertain nature of government commitments. They need contract management skills to oversee these arrangements over the life of the contract. And they need advocacy and outreach skills to build consensus on the role of PPPs and to develop a broad program across different sectors and levels of government.

Gausch (2004) identified the practice however, the environmental conditions that surround the project – the state of the economy, legislation that influences aspects of the project, political stability etc.-are often subject to change over the life of a project. When such circumstances unduly affect the private or the public sector in

comparison to the other, the best laid plans can go awry. Successfully structured projects therefore face turbulent times and are either re-structured, if possible, or fail. Indeed, this has been the fate of several PPP projects over the last few decades

Gomez-Ibanez *et al.,* (2004) indicates that sPPP projects encounter several risks that often lead to cancellations and/or significant renegotiations. The evidence from developing countries indicates that actual or perceived rise in tariffs, macroeconomic fluctuations in currency or purchasing power, inadequate regulatory and institutional environments, societal discontent against the private sector and political reneging are some of the key reasons for the failure of PPP projects

Jooste, Stephen F. (2009) explored the problem of institutional capacity shortfalls that governments face when they employ Public Private Partnerships (PPPs) for infrastructure provision. He specifically explores the variety of organizational forms (governance bridges) that have arisen in response to this problem, using an organization field-level analysis to identify the institutional forces that these organizations are subjected to. It also presents a brief discussion of the institutional change process that surrounds them. Finally the paper draws attention to a field level aspect which is of particular salience to the study of governance bridges.

Menendez, A. (1998) summarizes the key obstacles to the expansion of PPP initiatives in case of transport projects and highlights the structuring principles that can help to define and develop those initiatives in a better way. The paper explores various institutional factors like poor regulatory framework and an unstable sector policy environment which undermine the credibility of PPP initiatives. The paper also identifies constraints to the expansion of PPP projects as political, regulatory, financial and methodological constraints and further explores measures to address these constraints and create opportunities for PPP Transport projects.

Salamon (2002) observed that the last two decades have seen significant changes in the modes of government intervention in many developed countries. Reforms in countries like Great Britain and New Zealand have been at the forefront of this movement, largely driven by two broad factors: perceived public sector

inefficiencies, and the ascendance of liberal economic ideology. Changes have broadly involved a reduction in the role of government or, more accurately, a change in the functions it performs, and greater private sector involvement (Peters & Pierre, 2002).

Kumaraswamy & Zhang (2001) explore that for infrastructure development this has meant a move toward increased reliance on Public Private Partnerships (PPPs) that involve private companies in the financing and provision of infrastructure. In most countries these PPP arrangements have been aimed at overcoming two broad public sector constraints: (i) a lack of public capital; and (ii) a lack of public sector capacity –the resources and specialized expertise to develop, manage, and operate infrastructure assets.

Harris (2003) reported that the 1990s saw proliferation of PPPs in both developed and developing countries, totaling almost $755 billion in private investment across nearly 2,500 private infrastructure projects globally in developing countries alone. However, after peaking in 1999, private investment in infrastructure fell off dramatically at the beginning of the first decade of the 21th century, only recently returning to its former level. Guasch, Laffont, & Straub, (2002) identified a number of reasons that have been put forward for this downturn, including highly publicized cases of public opposition to private provision and large numbers of contract renegotiations and cancellations.

Guasch *et al.,(*2002) illustrate the challenges that the need to address these pervasive failures of infrastructure PPPs in recent years: (i) market failures associated with private infrastructure provision (rooted in the natural monopoly characteristics and externalities of infrastructure) (Goldberg, 1976); (ii) agency failures relating to the limited capacity of public entities; (iii) perceived legitimacy issues surrounding private provision of public infrastructure; and (iv) government opportunism stemming from the fact that infrastructure is plagued by what has been called the 'obsolescing bargain' once the facility is completed and in operation, the private developer loses much of its bargaining power in subsequent negotiations over tariffs or other matters (Woodhouse, 2005). A significant amount of work on increasing PPP effectiveness and sustainability has focused on the constraints from

the private perspective, stressing the limits employing private incentives to overcome public problems.

Van Slyke (2003) observed a number of scholars however have recently highlighted the critical role that the public sector plays in ensuring PPP success. For instance, based on a review of the World Bank‘s experience with infrastructure PPPs, Harris proposes that if private provision is to be sustainable and to benefit consumers of infrastructure services, governments will have to address many of the problems overlooked in the initial rush towards private participation (Harris, 2003).

Klijn & Teisman (2000) indicated that this assertion makes it clear that ensuring the success of PPP projects goes beyond successfully governing the projects that have been developed; indeed, the recent history of PPPs seems to suggest that some projects are flawed from the outset. Of critical importance are the choices made in deciding which projects to pursue, and developing these projects in a way that make them attractive to private investors while still protecting the interest of users and tax-payers in general.

Abdel Aziz *et al.*, (2007) discusses the principles that need to be addressed in order to ensure the successful implementation of a PPP program. These principles include: to understand the objectives of using private finance when selecting a PPP arrangement, to properly allocated risks to the private sector, to establish a broad and comprehensive PPP legal framework, to assess the value for money when selecting a delivery system, to create a PPP unit for policy development and/or implementation, to maintain the transparency in the selection process, to standardize the procedures and contracts, and to use performance specifications.

Akintoye *et al.,* (2003) concluded that factors that contribute to the achievement of best value in PPP projects are detailed risk analysis and appropriate risk allocation, drive for faster project completion, curtailment in project cost escalation, encouragement of innovation in project development, and maintenance cost being adequately accounted for. They also found the factors that impede the achievement of best value in PPP projects are: high cost of the PPP procurement process, lengthy and complex negotiations, difficulty in specifying the quality of service

pricing of facility management services, potential conflicts of interests among those involved in the procurement, and the public sector client's inability to manage consultants.

Durchslag *et al.*, (1994) have studied a set of conditions that must be met for PPP to be successful over the long term. These conditions were found out to be to ensure that the highest political authorities give their complete commitment and support to pushing the program, as fast as possible; maximize transparency and minimize the scope for discretionary decision making to ensure the integrity of the process; minimize government provision of guarantees, incentives and credit; empower a small committee of carefully selected individuals to oversee the privatization process across all sectors; develop and enact the legal and regulatory framework for the sector before conducting any actual securitization or privatization; ensure the integrity ofthe restructuring process; and maximize competition through the use of public tenders.

Huxman & Hubbert (2009) have studied what makes partnerships a success or not. Huxman & Hubbert pick out five types of success. They are: (1) Achieving outcomes, (2) getting the process to work, (3) reaching emergent milestones, (4) gaining recognition from others, and (5) acknowledging personal pride in championing a partnership. Out of these types of success, the most well-known ones from other parts of the literature are (1) and (2).

Kumaraswamy & Zhang (2001) have discussed the issues that governments need to deal with for the BOT scheme to work smoothly which include: establish adequate legal and regulatory framework, provide stable political environment, develop domestic capital market, ensure a fair and competitive bidding, provide adequate government assistance and guarantees, conduct project feasibility study, select the most suitable concessionaire, continuously assess project progress and performance.

Merna & Dubey (1998) discuss the concept of financial engineering and how it may be used to structure financial packages for infrastructure projects. They outline the instruments, markets, sources and risks associated with the procurement of privately financed infrastructure projects and demonstrate how financial

engineering techniques can be used to tailor lending packages to suit projected cash flow.

McConnell, A. (2010) observes that despite some literature available on policy success (including much literature on failure), the phenomenon of policy success is rarely tackled directly and systematically. He acknowledges, though, that policy has to date been about process; about programmes and about the political dimension. As a consequence, he suggests that these three main dimensions provide a foundation for interpreting success. McConnell notes that governments do process (defining issues as problems, examining options, consulting, and so on), they do programmes (using a wide variety and combinations of policy instruments), and they do politics (engaging in activities that can influence electoral prospects, maintaining capacity to govern and steering policy direction). Clearly, success can reside in each of these three spheres. These insights are crucial in the discussion of PPP success.

Skelcher, C. (2010) writes about PPP success from another angle–that of the governance of PPP. Acknowledging the existence of a wide range of PPP forms, he writes about four different types of governance: legal governance, regulatory governance, democratic governance and corporate governance. He observes that there has been some focus on legal governance, democratic governance and also regulatory governance. However, he states that corporate governance aspect has been the least examined aspect of PPPs, with few studies having focused on the relationship between the board and the director and the governance structures surrounding them.

Adams (2006) examine the PPP system in China to identify the constraints facing its implementation and progress in the context of several models of bureaucracy in the country. Their study uses qualitative analysis based on Chinese PPP secondary data available for a twenty year period commencing when the PPP arrangements came to practice in China up to 2006. This involves intensive study of the individual projects by studying reports, news items, manager responses and the details of project implementation, ex ante budget and ex post cost and performance records. In the Chinese PPP context, they indicate that the main PPP models are

concessions, divestiture and outsourcing. The qualitative desk-top research reveals the following as the major stumbling blocks to the effectiveness of PPPs in China. First is the allocation of risk between the public and private partners. The other challenges are identified as corruption, continued weak supervision, poor accessibility to investment capital and authorities and the central government which exacerbates this fluidity and policy contradictions.

Qiao *et al.*, (2001) have identified eight independent CSFs which include: appropriate project identification, table political and economic situation, attractive financial package, acceptable toll/tariff levels, and reasonable risk allocation, selection of suitable subcontractors, management control, and technology transfer.

Asian Development Bank (ADB) Report (2009) discusses challenges faced by PPP‘s in India and the initiatives taken by the Asian Development Bank to provide technical assistance in development of PPP‘s at the Central and State level. It also discusses the difficulty in developing self-sustaining, bankable PPP projects in India at state level.

The Department of Economic Affairs, Government of India and Asian Development Bank Report (2006) discuss status of PPP‘s in India and their relevance in economic development. It also discusses key government initiatives and private sector perspective on PPP‘s in India. It also throws light on the role of multilateral agencies in PPP. It further discusses the role of government in capacity building at the state and central level. In the end, the report draws lessons for India from the experiences of developed and developing countries like Mexico, Chile, California, Virginia, etc.

DEA, MoF, GoIReport (2007) discusses the Infrastructure challenges and Role of Public Private Partnerships in India. It focuses on the importance of organizing the government capacity for PPP’s. The report further describes the innovative financing models for infrastructure and the growing pool of international investors looking to invest in PPP’s. The report also discusses the typical risks in various infrastructure sectors and arrangements for sharing them. A study done by the Committee on Infrastructure Financing, constituted by the Government of India,

has indicated that India must invest close to USD 400 Billion in infrastructure development and maintenance over the period ranging from 2006-2011 (Committee on Infrastructure Financing, 2007). Given the large sum of money involved as well as the vast amount of infrastructure that is to be built, it is clear that the participation of the private sector will be necessary, both in terms of financing and in terms of implementation of infrastructure. Public Private Partnerships (PPP) are therefore considered to be inevitable in the prevailing Indian Infrastructure context and are estimated to constitute 40% of new infrastructure development over the next four years (Department of Economic Affairs, GoI, 2007). The private sector too is increasingly becoming interested in participating in infrastructure projects. In the roads sector for instance, PPP projects attract more bidders today than they did 5 years ago.

Government of India Report (2010) discusses various policy initiatives taken by Central government to promote private participation in infrastructure like formation of Committee on Infrastructure (COI), Cabinet committee on Infrastructure (CCI), Public Private Partnership Appraisal Committee (PPPAC), etc. It also discusses the role of these committees in monitoring and developing private participation in infrastructure. It also lists various PPP projects approved by these committees at central and state levels. This report further discusses the status of various PPP projects at the central as well as state levels which are at different stages of development, i.e. completed, under implementation or in the pipeline.

Price Water House Coopers Report (2007) prepared for World Bank states evidence based description of present financing sources for PPP in Infrastructure. It analyses the debt and equity financing of PPP in India. It further identifies changes required to reduce and ease the identified constraints. The report supports the above study through a survey findings and data analysis through pie charts and bar graphs.

Thomas *et al.*, (2003) have identified eight types of risks: traffic revenue risk, delay in land acquisition, demand risk, delay in financial closure, completion risk, cost overrun risk, debt servicing risk, and direct political risk. They further discuss risk perception of project stakeholders and factors influencing risk acceptance.

World Bank Report (2006) discusses a number of wide ranging issues on the subject. This report explores the need for developing and strengthening capacities for PPP‘s in India. It lays emphasis on the role of public sector/government for a successful PPP program in the country. It states that government can boost performance of PPP programs through various policy and regulatory frameworks and developing human resource capacities through proper training and information dissemination. It also suggests various measures for PPP’s in India based on experience of other countries like Philippines, South Korea and Chile. Besides, its bibliography itself is a good guide for further research on the subject.

Another World Bank Report (2006) discusses the various constraints to infrastructure financing in detail like financial constraints, fiscal barriers, inadequate administrative capacity and poor infrastructure regulations. This report also discusses investment need for infrastructure and participation by financial institutions in infrastructure projects. It further explores sector specific constraints related to poor regulation and related risk and uncertainties. In the end, the report suggests measures to address infrastructure financing constraints and related regulatory issues.

Roehrich *et al.,* (2014) stated that Governments around the world, but especially in Europe, have increasingly used private sector involvement in developing, financing and providing public health infrastructure and service delivery through public private partnerships (PPPs).

Jiménez & Pasquero (2005) explore that Public private partnership (PPP/P3) is getting attention as an attractive field of research during the last few decades because PPP is being considered as an alternative institutional arrangements and modes of delivery of public goods and services (Jamali, 2007, Wettenhall, 2003; Hodge & Greve,2005).

Lane & Gardiner, (2003) observed that the primary objective of PPPs is to facilitate the delivery of high-quality public facilities and services by the private sector over an extended period of time at a cost that represents value for money, whilst at the same time transferring an appropriate level of risk to the private sector.

Widdus (2001); Pongsiri, (2002); and Nijkamp *et al.*, (2002) indicated that PPPs imply a sort of collaboration to pursue common goals, while leveraging joint resources and capitalizing on the respective competences and strengths of the public and private partners.

Grimsey & Lewis (2002) found that PPPs can also work for a range of infrastructures including transportation, water and sewer services, solid waste disposal, municipal parking, and "social" infrastructure such as schools, hospitals, and other public buildings. These include education, housing, health care, transportation, social care and many other areas commonly associated with the public sector.

European Commission (2004) discussed in its green paper on PPPs, recognized some common elements of a PPP: long duration cooperative relationship, complex arrangement of shared funding and participant's role at different stages in the project and shared risk.

According to Jamali (2004), Pong Siri (2002), Nijkamp *et al.*, (2002) and Widdus (2001), PPP is a sort of collaboration to pursue common goals by leveraging joint resources and capitalizing on the respective competences and strengths of the public and private partners. Indeed, the nature of relationship between the public and private sectors is seen on the dimension of five types of activities namely- parallel activities, competitive activities, complementary & collaborative activities (Ravindran, 2002), and Contractual activities (Clifton & Duffield, 2006).

Efficiency Unit, (2003b) found that PPP is the collaboration in which the public and private sectors both bring their complementary skills to a project, with different levels of involvement and responsibility, for the sake of providing public services more efficiently.

Lewis (2002) stated that PPP is a relationship that consists of shared and/or compatible objectives and an acknowledged distribution of specific roles and responsibilities among the participants which can be formal or informal, contractual or voluntary, between two or more parties. The implication is that there is

cooperative investment of resources and therefore joint risk taking; sharing of authority, and benefits for all partners.

According to Jefferies & McGeorge (2008), a PPP consortium is defined as a temporary organization with a complex network of stakeholders each with competing goals and objectives. Torres & Pina (2001) told that Public private partnerships (PPPs) are a policy adopted by government to buy infrastructure (and related ancillary) services over the long term.

Broadbent, J. & Laughlin, R.(2003) said that PPP is an approach to delivering public services that involve the private sector, but one that provides for a more direct control relationship between the public and private sector than would be achieved by a simple (legally-protected) market based and arms-length purchase. As civil infrastructure projects have grown in scale and scope, their cost has increased accordingly. As a result, we have entered what has been termed the era of the infrastructure megaproject (Altshuler & Luberoff, 2003).

According to Grimsey and Lewis (2004), PPPs might be defined as a bundle of rules that allow a public entity to participate or support infrastructure service supplying, which were previously provided by the public sector. This new contractual arrangement has many forms and it may set one or many tasks for the private partner that can include management, financing, developing or repairing a building or a service.

HM Treasury (2006) stated that since their emergence, PPPs are being used in many infrastructure sectors, in parts of the European continent, the USA and Latin America. The larger concentration of these public contracts occurs in the health sector, sanitation, prisons, roads and schools (European PP Report, 2009). It can be highlighted that the UK, as a precursor country in these contractual relationships, has signed around 70 projects from 1998 to 2006. In the world scenario, in 2005, according to Price (Waterhouse Coopers 2005), contracts signed using the PPP model were around 55 billion dollars. Iossa & Martimort (2009) found that the PPPs had lower results in provision of services related to water supply in France. In

addition, sectors that have rapid technological change do not seem to be appropriate in these partnership contexts.

Guasch & Straub (2009) observed the existing evidence and also suggests that renegotiations have played a significant role in PPP arrangements worldwide. In Latin America, there are numerous cases where governments have failed to honor contractual terms and the projects were abandoned. This evidence questions the results provided by PPP contracts, but they also stress the need of theoretical model development for the understanding of incentives in this contractual arrangement.

According to Bettignies & Ross (2009), the entry into a partnership with the private sector contributes better than the traditional contractual arrangement because the partnership is a better incentive towards the adoption of innovative ideas that could serve as a tool to assist the government to achieve lower costs in the provision of public services. The key point in public-private partnership performance is the possibility provided to governments to expand the supply of public goods and services using private resources and somehow increasing their budget.

Li and Akintoye (2008) highlighted the advantages these are: first is the competition among private agents interested in entering a partnership with the State. These authors also reiterate the fact that the private sector's innovative capacity is something that should be considered. Thus, they justify this hypothesis value, taking into account that in the private market there is intense competition, so innovation is a competitive advantage for companies. Conversely, risk sharing must be considered when a PPP concession is made.

Concerning the investments, (Hart *et al.*, 1997) developed a theoretical model that seeks to identify which conditions the government should be responsible for the service provision, or alternatively, when this benefit can be transferred to the private sector. The authors suggest that the provision of public services should continue being the government's competence when possible reductions in undertaking costs have a large effect on the quality of the service. Conversely, privatization is better when cost reductions may be controlled by a competitive

contract, or when the innovation process concerning design quality characteristics is important.

Within this incomplete contract context, (Hart, 2003) develops a PPP model where the public entity is an active owner after the project is finished and which possesses two options: hire a third party to build and operate the project (bundling regime) or contract two different companies (unbundling regime). The author assesses PPP as a good option when service quality can be well defined in the initial contract, while the building quality cannot.

Under the government spending perspective, Maskin & Tirole (2008) report that bundling not always induces the building and operation firms responsible to internalize operational cost reduction. This procedure could lead to an efficiency loss because the best builder is not necessarily the best operator. Moreover, bundling might encourage choices that lead to future cost reduction over the service quality because of collusion between the operator and the regulator, who together can manipulate the project's accounting in their favor.

Walker & Smith (1995) suggested three main reasons for using the PPP approach: firstly, In general, the private sector possesses better mobility than the public sector. For example, the privates sector is not only able to save the costs of project in planning, design, construction and operation, but also avoid the bureaucracy and to relieve the administrative burden. Secondly, the private sector can provide better service to the public sector and establish a good partnership so that a balanced risk-return structure can be maintained and thirdly the government lacks the ability of raising massive funds for the large-scale infrastructure projects, but private participation can mitigate the government's financial burden.

Walker *et al.,* (1995) sported that PPP is a win-win solution and a number of benefits to the general public and government are recognized:

- Relief of financial burden;
- Relief of administrative burden;
- Reduction in size of inefficient bureaucracy;
- Better services to the public;

- ❖ Encouragement of growth; and
- ❖ Government can better focus and fund social issues such as health, education pensions and arts.

According to Ghobadian *et al.*, (2004) anticipated that there will be more PPP projects due to two main reasons. Firstly; the private sector will get to know the needs of the public sector client over time. Secondly, the private sector has more to give than the public sector in terms of skills, technology and knowledge therefore providing better quality facilitates.

Askar & Gab-Allah (2002) summarized eight advantages of PPP are: i) The use of private sector financing to provide new sources of capital, thus reducing public borrowing and improving the host government's credit rating; ii)The ability to accelerate the development of projects that would otherwise have to wait for scarce sovereign resources; iii) The use of private-sector capital, initiative, and know-how to reduce project construction costs and schedules and to improve operating efficiency; iv) The allocation of project risk and burden to the private sector that would otherwise have to be undertaken by the public sector; v) The involvement of private sponsors and experienced commercial lenders, providing an in-depth review and additional assurance of project feasibility; vi) Technology transfer, training of local personal, and development of national capital markets; vii) In contrast to full privatization, the government's retention of strategic control over the project, which is transferred back at the end of the contractual period; and the opportunity to establish a private benchmark to measure the efficiency of similar public sector projects and thereby offer opportunities for the enhancement of public management of infrastructure facilities; Viii) Risk transfer is one of the main reasons for adopting the PPP approach. The private sector is in general more efficient in asset procurement and service delivery and as a result it is to the government's advantage to share the associated risk with the private sector. Corbett & Smith (2006) stated that cost certainty is more easily achieved in PPP projects as financial terms are identified and included within the contract. Since the private consortium will normally be responsible for financing, designing, constructing and operating the facility over an extended period, any cost saving can naturally result in a better chance of securing profit. Hence, they are keen to control their spending tightly

Chan *et al.*, (2006) explore that Innovation is another important advantage that the private sector can bring to public services. Generally speaking, the public sector may not be as innovative as the private sector. The private sector on the other hand is continuously searching for new product and services to increase their competitive edge and to save costs. The private sector is made responsible for ensuring that the asset and service delivered meet pre-agreed quality benchmarks/standards throughout the life of the contract. Sometimes, the private consortium would only receive payment upon meeting certain requirements of the project; or it is motivated by the incentive payments to reward the high quality of service to be provided. In a PPP project the consortium is also responsible for the long-term maintenance of the facility/service. The concession period may range from a few years to decades. Therefore the consortium is keen to design and construct the service/ facility to ensure better maintainability (Chan *et al.*, 2006), at least within the concession period if not beyond.

Li (2003) stated that Public sector projects delivered by the PPP model can often be completed on time and even with time savings because the consortium would start receiving revenue once the facilities/services are up and running. Therefore, the project team is keen to complete design and construct as quickly as possible. Once it starts to accrue revenue it can begin to pay off the initial costs and build up profits, whereas in a traditionally procured project there are no extra financial incentives for public servants to deliver projects faster. As a result, projects can best be proceeded along as scheduled.

Li *et al.*, (2005b) observed to the government, PPP frees up fiscal funds for other areas of public service, and improves cash flow management as high upfront capital expenditure is replaced by periodic service payments and provides cost certainty in place of uncertain calls for asset maintenance and replacement. Public sector projects delivered via the private sector normally involve private sector funding. Consequently, the public funding required for public services can be reduced and redirected to support sectors of higher priority ,*e.g.* education, healthcare, community service, etc.

European Commission Directorate (2003), PPP provides access to public sector markets to the private sector participants. If priced accurately and costs managed effectively, the projects can provide reasonable profits and investment returns on a long-term basis. Also, these projects tend to be large and therefore expertise form many areas are required. Hence co-operation among different collaborating parties is encouraged.

Berg *et al.,* (2002) also summarized some disadvantages of PPP project these are i) Lengthy bidding process-from initial phase of public sector assessment to signing of contract takes up to two years. The process of inviting, preparing, assessing and refining bids and negotiating contracts is complex and procedural. ii) High bidding costs-the detailed and lengthy nature of the bidding process implies increased transaction costs; iii) Small number of bidders IV) Cost overruns-considerable scope for cost inflation through the bidding process and v) Excessive risks –not clear to what extent the government can shift risk.

Chan *et al.,* (2006) also observed time certainty is found to be more easily achieved in PPP projects. The consortium is often paid according to milestones of the project schedule and any delay might be subject to liquidated damages. Therefore the consortium is often motivated to reach these milestones on time. This is a common behavior observed in the private sector but it may not be the case in the public sector. PPP projects may fall apart due to failure on the part of the private sector participants. In contracting out the PPP projects, the government should ensure that the parties in the private sector consortium are sufficiently competent and financially capable of taking up the projects. Due to a lack of relevant skills and experience of project partners, PPP project are more complex to procure and implement (*e.g.* London underground). The bidding process is also regarded as lengthy and complicated. For example, bidders are required to prepare tender proposals attached with a bundle of additional materials. Such a process may take three to four months. Besides, another several lengthy negotiation will be required for the formation of the contract. Clearly, setting up a complicated agreement framework for successful PPP implementation can slow down the bidding process.

Corbett & Smith (2006) indicated one common problem encountered in PPP projects is the high bidding costs, which is owing to increasing project complexity and protracted procurement process. The private sector incurs high bidding costs partly due to the consideration of the clients and their financier's objectives. Lengthy negotiations and especially the cost of professional services may increase the bidding costs further

Li, 2003; Li *et al.*, (2005b) found another common complaint by the public is the high tariff charged for the service provided. More often, the private sector would face political uphill in raising tariff to a level sufficient to cover its costs and earn reasonable profits and returns on investment. The participation of the private sector to provide public service will undoubtedly bring innovations and efficiencies in the operation, but may produce an ear of downsizing in the public sector. To a certain extent, there would be fewer employment opportunities if no regulatory measures were implemented.

Grimsey and Lewis (2004) highlighted the reason for failure is the stakeholder's opposition and general public opposition. Heather the proposed project is consonant with the interest of the public is important as public opposition can adversely affect the funding for the project from the public sector. PPP in public projects typically incur political and social issues like land resumption, town planning, employment, heritage and environmental protection. These could result in public opposition, over-blown costs and delays to the projects. The introduction of PPP expert's unprecedented pressure on the legal framework as it plays an important role in economic development, regeneration and mechanism for developing infrastructure. Still, some countries do not have a well-established legal framework for PPP projects and the current legal framework is only supposed to deal with the traditional command and control model. Although PPP involves a great deal of legal structuring and documentation to deal with potential disputes amongst PPP parties, a "water-tight" legal framework is still lacking (*e.g.* protection of public interests versus legitimate rights of private sector).Without a well-established legal framework, disputes are inevitable. Private sector investors bear financial risks in funding of the investment. Seeking financially strong partners in a PPP project is regarded as difficult. In most PPP arrangements, the

debt is limited-recourse or non-recourse, where financiers need to bear risks. In fact, most stakeholders are not willing to accept excessive risks. The lack of mature financial engineering techniques on the part of the host countries can also be another problem. Unattractive financial market *(e.g.* politically unstable or high interest rate) is often a negative factor to PPP success. Therefore, financial market is important for the private parties to drive PPP projects.

3.3 Chapter Summary

In this chapter, a comprehensive review of current literature searched for documentation of all aspects of public private partnership agreements is conducted. A review of literature concerning the infrastructure of different country of world and also Bangladesh and its history was also studied. Government documents from the Bangladesh and abroad, including actual legislation and guiding principles for implementing PPP projects, served as a large source of information. A select number of journal articles relating to PPP were also examined. Sources of literature include textbooks, journal articles, conference reports, seminar presentations, reports to the US congress, and reports from other resources.

CHAPTER 4

PUBLIC PRIVATE PARTNERSHIP: CONCEPTUAL FRAMEWORK

4.1 Introduction

Meeting the challenges of the growing demand for new and better infrastructure services with limited resources have found partnerships with private sector as an attractive alternative to increase and improve infrastructure services in a short time. The partnership is built through a legally binding contract on the expertise of each partner that meets clearly defined public needs through the appropriate allocation of resources, risks, responsibilities and rewards. It is important to emphasize here that PPP is not a solution option to an infrastructure service problem but a viable project implementation mechanism for a preferred solution option.

4.2 Definition of PPP

According to Department of Economic Affairs, Ministry of Finance, Government of India (GOI, 2007) and Asian Development Bank, "PPP means an arrangement between a government or statutory entity or government owned entity on one side and a private sector entity on the other, for the provision of public assets and/ or related services for public benefit, through investments being made by and/or management undertaken by the private sector entity for a specified time period, where there is a substantial risk sharing with the private sector and the private sector receives performance linked payments that conform (or are benchmarked) to specified, pre-determined and measurable performance standards." Any Engineering Procurement Construction (EPC) contract asset that is not retained by the private sector after 3 years from completion of construction or any arrangement for supply of goods or services for a period of up to three years or any arrangement or contract that only provides for a hire or rent or lease of an asset without any performance obligations and other essential features of a PPP does not come under the definition of PPP.

According to GOI, 2007 "PPP Project" means a project based on a contract or concession agreement, between a government or statutory entity on the one side and a private sector company on the other side, for delivering an infrastructure service on payment of user charges. Here, Private Sector Company means a company in which 51% or more of the subscribed and paid-up equity is owned and controlled by a private entity.

Though, there is no single definition of PPPs, the primary aim of this cooperation broadly refers to long-term, contractual partnerships between the public and the private sector agencies, specifically targeted toward financing, designing, implementing, and operating infrastructure facilities and services that were traditionally provided by the public sector.

In accordance with the Asian Development Bank (ADB, 2008) reports, effective PPPs recognize that the public and the private sectors each have certain advantages, relative to the other, in performing specific tasks. The government's contribution to a PPP may take the form of capital for investment (available through tax revenue), a transfer of assets, or other commitments or in-kind contributions that support the partnership. The government also provides social responsibility, local knowledge, environmental awareness, and the capacity to mobilize political support. The private sector's responsibility in the partnership is to make use of its knowledge and proficiency in commerce, management, operations, and innovation in order to run the business more professionally and efficiently. Also, the private partner may contribute investment capital based on the form of contract.

PPP Characteristics

- Government's role is one of facilitator and enabler by assuming social, environmental and political risks; private partner's role is one of financier, builder and operator of the service or facility and it typically assumes construction and commercial risk.

- ❖ The Government remains accountable for service quality, price certainty and cost effectiveness (value for money) of the partnership.
- ❖ The PPP process involves a full scale risk appraisal since the private sector assumes the risk of non-performance of assets and realizes its returns if the assets perform.
- ❖ PPPs deliver efficiency gains and enhanced impact of the investments. They lead to faster implementation, reduced lifecycle costs and optimal risk allocation.
- ❖ PPP does not involve outright sale of a public service or facility to the private sector.

4.3 Types of PPP Contracts

According to Asian Development Bank (2000) and World Bank (2004) the most common partnership options used world-wide are classified as-

a. Service Contract and Management Contract
b. Turnkey contracts
c. Lease contract
d. Concession
e. Private Finance Initiative and Private ownership

Each of these five categories has many variants. A categorization of the model with main variants and characteristics is shown in Figure 4.1 and Table 4.1 below:

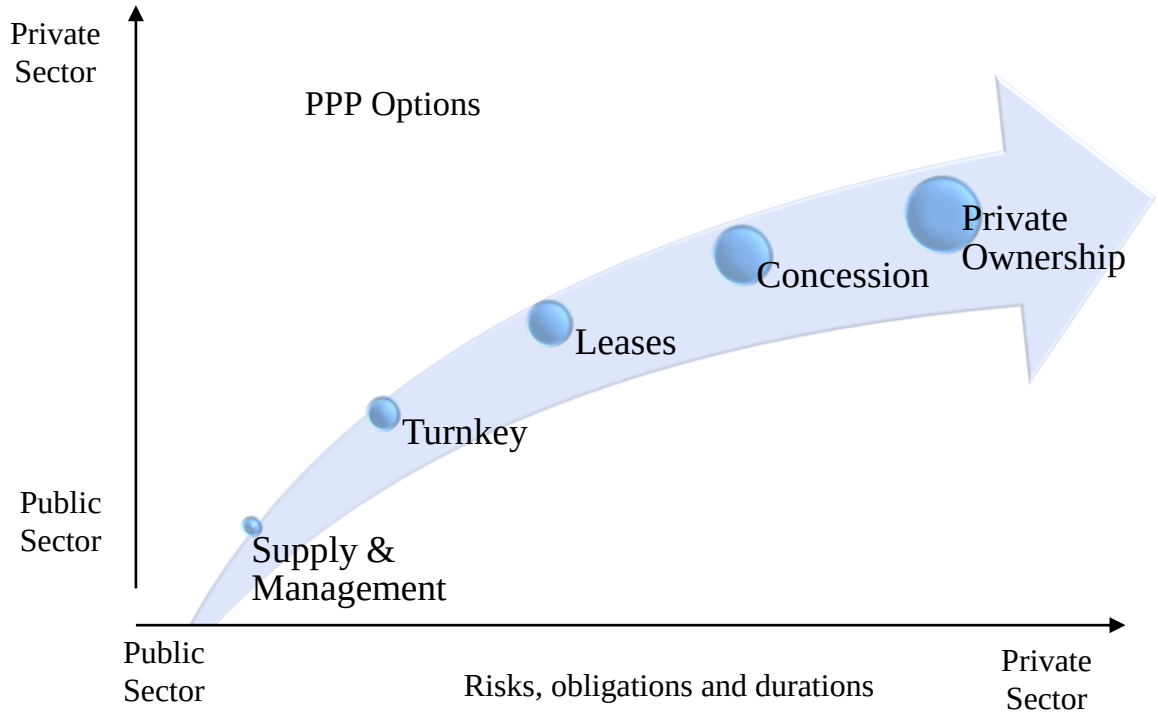


Figure 4.1: Basics feature of PPP models **(***Source: World Bank report on PPP projects, 1994)*

Service Contracts and Management Contracts

A management contract is a contractual arrangement for the management of a part or whole of a public enterprise (for example, a specialized port terminal for container handling at a port or a utility or distribution and collection of electricity bills by A.P Electricity distribution) by the private sector. These contracts allow private sector skills to be brought into service design and delivery, operational control, labor management, equipment procurement and are, generally not asked to assume commercial risk. However, the public sector retains the ownership of facility and equipment. The private contractor is paid a fee to manage and operate services which is performance-based mobile health services, emergency response services also work on operation and management contract.

Table 4.1: Different forms of PPP models

Broad Category	Main Variants	Operation and maintenance	Ownership of Assets	Investment	Assumption of Risk	Duration (years) of contract
Service contract and Management contract	Outsourcing	Private	Public	Public	Public	1-3
	Management Support	Public and private	Public	Public	Public	1-2
	Operational and management	Private	Public	Public	Public	3--5
Turn Key Contract		Private	Public	Public	Public	3--5
Delegated management contracts	Lease contract	Private	Public	Public	Public	8--20
	Affermage	Private	Public	Public	Semi-private	5--20
Concession	Franchise	Private/Public	Public	Private/Public	Public and Private	20--30
	BDO	Private	Public	Public	Private	20--30
	BOT, BOO	Private	Private/Public	Private	Private	20--30
Private Ownership	PFI, Divestiture	Private	Private	Private	Private	indefinite

Source: Guidebook on PPP in infrastructure, UNESCAP, 2011

Turnkey Contracts

Turnkey is a traditional public sector procurement model for infrastructure facilities. Generally, a private contractor is selected through a bidding process. The private contractor designs and builds a facility for a fixed fee, rate or total cost, which is one of the key criteria in selecting the winning bid and assumes risks involved in the design and construction phases. The scale of investment by the private sector is generally low and fora short-term. *E.g.* supply, erection and commissioning of boilers, power plants, transmission lines, sub-stations etc.

Affermage / Lease

In this category of arrangement, the operator (the leaseholder) is responsible for operating and maintaining the infrastructure facility (that already exists) and services, but generally the operator is not required to make any large investment. However, often this model is applied in combination with other models such as build-rehabilitate-operate-transfer. In such a case, the contract period is generally much longer and the private sector is required to make significant investment. The arrangements in an affermage and a lease are very similar. The difference between them is technical. Under a lease, the operator retains revenue collected from customers/users of the facility and makes a specified lease fee payment to the contracting authority. Under an affermage, the operator and the contracting authority share revenue from customers/users. Land to be developed by the leaseholder is usually transferred for a period of 15-30 years.

Concessions

In this form of PPP, the government defines and grants specific rights to an entity (usually a private company) to build and operate a facility for a fixed period of time. The government may retain the ultimate ownership of the facility and/or right to supply the services. In concessions, payments can take place both ways: concessionaire pays to government for the concession rights and the government may pay the concessionaire, which it provides under the agreement to meet certain

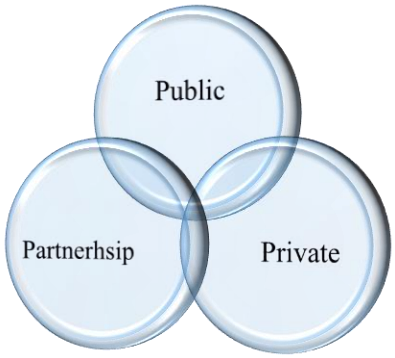
specific conditions. Usually, such payments by the government may be necessary to make projects commercially viable and/or reduce the level of commercial risk taken by the private sector, particularly in a developing or untested PPP market. Typical concession periods range between 5 to 50years.

Private Finance Initiative (PFI)

In the private finance initiative model, the private sector remains responsible for the design, construction and operation of an infrastructure facility. In some cases, the public sector may relinquish the right of ownership of assets to the private sector. The public sector purchases infrastructure services from the private sector through a long-term agreement. PFI projects, therefore, bear direct financial obligations to the government in any event. The public sector's main advantages lie in the relief from bearing the costs of design and construction, the transfer of certain risks to the private sector and the promise of better project design, construction and operation.

4.4 Different Models for Public Private Partnership (PPP) in Infrastructure

PPP is a mode of providing public infrastructure and services by Government in partnership with private sector. It is a long term arrangement between Government and private sector entity for provision of public utilities and services.



These models operate on different conditions on the private sector regarding level of investment, ownership control, risk sharing, technical collaboration, duration of the project, financing mode, tax treatment, management of cash flows etc. Following are the main models of PPPs (Source: Website of Public Private Partnership Authority Bangladesh).

(a) Build Operate and Transfer (BOT): In this model, the private sector is required to meet the construction cost and the expenditure on annual maintenance.

The private partner recovers the entire cost along with the interest and a return on investment out of the future toll collection. The viability of the projects greatly depends on construction costs and traffic. This is the simple and conventional PPP model where the private partner is responsible to design, build, operate (during the contracted period) and transfer back the facility to the public sector. Role of the private sector partner is to bring the finance for the project and take the responsibility to construct and maintain it. In return, the public sector will allow it to collect revenue from the users. The national highway projects contracted out by NHAI under PPP mode is a major example for the BOT model. The project is built and operated by the private partner and by some consented agreement, the asset is reverted to the state at a specified period. (Kwak *et al.*, 2009).

(b) Build-Own-Operate (BOO): This is a variant of the BOT and the difference is that the ownership of the newly built facility will rest with the private party here. The public sector partner agrees to 'purchase' the goods and services produced by the project on mutually agreed terms and conditions. Under the BOO model, all project responsibilities are assumed by the private actor, except that only in the initial conception stage, the government will participate probably in order to put forward the ideas of the project (Rui, 2008).

(**c) Build-Own-Operate-Transfer (BOOT):** This is also on the lines of BOT. After the negotiated period of time, the infrastructure asset is transferred to the government or to the private operator. This approach has been used for the development of highways and ports.

(d) Build-Operate-Lease-Transfer (BOLT): In this approach, the government gives a concession to a private entity to build a facility (and possibly design it as well), own the facility, lease the facility to the public sector and then at the end of the lease period transfer the ownership of the facility to the government.

(**e) Lease-Develop-Operate (LDO):** Here, the government or the public sector entity retains ownership of the newly created infrastructure facility and receives

payments in terms of a lease agreement with the private promoter. This approach is mostly followed in the development of airport facilities.

(f) Rehabilitate-Operate-Transfer (ROT): Under this approach, the governments/local bodies allow private promoters to rehabilitate and operate a facility during a concession period. After the concession period, the project is transferred back to governments/local bodies.

(g) DBFO (Design, Build, Finance and Operate): In this model, the private party assumes the entire responsibility for the design, construction, finance, and operate the project for the period of concession. The private partner designs, builds, finances and operates the project but with government maintaining full ownership. (Kwak *et al.*, 2009).

(h)Management Contract: Here, the private promoter has the responsibility for a full range of investment, operation and maintenance functions. He has the authority to make daily management decisions under a profit-sharing or fixed-fee arrangement.

(i) Service Contract: This approach is less focused than the management contract. In this approach, the private promoter performs a particular operational or maintenance function for a fee over a specified period of time.

(j) Joint Venture: It is "a newly established company owned by both the public authority and private company" (Jeffares *et al.*, 2009). In Bangladesh it means power plants developed under Policy guideline for Enhancement of Private Participation in the Power Sector, 2008.

(k)**Private Finance Initiative (PFI):** It is "a form of capital outsourcing but with partnering contract. Public authority procures investment and services in relation to an asset with a design, build, finance and operate contract with a private provider". (Jeffares *et al.*, 2009).

4.5 Layers of Public Private Partnership

Public Private Partnerships (PPPs) have been stated that the formal and structured cooperation between the public and private consortiums to accomplish a joint venture, sharing the risks, resources and costs for developing the products and services. PPPs have many models and theories practices in all over the world. The models being practiced in the countries vary in accordance of the contexts. A good number of theories are found in describing the PPPs. From which, the dimensions of PPP phenomenon of Hodges (2010b) and three-layer PPP theories are most popular ones.

To the context of Bangladesh and best describes the current study aims and objectives, Three-Layers a public private partnership framework is directly aligned with. The current model was adopted by Carbonara *et al.*, in 2012. This framework was developed by examining the Italian PPP practice and taking the case of Italy. In this framework, the researchers have identified a bunch of variables derived from the various dimensions resulted from the three layers of PPP practices. They have found that the PPP has been used in congruent to the three-layer regulations and demands. Following table shows the PPP framework adopted by the scholars.

From the very beginning, the researchers identified that almost all of the PPP projects follows the three steps in project implementation in a PPP cycle. They must obey and maintain the rules and regulations imposed by the country and then the sector based requirements in this regards. Finally, the specific projects seek many arrangements by which the project will be achieved.

Table 4.2: Three layers public private partnership framework (Adopted by Carbonara *et al*., 2012)

	Layers	Dimensions	Variables
Public Private Partnerships (PPP)	**Country**	Institutional	Political-ideological influences
			Design of government institutions
			Attitude towards and use of New Public Management
		Legal	PPP formalization by a Government legal/statutory framework
		Economic	Taxation and its change
			Indebtedness
			Investment needs
		Financial	Access to capital and credit markets
	Sector	Industry organization	Regulatory regime
			Organizational structure
		Market Structure	Demand
			Competitors
		Performance	Attractiveness/profitability
	Project	PPP Arrangements' Structure	Use of private resources and expertise
			Time horizon of contract
			Revenues sources
			Special purpose
			vehicle (SPV)
			Risk allocation
		PPP arrangements' Financing	Use of private finance
			Type of funding options
			Debt to equity gearing
			Investment value

The country perspective; first layer of PPP application follows the four dimensions. It is based on the types of institutional, legal, economic and financial dimensions

exposed and practiced by the government of the country. For instances, the variables of the institutional dimension depend on the political and ideological influence of the ruling party, design, forms and structures of the government institutions, and attitudes towards the PPP implications as well as the use of new public management tools in the public administration. Second dimension of country perspective of PPP is legal basis for adjoining the PPP in the line of government objectives. It is influenced by the PPP formalization by a Government legal and statutory framework in the formal functioning.

The economic dimension of the PPP's country layers identified three basic variables valued from governmental taxation systems and its changing behavior, indebtedness and investment needs. These variables have some sorts of values to be determined in the PPP execution like; level of taxation, level of public debt, needs for the development of public infrastructure as well as the maintenance and regulations of the existing public infrastructure. Finally, the fourth dimension of the Country layer perspective of PPP is based on financial issues. Access to capital and credit markets for financial inclusion as well as exclusion will be based on existence of strong constraints and determinants to obtain capital and/or credit from the market.

The second most luminous tier of the PPP will be shaped in accordance of the sector perspective. Sector based analysis will serve the supplies and demands of the PPP outcome depending on multifarious ingredients. The sector analysis of the PPP layer has three dimensions; industry organization, market structure and performance. All of these three scopes have been derived from the variables which leads the values to actions. Every government has some key mandates to be accomplished in their regime. This regime also based on the public and private organizational structure and strengths. So that, regulatory regime is a crucial variable for executing the PPP based on the organizational structure. Moreover, for some special cases, many projects and programs government takes to regulate or deregulate. Hence, the regulatory framework of the government is important feature of PPP identification and implementation. On the other hand, role of private sector

could not be denied in this regards to extends of level of private sector participation in PPPs.

The market structure has two key variables; demands and competitors. The demand for the services will be bested upon the level of demand and elasticity of demand for the PPP services to be accomplished. Moreover, the market monopolistic natures, existence of substituting services in the other sub-sectors as well as the existence of substituting routes for the same and similar sub-sectors are crucial most important for the competitors in the sectors. Finally, the sector analysis of the PPP seeks the performance of the sector like attractiveness for the project and services as well as the profitability of the project valued from the potential net earnings and revenues.

The project; third and final layer of the PPP framework depends on PPP arrangements' structure and PPP arrangements' financing. Contract types based on the legal structure of the transaction and operational aspects, use of private resources and expertise, time horizon of the contract agreements, revenue sources, special purpose vehicle and risk allocation are the variable derived from the PPP arrangements structure. Management contact, BLT, DB, DBOM, DBFO, BOT, BOOT and BOO are most popular operational contracts of PPP.

Use of private financing, type of funding options, debt to equity gearing and investment value are the financing arrangements of PPP. PPP project might be wholly private or public sector financing or partially both. It might be financed from bank debt, bonds, equity and loan from the shareholders. So that that the debt gearing might be placed high and low. As a result, the, PPP project could be identified in a systematic financial framework to be followed by both of the public and private sector.

The current study on aiming at measuring the performance of PPP in infrastructure projects, costs and quality of services provided and environmental requirement of the projects are identified using the above described theory. The theory also found

the barriers of public and private sectors in infrastructure projects by applying numerous variables used in the theory. The theory used to describe the performance of the PPP in regards to the environmental requirement is a by-product of the performance dimension of the sector analysis of PPP. Thus, the alignment, congruity and configuring characteristics of the applied theory is best described to identify, measure and analyze the study objectives.

4.6 Phases for Implementation of PPP Project

Identifying, developing and implementing a project on PPP mode involves a series of steps and is put into four phases as seen in figure 2.2

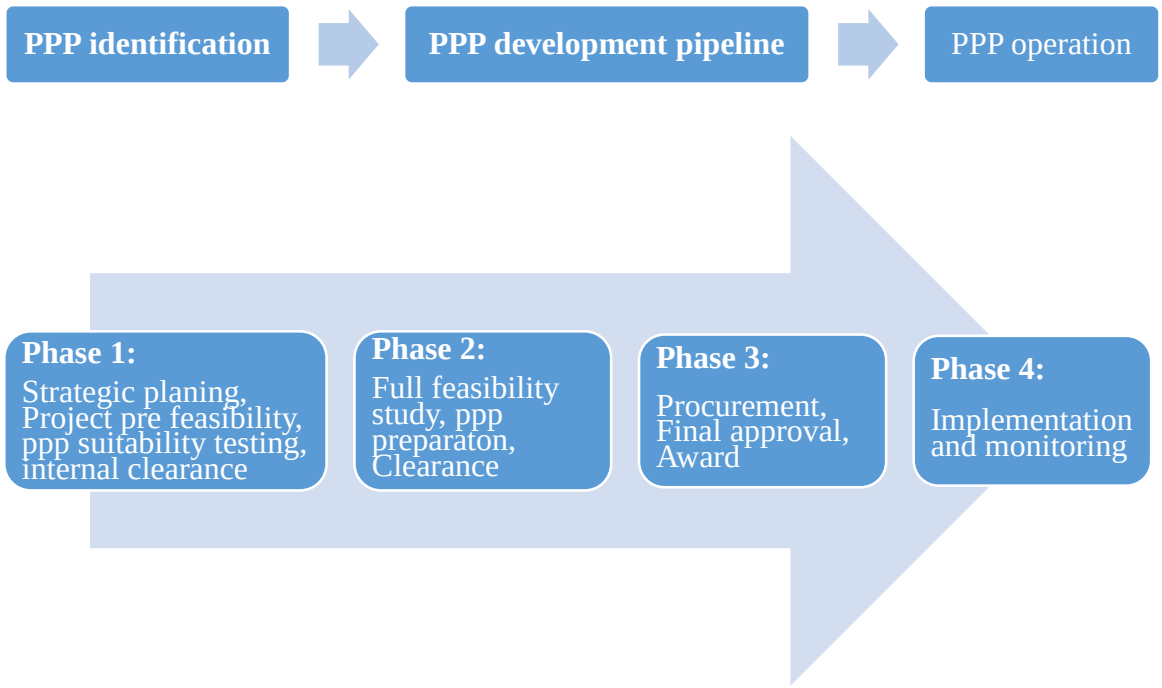


Figure 4.2: Phases for implementation of PPP project **(***Source: User guide for developing toolkit for PPP, 2010).*

Phase 1: Project Identification and Need Analysis: Potential PPP projects are identified on the basis of an analysis of the need for infrastructure services and the options for meeting the service are considered in terms of the need for and type of assets. Potential PPPs are then evaluated for their suitability for development as PPPs and a pre-feasibility report is prepared.

Phase II: Full Feasibility Study and PPP Preparation: A potential PPP that was considered suitable in the Phase 1 analysis is studied in detail to continue to the procurement phase. Identification of risks factors for the project, value for money analysis are undertaken to establish the economic viability of the project.

Phase III: PPP Procurement: The procurement process takes place, an application is made for final approval, the preferred bidder is selected and the project is taken to technical close.

Phase IV: Contract Management and Monitoring: The Sponsoring Authority manages the PPP throughout its life, including monitoring the private partner's performance against the requirements of the Concession Agreement. Phase IV begins at the pre-operative stage and spans the construction stage (where relevant), the operations stage, and contract closure and asset transfer.

4.7 Formation of a PPP Project

In a PPP model the private-sector consortium forms a special company called a "Special Purpose Vehicle" (SPV) for each project, to develop, build, maintain and operate the project for the contracted period. In cases where the government has invested in the project, it is allotted (but not always) an equity share in the SPV. The consortium is usually made up of project sponsor(s), building contractor, a maintenance company and bank lender(s). SPV is the legal entity that signs the contract with the government and with subcontractors to build the facility and then maintain it. The SPV has no other assets other than the project assets. These projects are characterized by non-recourse or limited recourse financing where lenders are repaid from only the revenue generated by the projects. A non-recourse loan means the loans are secured by the project assets and paid entirely from the cash flow rather than from the general assets of the sponsors. Limited recourse finance means a debt in which the creditor has limited claims on the loan in the event of default. It is in between secured bonds and unsecured loans. From the legal perspective it is the SPV that undertakes the project and therefore all contractual

agreements between the various parties will be negotiated between themselves and the SPV. Figure 4.3 presents the typical model of a PPP project.

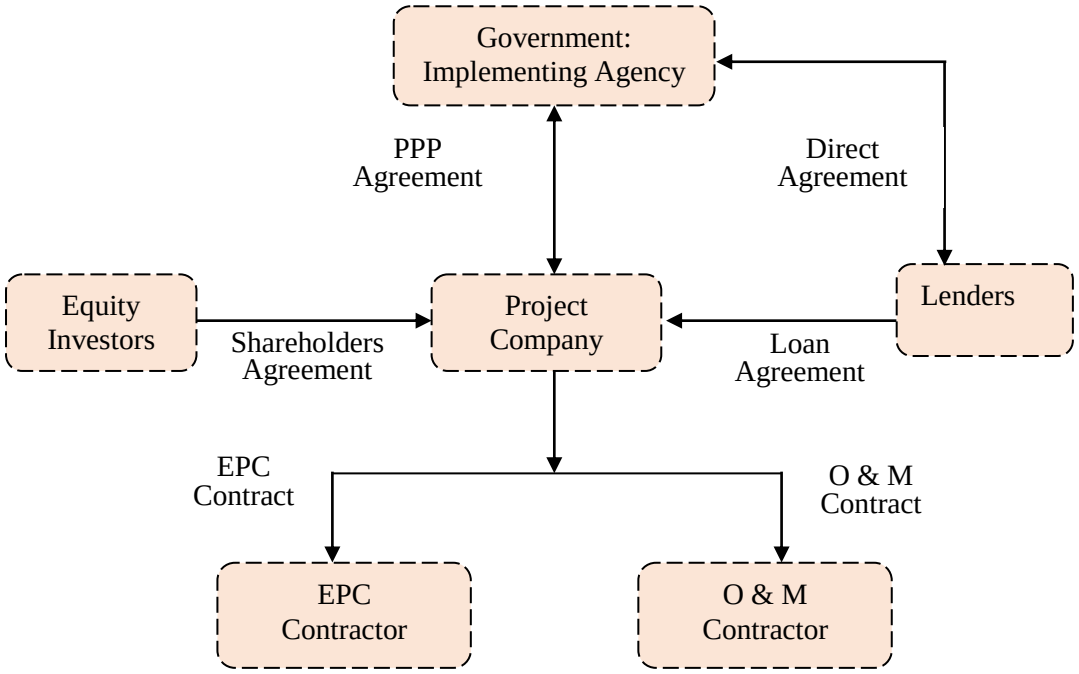


Figure 4.3: Typical model of a public private partnership project (*Source: The World Bank 2014, Public Private Partnership, Reference guide version-2.0)*

PPPs are a partnership between the public (government) and the private sector and commitment from the government is one of the key factors for the success of the PPP. If the government has contributed equity in exchange for shares in the SPV, they have equal rights and equivalent interests tot eh assets within the PV as other stakeholders. The financing of a project will be made of different amounts of debt and equity, the source and structure of which will vary depending on the project. The debt financing will generally be provided by the government sponsor and equity financing is by the private sponsors, in exchange for ownership in the SPV.

For debt financing, the investment needs of the project are met by the budgetary provisions. An escrow account is an account setup and managed by the SPV in order to safeguard the project revenues for the purpose of ensuring that debt service obligations are met. An escrow account can also be used to hold deposit in trust until certain conditions have been met.

4.8 Parties Involved in a PPP Project

There are a number of major parties to any BOT project, all of whom have particular reasons to be involved in the project (SAIIA, 2005). The contractual arrangements between those parties and the allocation of risks, can be complex. The major parties to a BOT project will usually include:

4.8.1 Government Agency

- A government department or statutory authority is a pivotal party. It will:
- Grant to the sponsor the "concession", that is the right to build, own and operate the facility,
- Grant a long term lease of or sell the site to the sponsor, and
- Often acquire most or all of the service provided by the facility.

The government's co-operation is critical in large projects. It may be required to assist in obtaining the necessary approvals, authorizations and consents for the construction and operation of the project. It may also be required to provide comfort that the agency acquiring services from the facility will be in a position to honor its financial obligations. The government agency is normally the primary party. It will initiate the project, conduct the tendering process and evaluation of tenders, and will grant the sponsor the concession, and where necessary, the offtake agreement.

4.8.2 Sponsor

The sponsor is the party, usually a consortium of interested groups (typically including a construction group, an operator, a financing institution, and other various groups) which, in response to the invitation by the Government Department, prepares the proposal to construct, operate, and finance, the particular project.

The sponsor may take the form of a company, a partnership, a limited partnership, a unit trust or an unincorporated joint venture. The investors in the sponsor are often referred to as the "equity investors" or the "equity providers". The equity investment in a project is approximately 20% of the cost of the project. Equity

funds are, however, expensive compared to the cost of debt. An equity investor may require a return of 20% to 25% in today's market to compensate it for assuming the major risks inherent in an infrastructure project. As a result it may be cost-efficient for equity to be much less than 20% of the project cost. The sponsor may be a company, partnership, a limited partnership, a unit trust, an unincorporated joint venture or a combination of one or more.

4.8.3 Construction Contractor

The construction company may also be one of the sponsors. It will take construction and completion risks, that is, the risk of completing the project on time, within budget and to specifications. These can be sizeable risks and the lenders will wish to see a construction company with a balance sheet of sufficient size and strength with access to capital that gives real substance to its completion guarantee. The construction risk is then taken by the construction company. Further, depending upon the nature of the infrastructure, the commissioning risk is often allocated to the construction company.

The sponsor will aim to require the construction company to enter into a fixed price fixed time construction contract. However, this is rarely fully achieved, as there are normally some costs or timing issues which are not taken by the construction company which can lead to variations in price or timing. The operator will be expected to sign a long term contract with the sponsor for the operation and maintenance of the facility. Again the operator may also inject equity into the project. There has not been a shortage of operators, mainly from offshore, for proposed infrastructure projects. This probably has a lot to do with the fact that operators tend to accept little risk in the form of up-front capital or expenditure. An operator simply anticipates making a profit from operating the infrastructure more efficiently than an equivalent government run project.

4.8.4 Financiers

In a large project there is likely to be a syndicate of banks providing the debt funds to the sponsor. The banks will require a first security over the infrastructure created. The same or different banks will often provide a stand-by loan facility for

any cost overruns not covered by the construction contract. As the financing of BOT structure projects is a form of project finance, debt financiers will undertake a review of all core project documents to assess the allocation of risks and how that allocation impacts upon their credit approval. There has been some difficulty in attracting debt financiers to infrastructure projects, mainly because of the long term nature of the repayment of the bank debt, which may have a repayment term of up to 20 years, and the large number of infrastructure projects currently in the market place.

4.8.5 Equity Investors

It is always necessary to ensure that proposed investors in an infrastructure project have sufficient powers to enter into the relevant contracts and perform their obligations under those contracts. Life insurance companies and trustees of superannuation funds usually invest in equity of infrastructure projects.

4.8.9 Other Parties

Other parties such as insurers, equipment suppliers and engineering and design consultants etc. will also be involved.

4.9 Financing of PPP Projects

PPP projects require, formulating a complex financial package which involves financial viability, addressing contractual agreement and risk allocation among the two parties to achieve successful financing. The technique of financing of PPPs is closely linked to “Project Finance”. The term project financing basically deals with the financing of an economic unit. The lender looks initially into the cash flows and earning of that unit as the source of funds from which a loan will be repaid to the assets of the unit as collateral for the loan. The PPP structures are typically more complex than traditional public procurement of assets, due to the number of parties involved and particularly the mechanism to share the risks. In project finance, lenders and investors rely either exclusively “non-recourse” or mainly “limited recourse” on the cash generated by the project to repay their loans and earn a return on their investments. This is in contrast to corporate lending where lenders rely on the strength of the borrowers balance sheet for their loans. The financing structure

is designed to optimize the cost of finance for the project and allocation of risks between the public and private sectors as agreed in the PPP contract. Table 4.3 below shows the various financing sources that can be tapped for devising financial packages.

Table 4.3 Financing sources for PPP projects

Domestic sources External sources	**Domestic sources External sources**
Equity	
❖ Domestic developers (independently or in ❖ collaboration with international developers) ❖ Public utilities (taking minority holdings) ❖ Other institutional investors (likely to be very limited)	❖ International developers (independently or in collaboration with domestic developers) ❖ Equipment suppliers (in collaboration with domestic or international developers) ❖ Dedicated infrastructure funds ❖ Other international equity investors ❖ Multilateral agencies (International Finance Corporation, Asian Development Bank)
Debt	
❖ Domestic commercial banks (3-5 years) ❖ Domestic term lending institutions (7-10years) ❖ Domestic bond markets (7-10 years) ❖ Specialized infrastructure financing ❖ Institutions	❖ International commercial banks (7-10 years) ❖ Export credit agencies (7-10 years) ❖ International bond markets (10-30 years) ❖ Multilateral agencies (15-20 years) ❖ Bilateral aid agencies

Source: ADB: Proposed Multitranche Financing Facility India: India Infrastructure Project Financing Facility, November, 2007

4.10 Strategic and Policy Issues in Infrastructure PPP

Because of the very specific nature of the PPPs in infrastructure sectors, some strategic and policy issues should be taken into account when policy-makers consider the implementation of PPP models. Discussing these issues in detail goes beyond the scope of this paper, so it would be sufficient to touch upon the most important ones.

4.10.1. Choosing the Private Partner

Choosing a qualified private partner is a crucial issue for the success of infrastructure PPPs. The selection process goes through many technical procedures, and includes four stages. Firstly, the government issues a Request for Expressions of Interest (RFEI) or Request for Qualifications (RFQ) or both depending on government's knowledge and understanding of the issue at hand.

Secondly, the government evaluates the submitted RFQ and RFEI according to specific criteria to be sure that the needed qualifications are found in the interested parties. Thirdly, the government issues an RFP, in order to provide clear guidelines for submissions resulting in innovative and cost-efficient proposals. Finally, the presented proposals are evaluated by a selection panel, which chooses the most appropriate.

4.10.2. Identifying Roles, Risks, and Responsibilities

Roles, risks, and responsibilities of the involved parties should be clearly identified in the PPP contract. The function of the state is primarily a regulatory one, aimed at ensuring that the strategic contribution of infrastructure sectors is directed at constructive economic and social ends. In addition, the state has a vital financing role to play aimed at securing equity of access to infrastructure services (Ernst, 1994). In all cases, the PPP contract should state clearly, which party is owning assets, providing capital financing, providing working capital, making additional

capital investments, operating and maintaining the facility, exercising day-to-day management, and bearing risks.

Risk Involved in PPP Projects

Risk is a fundamental feature of any PPP project and it substantially influences the total project cost. It is essential for the public and private partner to extensively evaluate all the potential risks throughout the whole life of the project to decide whether to take up the project or not and what type of PPP model would be most appropriate for the project .PPP projects carry several risks that are unique to this type of delivery system in addition to the risks associated with more traditional assignments. Once the bidder has been selected and the two parties are at the negotiation stage both the parties need to determine the most suitable risk sharing arrangement that optimizes the benefits and minimizes the loss to both the parties.

Risk Management in PPP projects

Risk Management is the process of identifying, analyzing and addressing significant risks on an ongoing basis. The key aspect of a PPP project is that the risk is allocated to the party who can best manage it. There are three ways to allocate the risks in a PPP project:

- Transferred risks–Risks transferred to the concessionaire
- Retained Risks- Risk retained by the Public party
- Shared Risks: Risks shared between the concessionaire and the Public party.

The risk management consists of the following phases subject to negotiations among the public and private partner.

Risk Identification: Set up the list of project risks and identify those with the most potentially adverse impact.

Risk Assessment: Analyze the risk with different quantitative and qualitative tools.

Risk Allocation: Distributing the various risks arising in the project, to the party who can best manage it.

Risk Mitigation: Both the parties can use different risk management strategies

Types of Risks associated with a PPP Project-

I. Political risk
II. Commercial Risks or Financial Risks
III. Legal risks
IV. Development risk
V. Construction risk
VI. Operational and Maintenance risk
VII. Demand risk or Revenue risk
VIII. Force majeure risk
IX. Management Risk
X. Design Risk
XI. Cost Escalation or Cost Overrun risk or completion risk
XII. Supply Risk

Some of the risks and actions available to the concession company include:

- Performance risk: The completed facility cannot be effectively operated or maintained to produce the expected capacity, output or efficiency.
- Operation cost overrun: The operating costs exceed the original estimates.
- Operating Contractor Default: The concession company may terminate the operations and maintenance contract and appoint a new O&M contractor.
- Default: The default may be caused by the actions of a third party, in which case the concession company could make claims of damages against that party.

Risk Assessment: PPP projects require a sophisticated analysis of risk and their impact, to adopt the strategies for risk management. There have been many analysis

tools and procedures for mitigating the risky nature of construction projects. Historically, the probability theory is widely used an uncertainty reasoning tool.

Risk Allocation: Distributing the various risks arising in the project, to the party who can best manage it by creating a risk matrix. A Risk Matrix identifies project risks, consequences, probability of occurrence, costs and allocation that is used during risk assessment. This is a simple mechanism to increase visibility of risks and assist management decision making. Many standard risk matrices exist in different contexts but individual projects and organizations may need to create their own or modify an existing risk matrix.

4.10.3 Introducing Competition:

Competition involves rivalry among firms across all dimensions of the services such as price, quality, and innovation (Baldwin & Cave, 1999:210). It can be introduced before, during, or after PPP of infrastructure sectors (Nestor & Mahboobi, 1999). Scholars argue that the long-term success of the PPP will stand or fall by the extent to which it maximizes competition (Moore, 1986). The scope of competition depends upon a variety of considerations, such as cost conditions in the industry, technological factors, and social and economic considerations (Baldwin & Cave, 1999; Skoufa *et al.,* 2001). The process of introducing competition in infrastructure sectors requires in most cases restructuring of the industry to create competition for the market.

Table 4.4: Typical allocation of risk (European Commission, 2003)

Risk Category	Allocation	Comment
Planning Risk	May be retained by contracting authority for pilot projects. However, there may be occasions when transfer in whole or part is appropriate or unavoidable	
Design and Construction Risk	Transferred to contractor through payment mechanism	Contractor bears risk of cost and time overruns. Contracting authority retains risk of changes to output specification
Operating Risk	Transferred to contractor under DBO, DBFO and concession contracts through payment mechanism.	Deductions are made from payments for failure to meet service requirements
Demand Risk	Retained under DB and DBO contracts may be transferred under DBFO and concession contracts to ensure fitness for purpose throughout the duration of the contract.	An example of demand risk transfer is when the contractor recovers its costs through user charges.
Residual Value risk	Retained under DB and DBO contracts. May be transferred under DBFO and concession contracts to ensure fitness for purpose throughout the duration of the contract.	Contractor carries residual value risk if asset not automatically transferred to contracting authority at end of contract.
Financial Risk	Financial risk often transferred or shared under DBFO and concession contracts	An indexation mechanism may be used
Legislative Risk	Legislative risk often retained or shared. Government is often best placed to control regulatory and legislative risks	Key issue is whether the regulatory or legislative change is discriminatory in respect of the specific project or sector.

4.11 Barriers for Implementing PPP

SLEEPT Framework

Despite the huge identification of PPPs and its increasing usage in infrastructure development, the experience of both the public and private sector with PPP has not always been positive across the globe (Kwak *et al.*, 2009). A number of PPP projects are either held up or terminated particularly in developing countries. This has triggered previous researchers to conduct studies on barriers to PPPs implementation. This research is a precursor to a full investigation of this in the Sri Lankan context, and as such is intended to develop a robust framework of barriers. This is most useful if it is constructed in accordance with a pre-existing structure such as Zhang's SLEEPT framework (Zhang, 2005). The following sections present state of the art in relation to each of the characteristics represented in the framework acronym.

Social Barriers

A considerable number of social barriers indicating public opposition as the most critical to take into matter supported by a number of researchers (El-Gohary *et al.*, 2006; Zhang & AbouRisk, 2006; Grimsey & Lewis, 2004). Although not stating in the same template Gunnigan & Rajput (2010) also have exposed that cultural impediments and societal discontent against the private sector governing towards lack of confidence in them distracting private sector from investing in PPP projects. The distrust in private sector is not the only reason for refusing PPP but also due to high user charges of the public services and facilities once private investments are used to supply services. Even though the living status is improved through these projects society still pulls back the proper implementation because of the nature of the procurement which is not the traditional and the doubt that the future generation will be in depth even before their birth if the PPPs are to continue as the private sector is going to recover the investments for a long period of time. Moreover misallocation of risks of PPP projects (Abd Karim, 2011) is also emphasized as another drawback by the society where the private sector owns the whole income though the risk is shared with public sector.

Legal Barriers

The literature demonstrated inadequate coverage of PPP legal regime, poor regulatory frameworks and weakness in enforcement of policy, lack of institutional capacity and PPPs strategy, absence of PPP disputes resolving legal institute among others as legal constraints for proper implementation of PPPs in most developing economies. This indicates that some developing countries governments with less matured economies execute PPPs even when overall PPP policies are absent, which drives towards improperly established goals and objectives ultimately creating greater possibility of issues with projects implementation. PPP generates exceptional pressure on the legal regime affecting economic maturity, renaissance, and mechanism for developing infrastructure. Although in PPP projects a large number of agreements and conditions are involved in documentary lack of a proper package has become a barrier to proper implementation of PPP. PPP involves a great deal of disputes among parties involved due to different interests of stakeholders, for protection of public interests and legitimate rights of private sector. According to Grimsey & Lewis (2004) and Satpathy & Das (2007) lack of well-established legal framework, has given rise to number of disputes which are inevitable in PPP.

Economic Barriers

PPP project preparations are considered complex in nature due to variety of interests and objectives of involved parties which has higher possibility of conflicts compared to a traditional procurement contract. This nature creates the necessity of extensive expertise input and comparatively high costs in PPP projects and requires lengthy time in negotiation stage. Hence the financial requirement to be achieved has become a barrier in proper implementation of PPP in less mature economies (Chan *et al.,* 2010). Difficulties in obtaining long-term finance, lack of capacity of the private sector to fully meet the challenge of investing in a very large number of projects, and unfavorable economic and commercial conditions have been identified as common constraints in achieving financial goals of PPP. Moreover with the bidding procedure for PPP being expensive private sector confronts issues in seeking financial partners also due to lack of confidence of investment banks and financial institutions in new procurement methods. Corbett & Smith (2006) and

Carrillo *et al.,* (2008) mentioned that the potential high transaction costs create a negative impact on proper implementation of PPP. Additionally, lack of transparency in deals and corruption in both public and private sector has become a major threat for PPP projects security. Even though many have identified high transaction cost as the most affecting barrier Babatunde *et al.,* (2015) had discovered that perceptions of developing countries as high risk economies by foreign investors and inadequate domestic capital markets among others were identified as economic barriers to PPPs implementation in developing countries.

Environmental Barriers

The prior studies have revealed that land acquisition problems, lack of coordination between national and regional governments, lack of transparency and accountability, and acquisition of land for project from third parties as environmental barriers to PPP projects. PPP projects require the transfer of rights of public assets to the private sector in order to fulfill their operations effectively and efficiently. But according to the legal systems transferring of property has many restrictions regarding the level of environmental liabilities and occupiers liabilities to be transferred with the property. Hence it has become a major constraint in PPP implementation in many countries as land acquisition has not been easy due to public distrust in private sector and many other social issues. Moreover obtaining planning permission with an error free EIA (Environmental Impact Assessment) report also require a considerable time and costs of getting approvals from the relevant authorities is high. Thus these have prevented private sector interests in investing in PPP projects.

Political Barriers

Lack of awareness about PPPs by politicians and decision makers, lack of political willingness and commitment to develop PPPs have been stated by the researchers as the constraints for PPP in developing countries. Moreover, political reneging, politicization of the concessions and lengthy delays due to political debate also have affected as barriers in implementing PPP in a more stabilized platform. According to Kwak *et al.,* (2009) insufficient contribution and lack of maturity of governments to administer PPP projects has lead to project failure in developing

nations. But Gibson & Davies, (2008) mentioned a contrast fact stating where in mature economies local political opposition has become a barrier to PPPs. Hence it is significant that political influence is a more crucial factor for proper implementation of PPP in both matured and less mature economies. Moreover absence of provision by governments of incentives, subsidies or viability gap funding to overcome the financial issues in the private sector in investing in PPP also creates an obstacle. In PPP only a fewer employment opportunities are available compared to traditional method which would create an excessive floating workforce in construction industry being a threat to any government in a developing economy. Therefore lack of political willingness to develop PPPs on such grounds has become a critical issue.

Technological Barriers

The literature review has identified non-availability of model concession agreements, Lack of suitable skills and experience, inconsistent risk assessment and management, and shortage of expertise as technological barriers to PPPs. Li *et al.*, (2005) and Maralinga (2010) stated absence of an enabling institutional environment for PPPs. Thus it is significant that less mature economies are seeking knowledge and resources from developed nations in structuring a proper PPP procedure where PPP process not clearly being defined has become a barrier to proper implementation. Absence of a well-established institution has also being identified as a barrier to PPP by Hamilton (2015). Uncertainty and lack of a clear project pipeline, delayed communication of decisions and protracted procurement processes together with complexity and relatively inflexible structures are also issues in implementing a proper PPP in the real world scenario. Poorly designed and structured projects would also pull back private sector investors from engaging in PPP projects in the future.

4.12 Chapter Summary

Chapter four presents the conceptual framework for PPP projects. It defines PPP projects, describes the various types of PPP models, the formation process and the various parties involved for implementation of the project. It discusses the ways for financing PPP projects and the different risks associated with these projects.

CHAPTER 5

PPP IN BANGLADESH: FROM POLICY TO ACTION

5.1 Introduction

This chapter reflects on the mainly background of PPP in Bangladesh. We focus about the previous initiatives, Weakness in Previous framework, applicability of PPP, Non-applicability of PPP and sectorial coverage of PPP.

5.2 Background

In order to achieve the Vision 2021 goal of Bangladesh becoming a middle income country by 2021, we will need to ensure a more rapid, inclusive growth trajectory. To reflect the aspirations of the people the target of the government is to raise the GDP growth rate to 8 percent by 2013. To achieve this GDP growth rate, the share of investment to GDP needs to be raised to 35-40 percent. At present average investment GDP ratio is 24-25 percent, which is lower than the national savings ratio.

One estimate suggests that to sustain GDP growth rate of 8 percent in 2013 and beyond requires additional USD 28 billion or BDT 1.96 trillion for 2010-2015 (MoF, GOB, 2009). To reduce the investment deficit, participation of the private sector through public-private partnership (PPP) is an important route. In order to create an enabling environment for attracting private investments on a sustained basis, GOB has taken a series of measures. Previously, the GOB had issued the Bangladesh Private Sector Infrastructure Guidelines (PSIG) for implementing the PPP Projects. There has been some success in attracting private investment through PPP route in the power, gas and telecom sectors.

The Government seeks more investment in these and other sectors such as ports, roads, railway, water supply, waste management, tourism, e-service delivery etc. For the first time in the country, the Government through its national budget FY

2009-10 introduced the concept of PPP budget. This is a very strong statement and commitment for the development of PPP in the country. In addition, the Government issued a position paper on PPP, titled, "Invigorating Investment Initiative through Public-Private Partnership" dated June 2009. The PPP Budget aims to provide support for upfront development of PPP projects, create a mechanism for targeted subsidies and set long term financing of PPP projects.

The government has taken a two-pronged strategy for building public-private partnership: one is to attract investment for projects, where building new infrastructure and expanding existing infrastructure is the major component; the second is to attract innovation and sustainability of public service delivery to the citizens. While the government is committed to launch public-private partnership in a big scale, the essential ingredient to that Endeavour is to set up a forward looking strategy and a framework for operationalization of public-private partnership as well as clear-cut procedural guidelines for the sake of ensuring transparency and building confidence among the private sector players.

A wide spectrum of PPP arrangements exists, differing in purpose, service scope, legal structure and risk sharing. The choice of the PPP arrangement for a particular project will depend on social and economic importance and potential value for money to be generated under such arrangement. PPP fosters economic growth by developing new commercial opportunities and increasing competition in the provision of public services, thus encouraging crowding-in of private investment. Successful application of PPP concept through this policy and Strategy" document is likely to open up the doors for increased flow of investment from both local and foreign investors.

5.3 Emergence of PPP

The beginnings of partnership between private and public sectors can be traced as far back as the Roman Empire two thousand years ago in Europe. A network of postal stations was developed to accompany the vast expansion of the highway system under the Roman legions. The postal stations, which were actually small

communities centered around large stables, warehouses, workshops, hotels and military barracks, were constructed and managed by a private partner for a five year period, sometimes including maintenance of associated highway, under a contract referred to as “manceps” and awarded by municipalities under competitive bidding. The Romans also notably conceded the construction and operation of ports and inland harbors.

However, this procedure disappeared with the fall of the Roman Empire and reappeared only during the middle ages for the construction of new fortified towns and the occupation of new lands in the south western region of France during the 12th and 13th centuries. Occupancy contracts for fortified towns concede the whole villages to their occupants under collective emphatic contracts which compelled the occupants to improve their village. Moreover, the practice of concessions on activities under monopoly in the community (mill, press, baker, bridge etc.) as well as their associated tolls, generally on bridges and highways, in which the concessionaire paid a proportion of his income to the community to finance new works, was well-established under medieval custom. During the 16th and 17th centuries, European sovereigns, and particularly in France, began much more expansive public works concession programs in canal construction, road paving, waste collection, public lighting, mail distribution and public transportation. The industrialization in Europe of the 19th century brought rapid urbanization and expansion of public networks in transport (railways, tramways, metropolitan), water supply and sewerage and energy. This expansion, achieved largely by private entrepreneurs, marked the golden age of concessions in Europe. The creation of railways took place under concessions in all European countries. In the North and the South, liberal ideas spawned by the French revolution and particularly the principle of free enterprise played an influential role in the systematic choice of concession. This period was one of weak administrative structures in all fields of delegated public action.

The 20th century European wars reversed the trend. The role of the State was increased by wars, both in preparing for them as well as in dealing with their

consequences. The disruption of countries, economies and long-term contracts was strongly felt in all European countries. Rare before 1914, inflation and its effect upon contracts became clear during the Great Depression of 1929. The ensuing creation of the welfare state increased the role and resources of post-war states substantially. As a result of economic turmoil and contractual standby or damage during war years, concessions in many fields were cancelled and rarely reestablished. The notion of state owned companies was born to avoid the financial vulnerability of traditionally very long-term contracts, a movement which grew throughout Europe during the post-war periods, and consequently the size of the civil service sector increased considerably. In addition, with influence from Communist ideology, collectivism was considered as a viable and desirable alternative to free market principles. Thus, after World War I, new public infrastructure was mainly designed, constructed and financed from public funds and prior to 1982 there was very limited private financing of transport infrastructure in developing or transition countries. One major exception in Europe was the tolled motorway construction programs in France and Spain from the 1960s financed by private consortia, mainly contractors and banks. However, the economic shocks from the oil crises of the 1970s resulted in financial difficulty for many of the concession companies with many being subsequently nationalized-in Spain five out of twelve companies and in France, three out of four companies.

In the USA, PPPs have played a much less prominent role in the development of transport infrastructure. Although private investors built the canals and railroads that transformed the country in the 19th century, the modern highways that were built in the 1930s and 1940s were built by public companies held by state and local governments. Tolls were preferred in the eastern part of the country while western states used revenues from a dedicated gasoline tax to finance un-tolled “freeways”. From the 1950s, the creation of the national Highway Trust Fund, funded by a national fuel tax of four cents a gallon, allowed the construction of the interstate highways system.

Throughout the industrialized and developing world, there has been a renewed move to liberalization and privatization of infrastructure activities from the 1980s and increasing dramatically into the 1990s. The first decade of the years 2000 has seen some consolidation of certain PPP programs, stagnation of others and expansion in new markets, notably in Asia.

Several developing countries have participated in this movement, pioneering improved forms of PPP. Market leaders among emerging economies such as Chile, Brazil, China, Hungary and, recently, India have gone further in introducing the private sector in infrastructure development and maintenance than many industrial countries. Simultaneously, initiatives aiming at outsourcing maintenance activities to private firms are being implemented in Africa, Asia and to a larger extent in Latin America (PPIAF, 2009).

Public-private partnerships are not new. As a matter of fact, concessions, the most common form of PPPs–where the private sector exclusively operates, maintains and carries out the development of infrastructure or provides services of general economic interest – date back thousands of years. During the time of the Roman Empire, concessions served as legal instruments for road construction, public baths and the running of markets (Platz *et al.,* 2016).

Other famous examples include medieval Europe, where as early as 1438, a French nobleman named Luis de Bernam was granted a river concession to charge the fees for goods transported on the Rhine (Bezançon, 2004). Examples abound since the turn of the seventeenth and eighteenth century with many infrastructure facilities (water channels, roads, railways) in Europe and later in America, China and Japan privately funded under concession contracts.

While the practice has been around for millennia, the term "Private-Public Partnership" or PPP was coined and popularized in the 1970s, when neo-liberal ideas began questioning the previously dominant Keynesian paradigm and the role of the state in the context of poor economic performance.

Instead of ascribing poor economic performance to the failures or inadequacies of the market, government failure or inefficiency was blamed (Gomes, 1990). New ideas, such as New Public Management (NPM), became the new vogue. In this context, PPPs were often invoked as alternatives to bureaucratic public services and inefficient state owned enterprises, often for the promotion of privatization (Cavelty & Sute, 2009).

It was argued that handing over public tasks to private actors, (i.e., to privatize them, or to contract them out, or at least to carry them out in partnership with private businesses) was the main means to downsize the role of the state, to enhance the efficiency of the public administration and public service provision, and to reverse previously alleged crowding out of the private sector by state owned enterprises (Savas, 1982).

Initially, PPPs involved urban construction projects to facilitate joint development and renewal of problematic urban zones (Budäus & Grüning, 2004). The modern version of PPPs – whereby the private company is paid by the government rather than by consumers–evolved in the UK in the 1980s ostensibly to enable the government to develop infrastructure while adhering to strict borrowing limits or fiscal rules to address rising public debt. PPPs were seen as mobilizing private finance for public ends, under the rubric of the private finance initiative (PFI).

Over time, the concept of PPPs expanded to include joint technology or ecological projects, as well as partnerships in the area of education, health services, and prison incarceration (Vaillancourt, 2000). It has become an extremely heterogeneous concept and, according to the critics (*e.g.* Linder, 2000), it has now evolved into a catchall label for all possible new or known forms of collaboration between the public administration and the private sector.

Private sector involvement in the delivery of public services is not a new concept; PPPs have been used for over three decades, starting in 1970s. Initially focusing on economic infrastructure, PPPs have evolved to include the procurement of social

infrastructure assets and associated non-core services. PPPs are used in housing, health, corrective facilities, energy, water, and waste treatment projects. PPP policy has also evolved globally as public sectors budgetary challenges limit potential options. One method of tapping into alternative sources of capital is the public-private partnership.

According to the Federal Highway Administration (FHWA) of United States Department of Transportation, PPP is defined as: "A contractual arrangement between public and private sector entities pursuant to which the private sector is involved in multiple elements of public infrastructure projects" (FHWA, 2010)

PPP could also be defined as: *"*Any medium to long-term relationship between the public and private sectors, involving the sharing of risks and rewards of multi sector skills, expertise and finance to deliver desired policy outcomes*."* (Standard & Poor, 2005).

Some definitions make it seem as though most of the risks are transferred to the private sector. In reality, there is a relatively equal amount of risk transfer in a properly modeled PPP. However, both the public and private sector shares the risks and rewards potential in the delivery of the service and/or facility (The National Council for Public-Private Partnership, 2009) develop the necessary skill base to procure infrastructure by way of PPP, including the capacity to create and maintain a regulatory framework.

Private participation in US infrastructure is not a new phenomenon. Roadways were first developed in the eighteenth century by the private sector in the form of toll ways and turnpikes. The private sector was also involved in the nineteenth century in the development of canals and railroads. In the twentieth century, with the growing economy and the need for new infrastructure, the state governments and the federal government assumed the responsibility for providing infrastructure (Nirupuma, 2009).

In the early 1980s private participation in public sector projects emerged, specifically in the increasingly developing southern and western states. The United States Congress, in 1987, approved a pilot program authorizing 35% of federal funding to be channeled into government-sponsored toll road projects in nine states. Australia and most countries in Europe had previously effectively applied public private partnership (PPP) in most projects. The States of California and Virginia were among the leading states to introduce the PPP method of financing in their state projects. The Dulles Greenway in Virginia was the first project executed in the United States with the PPP model. The Virginia Department of Transportation later implemented legislation permitting private participation in state projects. There are currently 23 states in the United States as well as Puerto Rico which have passed legislation to allow PPP application in transportation projects (FHWA, 2003).

The private sector over the years has become progressively innovative in several developed countries, which has added substantial value to public procurement. The United Kingdom has been a recent initiator of the current private sector involvement with infrastructure projects. This has been the case with the introduction of Private Finance Initiative (PFI). PFIs have been used for the development and delivery of all types of infrastructure and services. Currently in the United Kingdom, PFIs represent 10 to 13% of all UK ventures in public infrastructure. About 100 PFI projects are undertaken per year. The increasing use of PFIs has encouraged governments across the world to implement PPP arrangements (International Comparative Legal Guide Series, 2008). The Australian government has also used PPPs to deliver numerous infrastructure projects. Ireland on the other hand has also used PPP for most of its transport projects. In the Netherlands, PPP is used for social housing and urban redevelopment programs. Asian countries such as India also have used PPP highway projects. Japan has about 20 PPP projects set to be undertaken in the future (Nguri, 2009). Canada has about 20% of all its new infrastructure projects designed, built or operated by the private sector (Deloitte, 2010). Other developing

countries from South America, Asia and Africa have also been looking in PPP procurements (USCAP, 2007).

5.4 Previous Initiatives

Who first introduced Pubic Private Partnerships (PPPs)? This is a question that often leads to endless discussions, provides an opportunity for one-upmanship and is an entertaining diversion for practitioners on the margins of international PPP conferences.

During these debates many examples are quoted–the early 20th century oil concessions in the Persian Gulf, the late 19th century cross continental railway in the USA and the Izmir-Aydn railway concession in present-day Turkey, the Rhine river concession granted in 1438 (Uddin, 2015)and so on.

As debate on the origin of PPP continues, the modern-day popularity of PPPs is more commonly acknowledged to have emerged from the United Kingdom, following the introduction of Private Finance Initiatives in 1992's autumn budget statement by RH Norman Lamont, then Chancellor under John Major's Conservative government (Allen, G. 2001).

In the intervening years, many developed and developing nations have started PPP programs of their own. Indeed, the growth of PPPs in developing countries is nothing short of phenomenal, with the mechanism being used in more than 134 developing countries and contributing to 15–20 percent of total infrastructure investment (World Bank Report, 2002-12).

This is also true of Bangladesh. In 2009, the Government of Bangladesh announced the introduction of a revised PPP program (2009/10 Budget Speech by Hon. Finance Minister A. M A. Muhith) in the 2009/10 Budget Session, and then introduced a new PPP policy in August 2010 (PPP Policy 2010).

PPPs are not new in Bangladesh. Before the mid-1990s, the Government of Bangladesh had entered into a number of individual PPP transactions. However,

1996 marked the first time that a policy framework was introduced for PPPs in order to enable private sector partnerships in power generation (The Private Sector Power Generation Policy, 1996).

Through this policy, Bangladesh witnessed early success in PPPs. By 2001 – with the support of the Asian Development Bank (ADB) and the World Bank – two large power projects, the 450MWMeghnaghat and 360MW Haripur power plants, were successfully contracted. This success in the power sector has continued with approximately 2000 MW of installed capacity through Independent Power Producers (IPPs), nearly 2500 MW of IPP projects in implementation and more than 3000 MW of IPP projects in procurement.

To build on this success in other areas of infrastructure, the Government of Bangladesh introduced the Private Sector Infrastructure Guidelines in 2004. This marked the start of the program-based PPP initiatives in Bangladesh. However, the results during this period were more modest, with only a handful of projects coming to fruition. There was an urgent need to revise the PPP program so that it could match the Government's long term vision of growth and prosperity.

In 2010, the 6th Five-Year Plan (Sixth Five Year Plan, FY2011-FY2015, Strategic Directions and Policy Framework, Planning Commission, Ministry of Planning, Government of the People's Republic of Bangladesh) was launched, outlining the Government's vision to improve the country's trajectory of economic growth and lead the country to an enhanced level of prosperity by reaching Middle-Income Country status by 2021.

The Plan focuses on the enhancement of infrastructure investment from approximately two to six percent of GDP, using PPP as a key tool in meeting this infrastructure gap. PPPs would supplement traditional procurement in the development of social and economic infrastructure in Bangladesh to deliver the public services that can enable private sector entrepreneurship and unlock the country's growth potential.

The PPP Policy 2010 introduced a comprehensive range of reforms, including tax incentives for PPP projects, designed to develop a sustainable PPP program across multiple sectors. These reforms were reinforced by the strong demonstration of government commitment through the allocation of more than US$300 million for PPPs in the 2009/10 Budget to support the development, financing and funding of PPPs. The Ministry of Finance instituted a Viability Gap Fund for financing up to 30 percent of capital costs of PPP projects.

The PPP Office became operational in 2012 under the Prime Minister's Office and has been a key component of the new reforms. Since then, with the support of ADB's technical assistance project (TA-7691 (BAN): PPP Program Operationalization (completed December 2013) and the World Bank's IPFF (IDA Credit # 4693-BD: Investment Promotion and Financing Facility (IPFF) Project the PPP Office has spearheaded the development of PPPs in Bangladesh.

Starting from a handful of projects in 2012, the PPP Office is now supporting the development and implementation of more than 40 PPP projects with a capital value of around US$13 billion; this supplements a pipeline of over 20 projects in the power sector. Projects in many new areas are being developed such as the hemodialysis project, structured with the support of IFC and recognized as a pioneering PPP in KPMG's Infrastructure 100: World Markets Report.

With strong political support and enhanced institutional capability, underpinned by real financial commitment and a PPP Act in the final stages of enactment in the parliament, the key fundamentals are in place for an enabling PPP environment in Bangladesh. The first signs of success are there, and a clear path has been laid out for this success to continue and grow in the years ahead.

As PPP projects are delivered one after another, as lights get switched on in homes, as industries get powered, as new roads mitigate transport bottlenecks and as new health services save lives, it is worth sparing a thought for the one who introduced PPPs. Through PPPs, developing countries now have an additional delivery

mechanism to meet their public service commitment and drive increased prosperity. PPPs have provided an enhanced opportunity to make a real difference in the delivery of public services.

Perhaps we will never be able to identify who introduced PPPs. But let the debate continue, as whoever did introduce PPPs has done the world's developing countries a wonderful favor.

TA (Technical Assistant) project "Private Sector Infrastructure Development Project (PSIDP)" to initiate the development of an enabling and conducive environment for PPP in 1997;Establishment of Infrastructure Development Company Limited (IDCOL), a financing facility to provide long term debt financing for PPP project in 1998 ; Establishment of Infrastructure Investment Facilitation Centre (IIFC), a Government own entity with the mandate to provide technical support for the development and implementation of PPP project in 1999.

Issuance of "Private Sector Infrastructure Guideline (PSIG)" with the intention to harmonize the proceedings for development of PPP in 2004; Establishment of "Private Infrastructure Committee (PICOM)", a high power Inter-Ministerial Committee with the objective to facilitate and promote PPP in 2004. The Board of Investment was assigned the Secretariat of PICOM with IIFC as technical adviser.

5.5 Background of PPP Initiative and Support in Bangladesh

During the 1990, like many other countries in Asia, Bangladesh recognized the need to encourage private participation in infrastructure services in order to improve efficiency and reduce demand for scarce public resources. In this backdrop, particularly focusing the power sector, a project finance workshop was held in September 1996 at Rajendrapur Dhaka. Through this workshop, the Public Private Partnership (PPP) program was started in Bangladesh.

In the context of facilitating the private sector investment in power sector, Private Sector Power Generation Policy of Bangladesh was adopted in October 1996. The

policy illustrates the modality for project implementation, financing arrangements, security packages needed, provision of fuel, tariff setting criteria along with fiscal and other incentives in private participation in power projects.

With the aim of translating the explicit policy commitment into actual investment projects, and to carry forward the power sector reform activities in government of Bangladesh created and set up power cell under the Ministry of Energy &Mineral Resources (MEMR) in 1995 under the World Bank financed "TA for Implementation of Bangladesh Power Sector Reform" project. The power cell has the mandate to facilitate all stages of promotion, development, implementation, commissioning and operations of private power generation projects and suitably address the concerns of project sponsors. It has the mandate to assist project sponsors to secure necessary consents and permits from government where such consents and permits would be needed.

In 1997 the World Bank initiated a Technical Assistance Project "Private Sector Infrastructure Development project (PSIDP)" as a vehicle for delivering assistance to GoB for-

- Proactively developing and marketing sound sub-projects for private investment
- Establishing speedy, competitive and transparent procurement processes for realizing private sector participation in such sub-projects
- Providing appropriate mechanism for reasonable risk sharing and mobilizing commercial investment in the form of equity and debt financing for infrastructure sub-projects and
- Creating suitable legal and regulatory structure in various infrastructure sub-sectors for sustained and efficient operation of private infrastructure facilities.

The key constraint to sub-projects being implemented is the lack of long term debt financing, which is necessary to ensure financial viability. The PSIDP, therefore,

had the provision to provide long term debt financing from IDA resources by establishing a long-term fund.

The implementation period of PSID project was designed for five years from November, 1997 to December, 2002. Later on, it was extended up to 30 June, and 2004. The PSIDP had two components: project financing and sub-project transaction development. Infrastructure Investment Facilitation Center (IIFC) was mandated to coordinate sub-project transaction development. The Infrastructure Development Company Limited (IDCOL) with other institutional and commercial partners had the provision of mobilizing funds for private infrastructure projects.

In an attempt to enhance private infrastructure development, the government issued the Private Sector Infrastructure Guidelines (PSIG) in October 2004. Following the model of the Philippine inter-ministerial council, the Guidelines created a national Private Infrastructure Committee (PICOM) under the Prime Minister's Office for the facilitation and promotion of private infrastructure projects. Projects initiated by private sponsors or line ministries require government approval to be listed as a private Infrastructure Project. Based on PICOM's analysis and recommendation, the Cabined Committee on Economic Affairs (CCEA) approves the project, following which PICOM oversees its implementation by the executing agency. In the project development process PICOM is assisted by the Major Terms and Conditions Committee in preparing the Request for Proposals and by the Pre-qualification and Tender Evaluation Committee in evaluating project proposals that have been received .In the implementation of the Guidelines, the Board of Investment (BOI) acts as the PICOM secretariat. IIFC, which has draft the Guidelines, has been appointed by PICOM as its technical advisor on a limited scope basis. Later on in the year 2006 Investment Promotion and Financing Facility (IPFF), a World Bank financed project under Bangladesh Bank (BB), was created, mainly for lending to infrastructure projects in the private sector.

5.6 PPP Framework

PPP is not new to Bangladesh. For more than a decade the Government of Bangladesh (GOB) has been pursuing the development of PPP supported by its development partners. Despite some initial success, GOB's efforts in creating an enabling and conducive environment for the development of PPP has not delivered the full level of success expected.

As a consequence, despite GOB's efforts, the private sector is likely to be skeptical towards GOB initiatives. It is important for restoring confidence that only PPP projects are presented to the market that are most likely to succeed in terms of bankability and Value for Money. This requires that the proposed PPP projects are carefully screened and adequately prepared.

Preparing PPP arrangements requires specific competencies and ample time. Competencies those are not quite commonly available within government agencies as is also the case in Bangladesh. GOB has established a PPP Office, who with the support of internal and external advisory support will help to facilitate the PPP development and implementation process. The required resources both internally and externally impose a severe demand on the government for preparing, tendering and contracting, which is mostly higher than in case of conventionally procured projects. In view of the limitation to the availability of such resources it is important that they are applied to the PPP projects that are most likely to succeed. This requires a careful screening process that filters the various initiatives into successful PPPs.

Despite these benefits, it is possible that some Ministries will perceive the screening process as unnecessarily burdensome at the early stage of project development. This is certainly not the intent. The goal of the process is to elicit as much usable information as possible, so as to allow the GOB to make intelligent decisions at every step in the development process.

The Government of Bangladesh (GOB) has issued in August 2010 a new policy and guidelines for the formulation, appraisal and approval of Public Private Partnership (PPP) projects (PPP Policy and Guidelines, 2010) rescinding the 2004 Private Sector Infrastructure Guidelines (PSIG) and reflecting the facilitating framework for preparing and implementing PPP.

The Framework consists of 3 pillars:

(i) Legal Pillar
(ii) Institutional Pillar, and
(iii) Financial Pillar

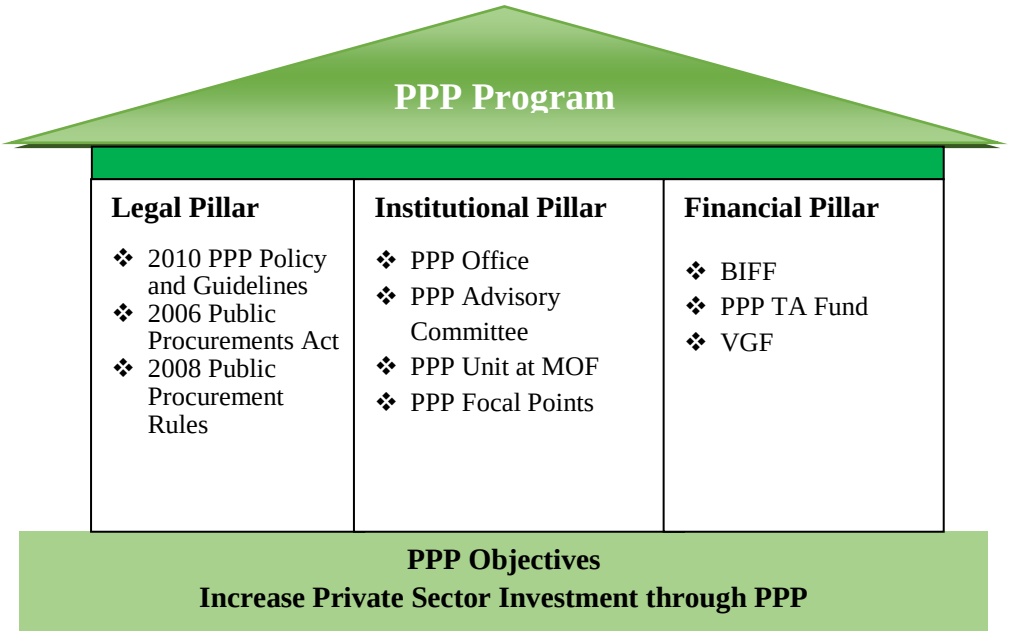


Figure 5.1: PPP framework (*Source: PPP Screening Manual, 2013)*

The GOB recognized the need for further operational guidance in applying these Guidelines and operationalizing these pillars. To implement this initiative an Asian Development Bank supported Technical Assistance (TA) program, TA7691 (BAN) Public Private Partnership Program Operationalization, has been established for the development of a set of deliverables to strengthen the enabling environment for PPP, including operational guidelines for the different steps of a PPP lifecycle and organizational plans for the key institutions and financial instruments. This PPP

Screening Manual has been developed as one of the deliverables under that TA program.

5.7 Legal Basis for the PPP under the Present Framework

Whether the present regulatory framework is sufficient to make the PPP initiative effective in terms of project processing and financing aspects requires to be revisited.

The Bangladesh Private Sector Infrastructure Guideline (PSIG) issued by the cabinet Division in 2004 is currently the guideline for implementation of projects under the PPP. This has not been issued under any law passed by the national parliament. As a result, there were doubts and lack of clarity regarding the consistency between Public procurement Regulations PPR 2003 and the private sector project development; approval and financing that are to be implemented under the jurisdiction of PSIG 2004. Later the Public Procurement Act (PPA) 2006 was enacted by the national parliament. Procurement Act 2006 through section 66, which incorporated concessions agreement related provision, extended the government's legal jurisdiction to formulate independent PPP guidelines.

In the Public Procurement Rules (PPR) promulgated by the government in 2008, rule 129 incorporates various PPP related models. In this regard as of now: PPA' 2006 section 66 and PPR' 2008 rule 129 may form the legal basis for project implementation and contract execution under the PPP initiative. Therefore under the present framework infrastructure development activities by the private sector under PPP initiatives can be continued. However, the entire procedure should be brought under the purview of a comprehensive framework in order to ensure competent administration, regular monitoring, sound accountability and professionalism, for which independent act and required legal framework must be developed (GoB, MoF, 2009).

At present, project under the PPP initiative are being financed through IDCOL and IPFF by the government. IDCOL is a company established under the Companies

Act. On the other hand IPFF is a 5 year term project. Since IDCOL was established under the Companies Act, through it necessary resources can be arranged for financing large scale projects. However, due to failure to formulate appropriate project proposals by ministries, divisions or agencies no initiatives were undertaken to arrange large funs through IDCOL. In addition, there is lack of clarity and hesitation regarding how the government will finance infrastructure development through the PPP initiative. There is a need for a legal framework for pooling of finances from various sectors (banks, insurance, pension funds).But, at present, government through IDCOL can provide money (equity or loans) to any infrastructure investment related funds (GoB, 2009).

Guidelines for Formulation, Appraisal and Approval of Large Projects, 2010; Guidelines for Formulation, Appraisal and Approval of Medium Projects, 2010; Guidelines for Formulation, Appraisal and Approval of Small Projects, 2010; is promulgated under Policy and Strategy for Public-Private Partnership (PPP), 2010 for developing enable environment for PPP project implementation. After adoption of this new Policy and Strategy for Public-Private Partnership (PPP) in Bangladesh, the Bangladesh Private Sector Infrastructure Guideline (BPSIG), 2004 is rescinded.

5.8 Policy and Strategy for Public-Private Partnership (PPP), 2010

5.8.1 Office for Public-Private Partnership

For the promotion and efficient handling of PPP projects and Office for PPP shall be established, through resolution or by legal instrument, as a separate office under the Prime Minister's Office. The Office for PPP will be formed as an autonomous unit having significant autonomy on administrative and financial matters in discharging its mandated functions (http://www.pppo.gov.bd).

The Office for PPP is the central point of promoting the PPP concept. It supports line Ministries in identifying, formulating, selecting, contracting and monitoring implementation of PPP projects. The Office for PPP will also coordinate among various government and private agencies for fast tracking PPP projects.

The Office for PPP will consist of officials recruited from public sector and private sector, selected on a competitive basis, having knowledge and expertise infrastructure/PPP projects. The office for PPP shall be headed by a Chief Executive Officer (CEO).The CEO of the Office for PPP shall report directly to the Hon'ble Prime Minister (http://www.pppo.gov.bd).

The Role of the Office for PPP:

- To initiate, develop, formulate PPP projects
- To actively promote PPP to various potential investors
- To maintain a panel of experts for PPP projects
- To conduct pre-feasibility, feasibility studies and prepares relevant bidding documents, when necessary
- To secure annual technical assistance financing for conduction pre-feasibility, feasibility studies and preparation of relevant biddings documents
- To seek appraisal for VGF for PPP projects
- To propose for approval of various laws, rules, regulations, model documents, guidelines, procedures for general use and use for specific types of PPP projects
- To support line Ministries/implementing agencies in tendering and selection of investors.
- To undertake awareness creation activities and build capacity in line ministries and implementing agencies on PPP affairs
- To monitor PPP projects including the linked components
- To facilitate risk mitigation measures for private investment
- To maintain an up-to-date internet portal with public access to laws, rules, regulations, model documents, and short description and scope of negotiated PPP projects, and secure access to private participants for tracking progress of processing of specific PPP projects

5.8.2 Types of Financial Participation of the Government in PPP Projects

The financial participation of the government in the PPP projects may be in at least 3 forms, depending on the nature of the projects and models of PPP adopted for a particular type of project. The detailed procedure and guidelines for all forms of financial participation by the government will be issued and specified by Finance Division with the approval of the CCEA.

5.8.2.1 Technical Assistance Financing

The technical Assistance Financing is designed for the following purposes:

- Pre-feasibility and Feasibility study for projects;
- Preparation of RFQ and RFP documents for projects;
- Preparation of concession contracts for projects;
- PPP related capacity building in the line ministries/implementing agencies and other relevant agencies;
- PPP related awareness building

5.8.2.2 Viability Gap Financing

Viability Gap Financing (VGP) is meant for projects where financial viability is not ensured but their economic and social viability is high. VGF could be in the form of capital grants or annuity payment or in both forms. VGF in the form of capital grant shall be disbursed only after the private sector company has subscribed and expended the equity contribution required for the project. The VGF is to be managed by the Finance Division and is for disbursement to the PPP Project Company, upon request by the line Ministry/implementing agency, as per the terms of the concession contract.

5.8.2.3 Infrastructure Financing

The infrastructure financing is an arrangement for extending financing facilities for the PPP projects in the form of debt or equity through specialized financial institutions such as Bangladesh Infrastructure Finance Fund (BIFF) and

Infrastructure Development Company Limited (IDCOL).The government may participate in such financing arrangements through necessary budget provision.

5.8.3 Incentives to Private Investor

The government is keen to provide various fiscal and non-fiscal incentives to the private investors for launching PPP projects in priority sectors. All incentives in PPP, including fiscal and monetary incentives are to be considered and granted by the government, though the appropriate agencies of the government. The incentives may be in the areas of reduction of cost and protection of return to the private sector.

(i) Fiscal Incentives

All PPP projects will receive the applicable incentives, provided by the government from time to time which may, inter alia, include:

- Reduced import tax on capital items under PPP projects; and
- Tax exemption or reduced tax on profit from operating/managing for a specific time period.

(ii) Special Incentives

Any specific project may get special unique incentives with the approval of the CCEA which shall be declared in the RFP documents. Special incentives may be extended to PPP projects targeted for rural or/ and underprivileged population. Special incentives may be given to non-resident Bangladeshis (NRBs) to invest in PPP projects.

5.8.4 Institutional Framework for PPP

According to (PPP Screening Manual, 2013) the institutional framework for developing strategy, identification, formulation, appraisal, approval, monitoring and evaluation of PPP projects is presented below:

a) Public-Private Partnership Advisory Council (PPPAC)
b) Cabinet Committee on Economic Affairs (CCEA)

c) Line Ministry/Implementing agency
d) Finance Division
e) Planning Commission

5.8.5 Unsolicited Proposals

For appraisal and approval of unsolicited proposals, competitive bidding such as "Bonus System", "Swiss Challenge System" or other appropriate methods shall be followed where the options and competitiveness of the unsolicited proposals could be put to open test by inviting competitive proposals.

In the Bonus System, the proponent of the unsolicited proposal is given bonus points in relation to the evaluation. Swiss Challenge System enables the government to attract counter proposal on and unsolicited proposal during a designated period. The original proponent then has the right to counter-match the most attractive counter proposal.

5.9 Weakness in Previous Framework

PPP initiation was not clear and the procurement process was not well structured. Absence of consistent procedure to identify, formulates, appraise and approve the PPP project; lack of clarity on roles and responsibilities of various parties involved in a PPP arrangement;

5.10 Applicability of PPP

According to (A Brief Guide for Partners: Promoting Public-Private Partnership in Bangladesh, 2010) any project that generates public goods and services may be considered under the public-private partnership, if at least one of the following circumstances exist for the project-

a) The implementation of the project is difficult with the financial resources or expertise of the government alone;
b) Private investment would increase the quality or level of service or reduce the time to implement compared to what the government could accomplish on its own;

c) There is an opportunity for competition, where possible, among prospective private investors, which may reduce the cost of providing a public service;
d) Private investment in public service provides an opportunity for innovation; and
e) There are no regulatory or legislative restrictions in taking private investment in the delivery of public service.

5.11 Non-applicability of PPP

The following action/activities will not fall under the PPP (A Brief Guide for Partners: Promoting Public-Private Partnership in Bangladesh, 2010)

a) Outsourcing of a simple function of a public service;
b) Creating a government owned enterprise (State Owned Company); and
c) Borrowing by government from the private sector.

5.12 Sectorial Coverage of PPP

Any project fulfilling one or more of above-mentioned applicability criteria in any economic sector, according to the International Standard Industrial Classification (ISIC) of all Economic Activities, Revision 4, specified by the United Nations, is eligible for PPP (A Brief Guide for Partners: Promoting Public-Private Partnership in Bangladesh, 2010). However, the priority sectors are**:**

1. Exploration, production, transmission, and distribution of oil, gas, coal and other mineral resources (ISIC 05-09);
2. Oil refinery, and production of LPG (ISIC 19);
3. Production of fertilizer (ISIC 20);
4. Power generation, transmission, distribution and services (ISIC 35);
5. Airports, terminals and related aviation facilities (ISIC 42 and 51);
6. Water supply and distribution, sewerage and drainage, effluent treatment plans (ISIC 36-39);
7. Land reclamation, dredging of rivers, canals, wetlands, lakes and other related facilities (ISIC 42);

8. Highways and expressways including mass-transit, bridges, tunnels, flyovers, interchanges, city roads, bus terminals, commercial car parking
9. Port development (sea, river and land) including inland container terminals, inland container depot and other services (ISIC 52);
10. Deep sea port development (ISIC 52);
11. Telecommunication systems, networks and services including information and communication technology (ICT) (ISIC 60-63);
12. Environmental, industrial and solid waste management projects; (ISIC 38-39) railway systems, rolling stock, equipment and facilities (ISIC 49);
13. Tourism industry (ISIC 79);
14. Economic zone, industrial estates and parks, city and property development, including services to support commercial and noncommercial activities (ISIC 81-82);
15. Social infrastructure *e.g.* health, education, human resource development, research and development, and cultural facilities, (ISIC 85-88);
16. e-service delivery to citizens (ISIC 85);
17. Poverty Alleviation Projects (ISIC 84);

    a) Pourashava and village water supply (ISIC 36);
    b) Remote Area Power Supply Systems (RAPSS), Rural gas supply (ISIC 35);
    c) Rural Internet projects (ISIC 61);
    d) River passenger terminals /landing stations (ISIC 52);
    e) Rural health services and hospital (ISIC 86);
    f) Irrigation and other agricultural services (ISIC 36);
    g) Other urban, municipal and rural projects that the Government views as priority areas for development so as to support economic development activities.

5.13 PPP Project Development Phases and Regulatory Framework in Bangladesh

In 1996, Government of Bangladesh issued the private sector power generation policy to facilitate public private partnership (PPP). Later, Bangladesh private

sector infrastructure guidelines (PSIG) 2004 and private sector power generation policy (PSPGP) 1996 (revised 2004) has been the major guiding instruments especially to facilitate private investors for PPP projects. Later the public procurement act (PPA) 2006 was enacted by the national parliament. Public procurement act 2006 through section 66, which incorporated concessions agreement related provision, extended the government's legal jurisdiction to formulate independent PPP guidelines. Very recently, policy and strategy for public-private partnership (PPP Policy, 2010) has been adopted.

Along with regulatory certainty, PPP projects need several consents and approval including environmental clearance. Department of Environment (DOE) under Ministry of Environment and Forest is the approving authority for environmental clearance in Bangladesh. The environmental conservation act 1995 (and amendment 2000) and the environmental conservation rules 1997 are the guiding instruments for the project to get environmental approval from DOE. The World Bank guidelines are generally followed for Environment Impact Assessment (EIA), Social Impact Assessment (SIA), Rehabilitation Action Plan (RAP), Social Action Plan (SAP), Environment Management Plan (EMP) etc. for maintaining "Equator Principles" which facilitate the PPP project in getting finance from banks. Other relevant policies and laws in conducting PPP business in Bangladesh are:

- The Foreign Exchange Regulation Act, 1947
- Foreign Private Investment (promotion and protection) Act 1980
- The Income Tax Ordinance, 1984
- Acquisition and Requisition of Immovable Property Ordinance, 1982
- Investment Board Act, 1989
- The Companies Act, 1994
- Industrial Policy 1999
- Arbitration Act, 2001

The life cycle of PPP projects in general may be segregated into seven phases in terms of role played by the agencies involved in the PPP projects. In different phases the sector agencies have different roles. The PPP project phases are given in table 5.1.

Table 5.1: Major steps of PPP project development in Bangladesh

Steps		Activities
Step-I	Pre-Development	➢ Project idea and conceptualization ➢ Identification and assessment meetings and discussions within the agencies
Stage II	Feasibility	➢ Agency engages consultants ➢ Elicit project ideas ➢ Define the need ➢ Identify and agree major technical and transaction parameters ➢ Complete feasibility study
Stage III	Commercial Framework and Procurement	➢ Develop action plan ➢ Prepare commercial framework ➢ Obtain Ministry agreement for Pre-qualification ➢ Obtain Expressions of Interest and shortlist ➢ Prepare draft Agreements ➢ Prepare bid documents
Stage IV	Evaluation	➢ Develop action plan ➢ Prepare commercial framework ➢ Obtain Ministry agreement for Pre-qualification ➢ Obtain Expressions of Interest and shortlist ➢ Prepare draft Agreements ➢ Prepare bid documents
Stage V	Negotiation & Agreement)	➢ Hold bidders conference ➢ Shortlisted bidders prepare bids ➢ Agency receives bids and prepares evaluation report ➢ approval of successful bidder ➢ Issue LOI to successful bidder
Stage VI	Financing	➢ Sponsor makes Loan Applications to commercial lenders Commercial Lenders perform due diligence ➢ Renegotiations for Lenders Requirements ➢ Loan documents prepared ➢ Financial closure
Stage VII	Construction	➢ Carry out Contract Administration functions ➢ Oversee construction by Lenders' Engineer ➢ Conduct satisfactory completion tests ➢ Commercial Operations Date

Source: (Rashed et al., 2013)

5.14 Overview of PPP Projects in Bangladesh

PPP development in Bangladesh can be divided in three phases. First generation PPP started with independent power producers (IPPs) after government approved the 1996 private sector power generation policy of Bangladesh. The second generation PPPs was carried out in multiple sectors and it was done after government approved the Bangladesh private sector infrastructure guidelines (PSIG) in 2004. The third generation PPPs have been enriched further more as government approved the PPP budget in 2009. The third generation PPP policy framework and guidelines have recently been approved by government in June 2010.

The government of Bangladesh (GoB) has showed its strong commitment to PPP, by allocating a PPP budget that is separated from the traditional development and revenue budget. In the 2009-2010 fiscal year, US$ 357 million has been allocated under this PPP budget. The budget has been segregated under three heads - $300m for loan or equity, $45m for viability gap funding (VGF) and $15m as a centralized technical assistance fund. In addition, the government has issued a position paper titled, “Invigorating Investment Initiative through Public-Private Partnerships”, in June 2010.

Table 5.2: Sector wise PPP projects implemented in Bangladesh

Sector	Project Name	Capacity	Investment (USD$ million)
Power	CDC Meghnaghat Ltd.	450 MW	300
	CDC Haripur Ltd.	360 MW	183
	Khulna Power Company Limited	110 MW	110
	Haripur EI Paso Barge Mounted Power Plant	115 MW	115
	Westmont Baghabari Power Barge	130 MW	16.2
	BEPZA Power Plant at CEPZ	40 MW	28
	BEPZA Power Plant at DEPZ	35 MW	23
	Power Plant at Savar	44 MW	30
	Power Plant at Narsingdi	35 MW	23
	Power Plant at Comilla	25 MW	17
	Small Power Plants (10 to 33 MW) -- 12 stations	230 MW	115
	Captive Power Generation (many plants)	1200 MW	500
Telecom	Banglalink	34	123
	GrameenPhone	448	500
	Pacific Bangladesh Telecom Limited	65	118
	TM International (Bangladesh) Ltd.	25	366
	Warid Telecom	N/A	N/A

	Bangladesh Rural Telephone Network	123	150.4
	Public Switched Telephone Network (PSTN) Fixed Line Providers (Many)	N/A	172.5
	PGCB's Optic Fiber Cable (Phase-I) (Dhk-Ctg)	STM 64	1.2
	PGCB's Optic Fiber Cable (Phase-II) (Ctg-Cox'bzr)	N/A	11
	License for International Gateway Services	N/A	N/A
	License for Interconnection Exchange (ICX) Services	N/A	N/A
	License for International Internet Gateway Services	N/A	N/A
Port	Land Port at Sonamasjid	N/A	2.2
	Land Port at Banglabandha	N/A	1
	Land Port at Hili	N/A	2.2
	Land Port at Birol	N/A	0.71
	Land Port at Bibirbazar	N/A	0.71
	Land Port at Teknaf	N/A	4
Roads	Gulistan-Jatrabari Flyover	Toll road of 7 km from Gulistan to Jatrabari	108
	Dhaka Elevated Expressway	N/A	N/A
	Jamuna Bridge toll management contract	5	N/A
	Shah Amanat International Airport	1	N/A

(Sources: Compilation from different documents of IIFC)

This list covers mostly the projects under the previous PPP institutional and regulatory structure as adopted in 2004.

In the power sector, after the approval of the 1996 Private Sector Power Generation Policy, a large number of IPP projects have been taken up and completed in Bangladesh. Notable amongst them are the 360MW Haripur and 450MW Meghnaghat combined cycle power plants. At the moment, about 25 IPPs have been completed or in varying stages of completion, representing an investment of almost $1 billion. IPPs currently supply about 1/3 of the electricity used in Bangladesh.

In the telecom sector, private investments approach the $1.5 billion mark, with world-class mobile companies such as Grameenphone, Banglalink, Aktel, Citycell, and Warid. Fixed line phones have also been opened up and many operators such as RanksTel, Dhaka Phone, and OneTeletc are giving commercial service. The Power Grid Co. has leased out its Dhaka-Cox's Bazaar optic fiber cable constructed on its high-voltage transmission lines. The Bangladesh Railway has done the same for the optic fiber along its railway lines, leasing it with a PPP.

In the ports sector, six land ports have been constructed through PPP, located in Sonamasjid, Banglabandha, Hili, Birol, Bibirbazar and Teknaf. These are the first BOT land ports in the world. The tendering process for private operators is currently underway for the New Mooring Container Terminal, at the Port of Chittagong.

5.15 Chapter Summery

Chapter five presents emergence of PPP, previous initiatives, background of PPP initiative and support in Bangladesh. It's describes the PPP framework, legal basis for the PPP under the present framework, legal basis for the PPP under the present framework, policy and strategy for public-private partnership(PPP), 2010 applicability of PPP, non-applicability of PPP. PPP project development phases and regulatory framework in Bangladesh for implementation of the project. It discusses with sectorial coverage of PPP, overview of PPP projects in Bangladesh.

CHAPTER 6

RESULT AND DISCUSSIONS

6.1 Introduction

This chapter presents the responses and analysis conducted for this research. The results are presented with tabular, graphical and statistical representations. These responses are from thirty two respondents involved with Public Private Partnership (PPP) projects. The responses are from the public sector, private sector and researchers perspectives.

6.2. Selected Characteristics of the Respondents

According to the objectives of the study, data were collected from a sample of 35 respondents who are involved in PPP project. The findings of each selected characteristics of the respondents are presented separate table along with the interpretations.

6.2.1 Age

The age of the respondents ranged from 26 to 63 with a mean and standard deviation of 45.45, and 9.118 respectively. The respondents were classified into three categories viz. ‘young’, ‘middle aged’ and ‘old’ on the basis of their observed age. The distribution of the respondents according to their age is presented in Figure 6.1. The figure 6.1 indicates that the middle aged respondents constitute the highest proportion (65.71 percent) followed by young aged category (28.57 percent) and old aged category (5.72 percent). Data also indicates that the middle aged respondents constitute near about half of the interviewees.

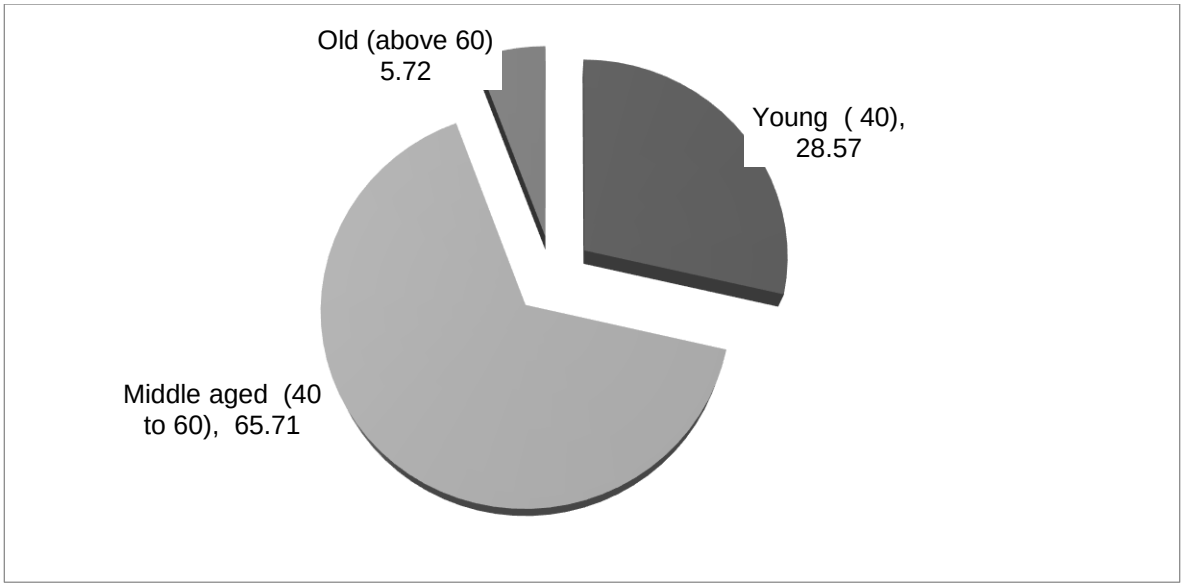


Figure 6.1: Distribution of survey respondents by age

6.2.2 Level of education

The distribution of the respondents according to their level of education has been presented in figure 6.2.

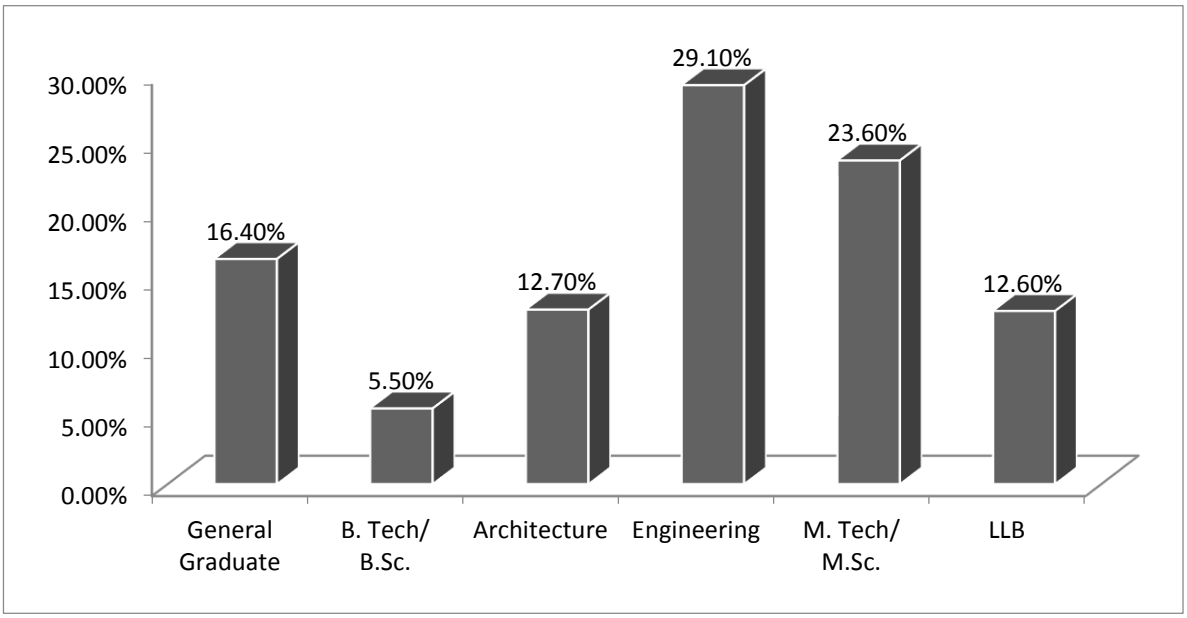


Figure 6.2: Distribution of survey respondents by education

Figure 6.2 shows that majority respondents were engineering background (29.10 percent) followed by Masters of Science in technical education (23.60 percent),

16.40% general graduate 12.70% Architecture background and 12.60% L.L.B background

6.2.3 Sector Belongs

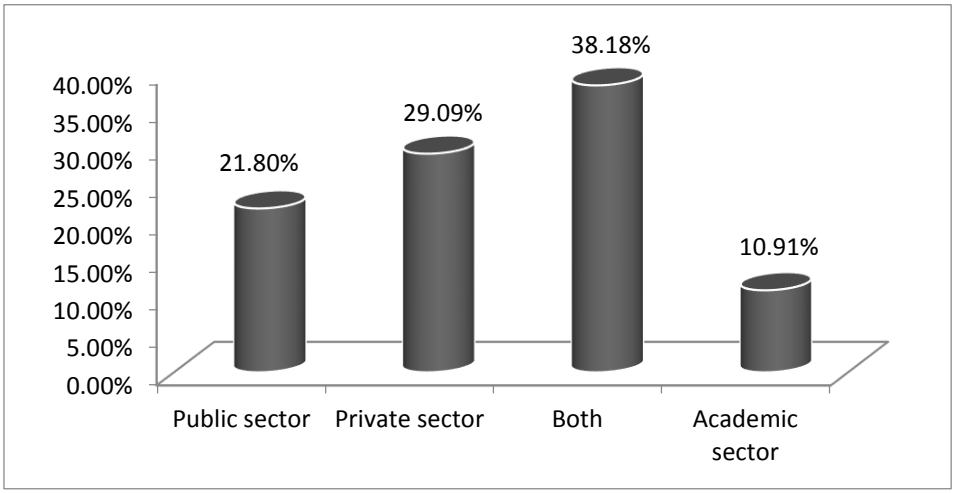


Figure 6.3: Distributions of survey respondents by sector

Figure 6.3 shows that more than 38.18% of the respondents had experience with both public and private sectors as such; most of the responses can be concluded has been fair. Respondents had the chance to select all positions they have worked throughout their experience in the industry.

6.2.4 Experience of Respondents in Infrastructure Projects

General Experience of Respondents in PPP Projects

Respondents were asked a number of questions to identify their involvement with PPP. These questions varied from sectors they have worked with, positions they hold or have held with companies or agencies, respective years of experience and PPP projects executed. The respondents who answered the survey belonged to different sectors and various areas of the construction industry as presented in Figure 6.4 and 6.4 respectively.

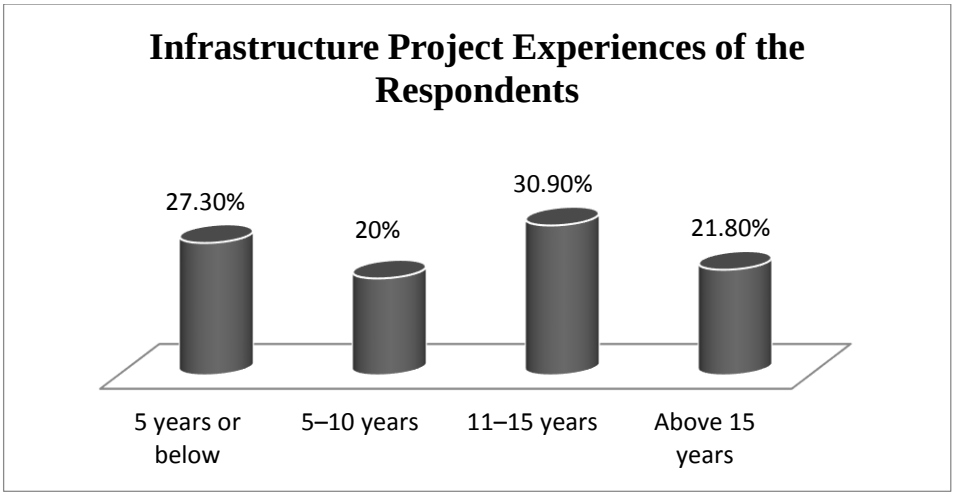


Figure 6.4: Distributions of survey respondents by infrastructure project experiences

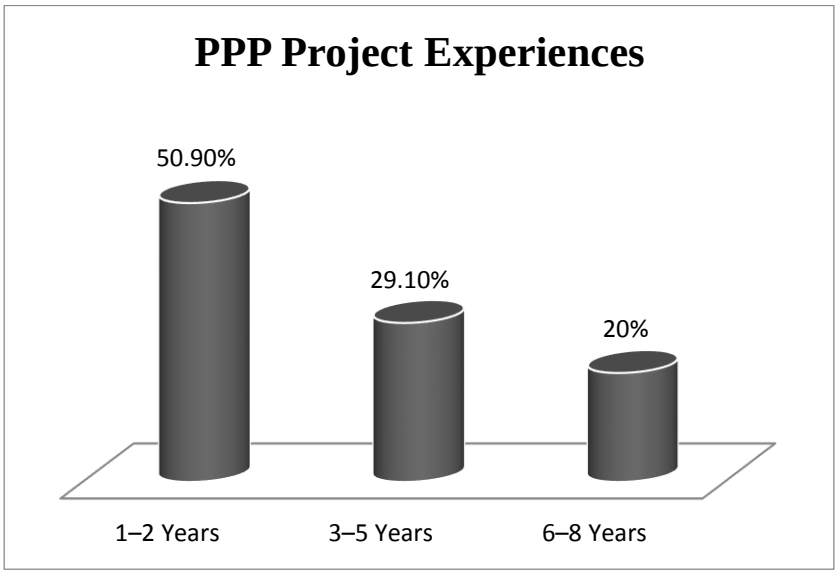


Figure 6.5: Distributions of survey respondents by PPP project experiences

Figure 6.4 shows the years of experience the respondents have had in the construction industry. A higher number of the respondents had been in the industry for at least 11-15 years. Figure 6.5 Years of involvement of Respondents in different type of PPP projects

Type of Infrastructure Project under PPP Involved by the Respondents

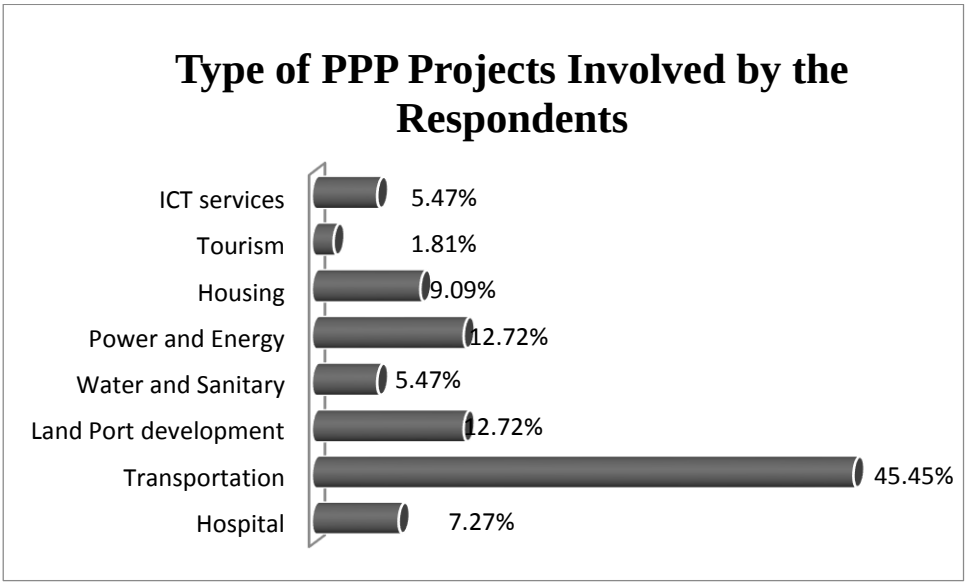


Figure 6.6: Distributions of survey respondents by involvement in PPP infrastructure projects

PPP Delivery Model Used in Infrastructure Projects in Bangladesh

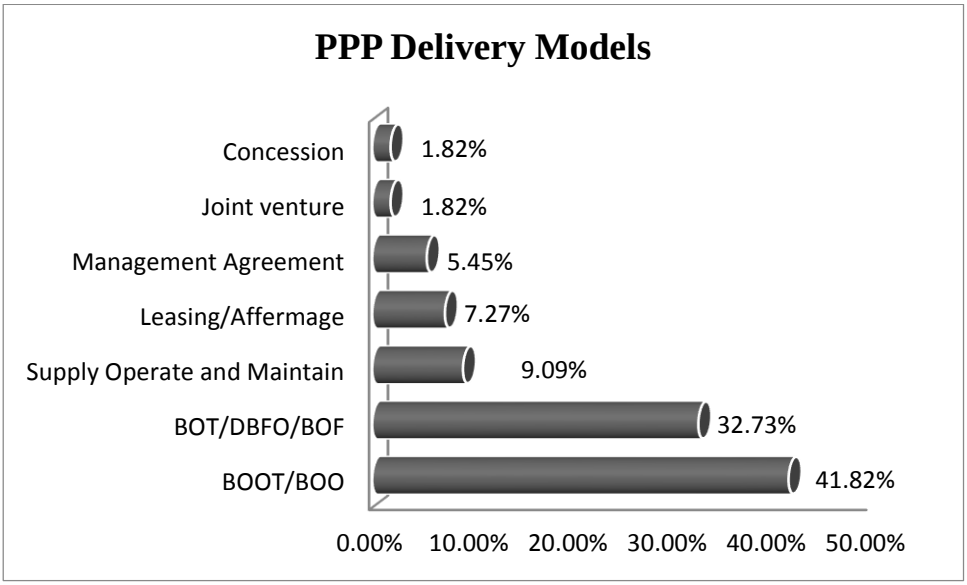


Figure 6.7: PPP model used in infrastructure projects of Bangladesh

Respondents selected the various infrastructure projects they have been associated with which were procured through PPP. The highest response amongst the

respondents was for transportations projects. Figure 6.5 shows the various projects respondents have had experience with.

Respondents were asked of PPP procurement methods they are familiar with. As illustrated in Figure 6.7 most of the respondents responded as being familiar with BOOT/BOO followed by DBFO/BOT/BOF.

6.2.5 Practice Guidelines on PPP Implementation

In the study respondents were asked if stakeholders had an in house practice guideline for projects which were to be implemented through PPP. There were mixed responses to the question as shown in figure 6.8 Just over a quarter of the respondents had in house practice guidelines. Similar result was observer in case of Practice Guidelines on PPP Implementation Agyemang, P.F. (2011). This emphasis the need for stakeholders to establish their own form of guidelines for PPP projects. These guidelines will help increase the efficiency of PP projects.

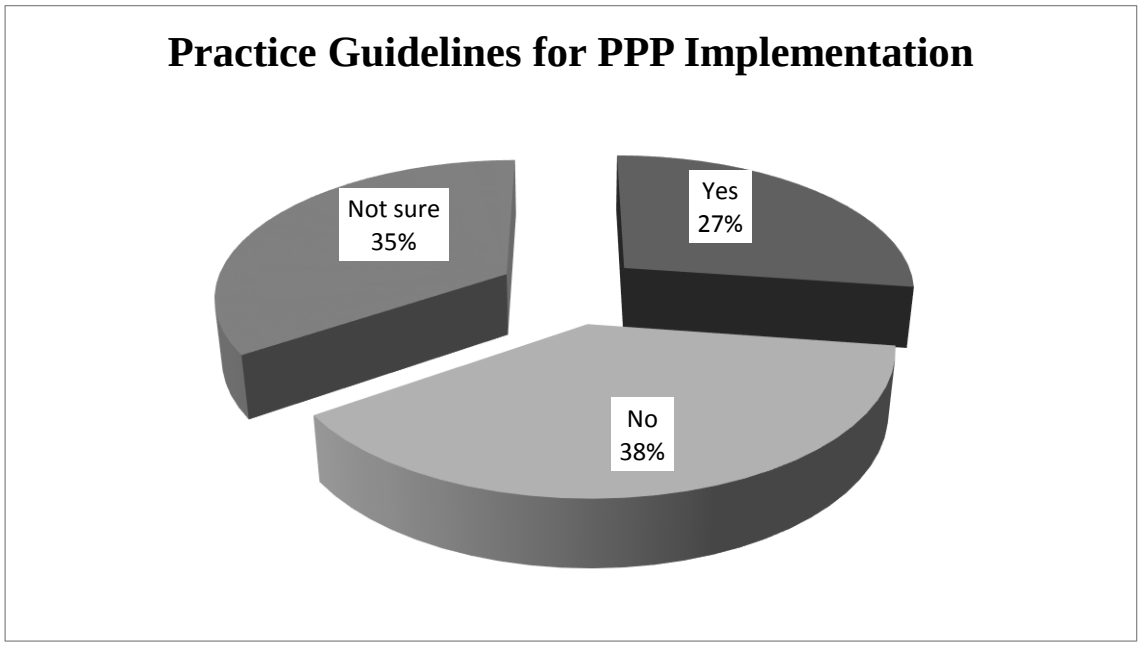


Figure 6.8: Practicing guidelines for PPP implementation

6.3 Role of PPP in Infrastructure Development

6.3.1 Reasons for Implementing PPP Projects

The survey respondents were asked to rate the importance of nine identified reasons for implementing PPP projects. The mean score were calculated and ranked in descending order of importance as shown in Figure 6.9. According to presentation, top three reasons ranked included:

- Shortage of Government funding
- Economic development pressure of demanding more facilities
- Social pressure of poor public facilities
- Private incentive
- High quality service required

"Shortage of Government funding" is ranked in the first position by the respondents. One of the main reasons for the rise of Private Finance Initiative (PFI) Projects in the United Kingdom was due to financial resources from the private sector. The PPP/PFI method was first adopted at a time when the British Government was struggling to provide for public facilities and services (Zhang, 2001).

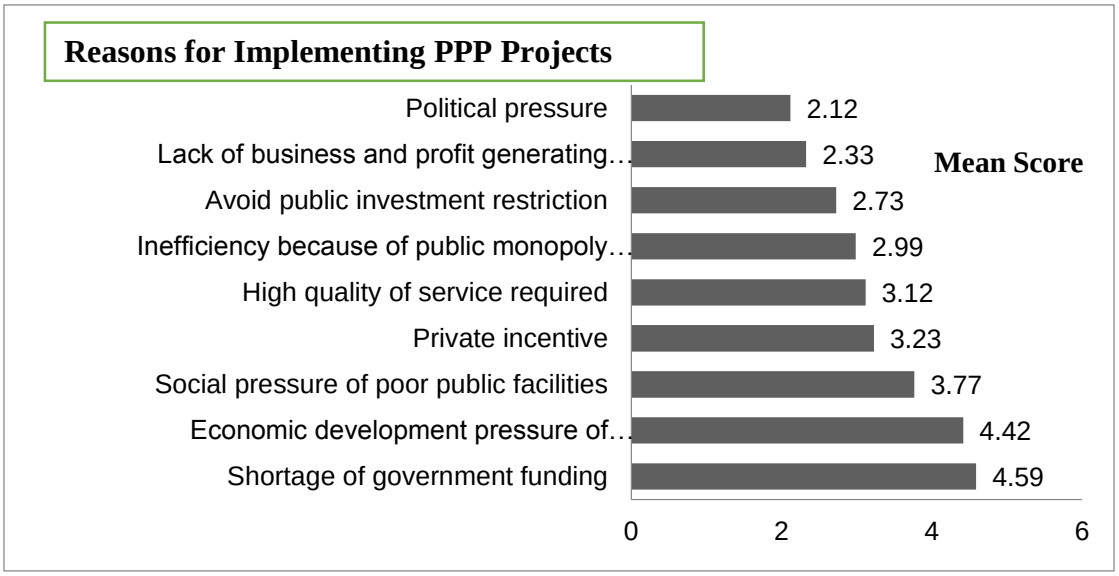


Figure 6.9: Reasons for implementing PPP projects

By involving the private sector the government was able to continue delivering public infrastructural a result a heavy emphasis on finance has always been associated to PPP/PFI projects especially in the early days of implementation.

Since the private sector invests in the infrastructure development, there is no need for the government to take loans and pay interests. This does not exert excess pressure on money market, thereby diminishing upward pressure on interest rate and inflation. Desired growth rate cannot be achieved if the government is unable to invest in infrastructure development at the appropriate time. Participation of private sector allows additional and increased production capacity that feeds into higher growth rate. “Economic development pressure of demanding more facilities” factor is also considered important considering representative case studies and which is also ranked by respondents in the second position. Third most important reason for PPP project is considered by respondents is “Social pressure of poor public facilities”. Many citizens around the world and especially in transition economies face an "infrastructure deficit", as evidenced by congested roads, poorly-maintained transit systems and recreational facilities, deteriorated schools, hospitals, and water and water treatment systems which are either nonexistent or in urgent need of repair. Many governments have come to realize that the tax base alone cannot fund the huge needs for infrastructure. PPPs are one option to meet this challenge.

The top fourth reason was distinguished as “Private Incentive”. Practitioners round the world can foresee the advantages of involving the private sector into conducting public works projects. The private sector can add value to these projects in many ways such as financially, via experts, innovation, risk sharing and above all motivation The mean values of the reasons for implementing PPP projects as rated by respondents ranged from 2.12 to 4.59. This observation has reflected that the variation in their responses is relatively small (2.47). A value above “3” would represent that the reason for implementing PPP projects is of importance. Amongst the reasons for implementing PPP projects four were ranked below 3. These

reasons for implementing PPP projects were Political pressure, Lack of business and profit generating skill in public sector, and avoid public investment restriction.

6.3.2 Why PPP in Infrastructure Development?

Infrastructural Investment is essential for the long term economic development of a country. Key infrastructure assets create additional economic benefits by supporting urbanization and industrial growth and providing better access to adjoining countries and stronger trade links. This, in turn, accelerates growth in GDP per capita and therefore the ability to derive greater financial returns. Sensible investment has a much higher better chance of paying dividends when macroeconomic policies are sound, but at the same time, high-return infrastructure investment is harder to identify and implement in developed countries where most obvious investments have already been made (Rajon, 2015).

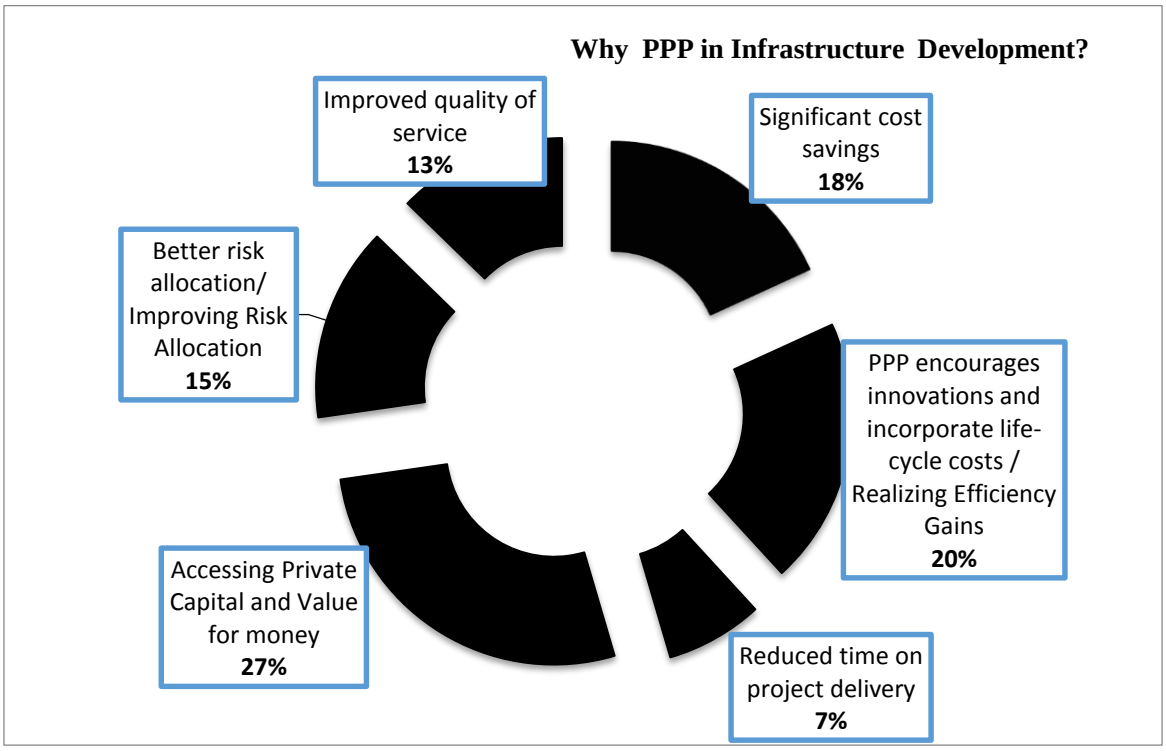


Figure 6.10: Why PPP in infrastructure in development?

Respondents were asked reasons why they will opt for PPP as a procurement method for infrastructure projects. There were responses for each answer option.

From the study it was reveal that PPP is essential in infrastructure development for the following reasons accessing private capital and value for money, encourages innovations and incorporate lifecycle cost / realizing efficiency gains, significant cost savings, improving risk allocation and reduced time on projects delivery and opinion of the respondents presented in above figure. The higher response rate was received for "Value for Money". Figure 6.10 shows the reasons for PPP implementation in infrastructure project.

The Bangladesh government recognizes the need to create infrastructure to bolster economic development in different sectors. Since the 1990's, PPP is increasingly becoming the preferred method of procuring public infrastructure and services (Grimsey, 2002). PPP provides a mechanism for leveraging the much needed finance and skills from the private sector (Nyagwachi, 2008; Charles, 2006). PPP has benefits, most of which have been well captured by authors such as Agyemang, (2011) and Nyagwachi (2008) to include;

- ❖ Value-for money;
- ❖ Potential for delivery, particularly suitable for large scale projects;
- ❖ Gains from innovation, due to the creativity of the private sector;
- ❖ Provision of a platform for sector-wide cooperation;
- ❖ Financing from the private sector;
- ❖ Capacity building and creation of synergy;
- ❖ Potential to increase the volume of business;
- ❖ Potential to attain high efficiency and quality;
- ❖ Ability to promote 'competitiveness and fair competition';
- ❖ Better risk allocation / transfer;
- ❖ Whole costing;
- ❖ Mutual benefits to private and public sectors;
- ❖ Greater asset utilization.

However, despite the many reported perceived and/or actual benefits, the implementation success of many PPP projects have been marred by a number of

allegations including corruption (William and Ghanadan, 2006), lengthy bureaucratic processes (Lamech and Kazim, 2003) and difficult financing mechanisms (ADB, 2000). A study by Akampurira, Root and Shaken (2009) found that the five most hindering factors in the development and implementation of PPP in the Ugandan electricity sector were; the inability of local institutions to provide equity financing, numerous requirements to obtain project approval, lengthy project approval process, delays as a result of lengthy bureaucratic procedures and resistance from environmental groups.

6.3.3 Factors Contribute Success of PPP

Seventeenth success factors for adopting PPP were rated by the respondents. Figure 6.11 illustrates the relationship of the top five success factors ranked with their ranking positions .These success factors included:

- Favorable legal framework.
- Political support.
- Appropriate risk allocation and risk sharing.
- Strong and good private consortium.
- Commitment and responsibility of public and private sectors.
- Government involvement by providing guarantee.

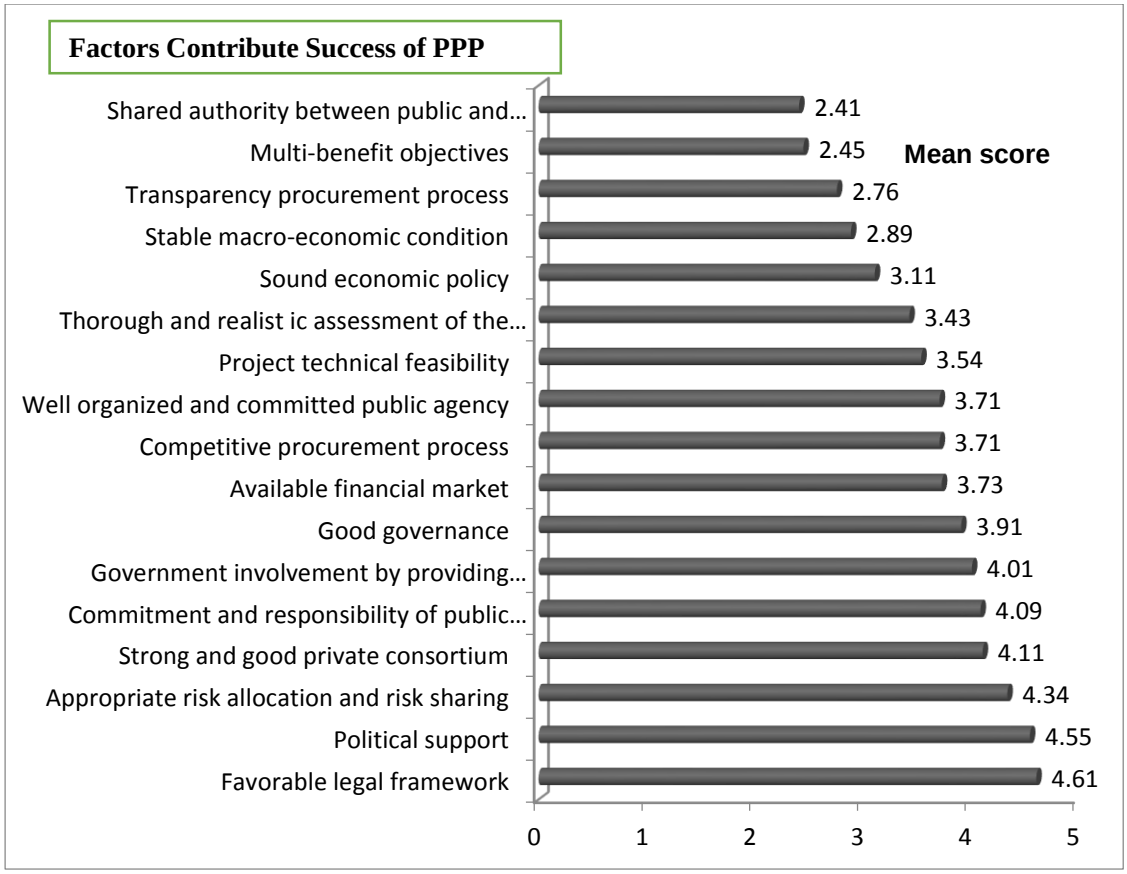


Figure 6.11: Factors contribute success of PPP

According to the responses of respondents, the first most important factor is marked as "Favorable legal framework". According to the experienced of the pioneer country regarding PPP such as Australia and UK, an independent, fair and efficient legal framework is a key factor for successful PPP project implementation. A transparent and stable legal framework would help to make the contracts and agreements bankable. An adequate dispute resolution system would help to ensure stability in the PPP arrangement. Appropriate governing rules, regulations and reference manuals related to PPP have been well established in some developed countries to facilitate the effective application of PPP procurement approach. It is also evident that for not having favorable legal framework many PPP project was not successful. Achieving partnership requires strong political support. Traditionally when there has consensus that an infrastructure project should be built, governments have allocated the necessary resources to procure it themselves. When governments look to the private sector for funding this may be a signal of

lackluster support. However, because of the risks involved, the un-conventionality of the approach and the need to maintain legitimacy, partnership projects are likely to require stronger political and government support. “Political support” is ranked second by the respondents.

The third success factor ranked by the respondents was “Appropriate risk allocation and risk sharing”. Government would prefer to transfer risks associated with asset procurement and service delivery to the private sector participants, who are generally more efficient and experienced in managing them. But the government should be reasonable to take up risks that are beyond the control of private sector participants. In all cases, the government should ensure there are measures in place to manage the risk exposure rather than leaving it open to the private sector. Likewise before committing to the projects, the private sector participants should fully understand their risks involved and should be prudent in pricing and managing the risks appropriately (Zhang, 2005a).

Ranked forth by respondents was “Strong and good private consortium”. The government in contracting out the PPP project should ensure that the parties in the private sector consortium are sufficiently competent and financially capable of taking up the projects. This suggests that private companies should explore other participant's strength and weaknesses and, were appropriate, join together to form consortia capable of synergizing and exploiting their individual strengths. Good relationship among partners is also critical because they all bear relevant risks and benefits from the co-operation (Abdul-Rashid *et al.*, 2006; Corbett & Smith, 2006).

The fifth success factor ranked by the respondents was “Commitment and responsibility of public and private sector”. To secure the success of PPP projects, both the public and private sectors should bring their complementary skills and commit their best resources to achieve a good relationship. The attractive factor for successful Public-private partnership rated by respondents as sixth was “Government involvement with providing guarantee”. Many projects, especially in transport, require massive private sector investment and here the private sector may

not accept one of the various commercial risks for these projects. The public sector must provide support to a project and lower the risks sufficiently to stimulate the desired levels of private sector investment. There are various forms of support which the government can give to a project in order to mitigate the risk to the private sector. For example, guarantees may be an appropriate form of government intervention to shield the private sector risks that it cannot anticipate or control. Indeed, many PPP contracts provide for minimum revenue guarantees that limit the private sector's exposure to demand risks.

The mean values for the success factors as rated by respondents ranged from 2.41 to 4.61. This observation has reflected that the variation in their responses is relatively high (2.20). The finding shows that the respondents rated the success factors much more inconsistently with larger variation. The results also found that the success factors with mean values less than "3" are four factors in the bottom .These success factors were therefore seen to be least important compared to the others.

6.3.4 Ranking of Negative Factors for Adopting PPP

Twelve negative factors for adopting PPP were rated by the survey respondents. The mean score were calculated and ranked in descending order of importance as shown in figure 6.12.

According to depiction, the most important four factors ranked by the respondents included:

- Lengthy delays because of political debate
- A great deal of management time spent in contract transaction
- Lack of experience and appropriate skill
- Lengthy delays in negotiation

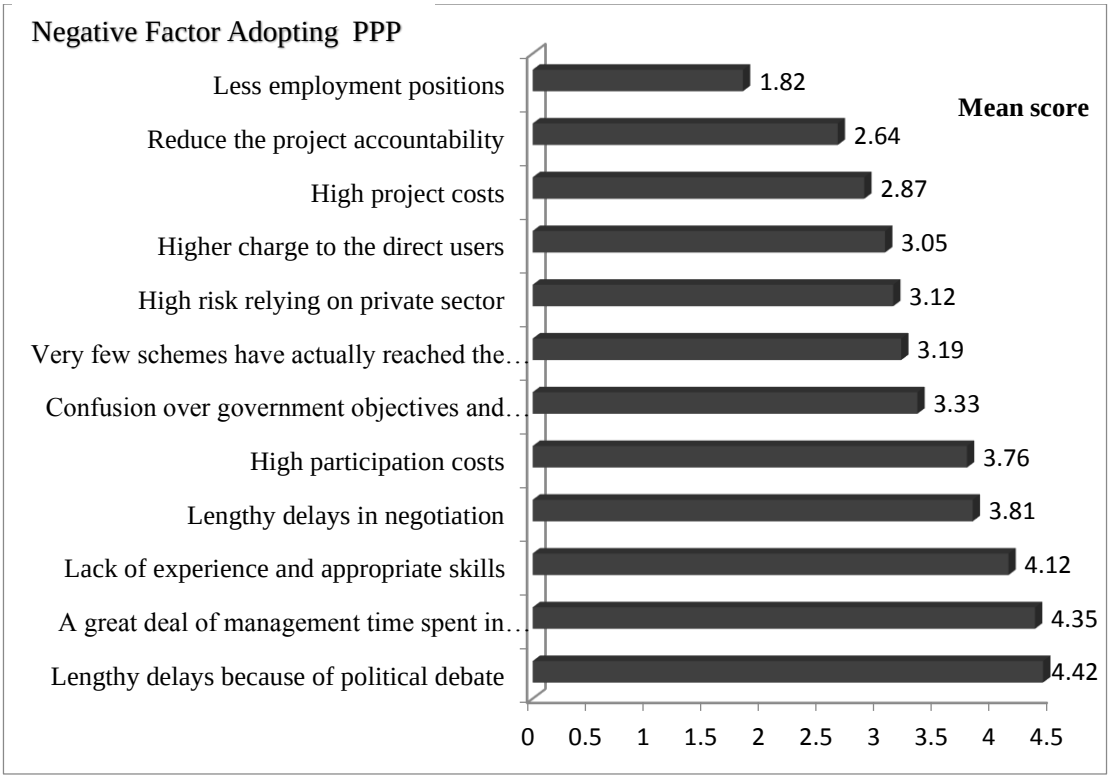


Figure 6.12: Negative factor adopting PPP

Public works project are often delays and complicated by the need for stakeholder consultation as a result it is not surprising that "Lengthy delays because of political debate" is the highest negative factor ranked by the respondents. This problem is well known for causing projects to be held back. The development of a PPP project requires firms and governments to prepare and evaluate proposals, develop contract and bidding documents, conduct bidding and negotiate deals and arrange funding. A great deal of management time is to be spent in contract transaction. The costs incurred in these processes are called transaction costs which include staff costs, placement fees and other financing costs and advisory fees for investment bankers, lawyers an consultant. Transaction costs may range from 1 to 2 percent to well over 10 percent of the project cost. According to survey output "A great deal of management time spent" factor is rated second position. The concept of partnership is not always well understood by the bureaucracy, often because of the lack of capacity and absence of clearly defined rules and regulations. The lack of capacity in the public sector can be a major obstacle in PPP development in many countries. Skills of a diverse nature, from project identification and economic evaluation to financial and risk analysis to contract document preparation, procurement; contract

negotiation and management are required in administering a PPP programme. "Lack of experience and appropriate skills" factor is ranked third position as negative perception. The fourth negative factor as ranked by respondents was "lengthy delays in negotiation". From the international experience, this is a typical factor for PPP projects irrespective of geographical locations. Due to the size and complexity of PPP projects the procurement process has been known to be lengthy. For the negative factors rated by respondents the mean values ranged from 2.15 to 4.31. The variation in responses was 2.16. In general the negative factors are rated higher by the respondents because consideration of country context factors is deemed to be more challenging. It also implies that respondents are not very much confident about conducting PPP projects.

6.4 Performance Measurement of Public Sector

6.4.1 Performance of Public Sector in Infrastructure Projects under PPP

Performance measurement is a process or a set of metrics used to quantify and report the effectiveness and efficiency of the action performed towards organizations or stakeholders' objectives (Neely *et al.,* 2005). Strategic objectives form the foundations of performance measurement (Solomon and Young, 2007). PPP infrastructure projects have a common strategic objective: the achievement of best value, which emphasizes efficiency, VfM and performance standards (Akintoye *et al.,* 2003). This strategic objective covers the issues in relation to 'public client's overall strategic plan and mission objectives, private sector's long-term development and payoff strategy, the general public's requirements of quality public facilities and services' (Yuan *et al.,* 2009). A vital role is played by the government in the development as well as management of a PPP project. The complete project may be fail if the government fails to get involved in an appropriate manner. Prime role identified for the government are: to establish enabling legal system, to create favorable investment environment, have a regulatory framework, act and facilitating as a coordinating and supporting authority, to select a suitable concessionaire and active participation in project life-cycle phases. The performance indicators of public sector with their ranked were presented in the table below-

Table 6.1 KPIs of public sector with their score for measuring performance of public sector in infrastructure PPP projects

Sl no.	KPIs	Mean score	Standard deviation	% Respondents					
				Not at all	Poor	Fair	Moderate	Good	Very Good
I.	Land acquisition for infrastructure	4.01	1.02724	0	3.6	3.6	18.2	36.4	38.2
II.	Exemption of taxes and import duties	3.45	0.95874	0	5.5	9.1	27.3	50.9	7.3
III.	Linked project	3.34	0.77503	0	3.6	5.5	45.5	43.6	1.8
IV.	Socio-economic issues	3.14	0.91121	0	5.5	14.5	43.6	32.7	3.6
V.	Legal Dispute	2.98	0.84964	0	5.5	16.4	52.7	23.6	1.8
VI.	Fulfillment of agreement conditions (production, Commercial Operation Date (COD)	2.69	1.03735	7.3	7.3	7.3	69.1	7.3	1.8
VII.	On time activities (Proposal to implementation)	2.67	0.87924	3.6	3.6	23.6	60.0	7.3	1.8

VIII.	Project Monitoring and Quality control	2.60	1.16428	5.5	14.5	14.5	49.1	12.7	3.6
IX.	Procurement plan or procurement system	2.54	1.18350	9.1	9.1	18.2	47.3	14.5	1.8
X.	Risk Shearing (Market and revenue risks, Operating risks, Environmental risks, Political risks, Public acceptance risks)	2.14	1.09575	10.9	14.5	29.1	40.0	5.5	0
XI.	Operation and maintenance monitoring	1.85	0.80319	5.5	23.6	50.9	20.0	0	0
XII.	Financial incentive for private sector	1.83	0.78796	7.3	18.2	58.2	16.4	0	0
XIII.	Cost sharing	1.67	0.80193	5.5	40.0	40.0	14.5	0	0
XIV.	Environmental relationship and communications	1.63	0.92405	25.5	43.6	18.2	12.7	0	0
XV.	Satisfaction level of private sector	1.12	0.94388	23.6	50.9	18.2	3.6	3.6	0
XVI.	Coordination	1.09	0.90825	25.5	47.3	23.6	3.6	0	0

The study sought to find out whether there were the performances of public sector of infrastructure projects under PPP in Bangladesh. From the study findings it is clear that majority 38.2% of the respondents rate the defined land acquisition performance for infrastructure establishment before project commencement as very good while one respondent each rated them as good, moderate, fair and poor. The researcher wanted to find out the opinion of the respondents on the exemption of taxes and import duties, linked project and socioeconomic issues management as public sector performance monitoring.

The findings indicate that most of the respondents felt that the exemption of taxes and import duties, linked project and socioeconomic issues management as public sector performance was moderate followed by good fair as well as poor presented into the table 6.1. The researcher can conclude that in public - private partnerships in Bangladesh there is some form of better performance of public sector in infrastructure project under PPP. According to the table 6.1 above fifty percent of the respondents opined that performances of public sector on legal dispute, fulfillment of agreement conditions (production, commercial operation date), project monitoring and quality control, procurement plan or procurement system was medium followed by fair and poor.

The study also sought to find out whether the public sector of Bangladesh has any arrangements for risk sharing. The findings indicate that all respondents agreed that there was some form of arrangements for risk sharing in in infrastructure project under public-private partnership. Forty percent of the respondents agreed that risk sharing performance of public sector was moderate followed by 29.1% fair and 14.5% poor. The researcher wanted to find out the performance of public sector on operation and maintenance, financial incentive for private sector, cost sharing with partners. The study findings indicate that most of the respondents agreed that the operation and maintenance, financial incentive for private sector, cost sharing with partners was fair and poorly manage whereas above quarter percent of the respondents rated the arrangement as medium. The researcher sought to evaluate the extent of public sector performances in case of environmental relationship and

communications with partners, satisfaction level of private sector, coordination among the partners. The findings indicate that near about 50% of the respondents agree that public sector has a fair performance in environmental relationship and communications with partners, satisfaction level of private sector, coordination among the partners followed by poor and medium as illustrated into table 6.1.

6.4.2 Ranking Performance Indicators of Public Sector in Infrastructure PPP

The survey respondents were asked to rate the importance of sixteen identified key performance indicators (KPIs) of public sector for implementing infrastructure PPP projects. The mean score were calculated and ranked in ascending order of importance as shown in Figure 6.13. According to the figure 6.13, last three main weak performances ranked included:

- Coordination
- Satisfaction level of private sector
- Environmental relationship and communications

Lack of coordination between stakeholders has been reported as the main reason for project failures of PPP projects in several instances. As such, capturing and addressing of stakeholder inputs is crucial to the success of the PPP projects (El-Gohary *et al.,* 2006). Therefore, the 16 indicators in figure 6.13 are selected as indicators to present the performance of public sector in infrastructure PPP projects.

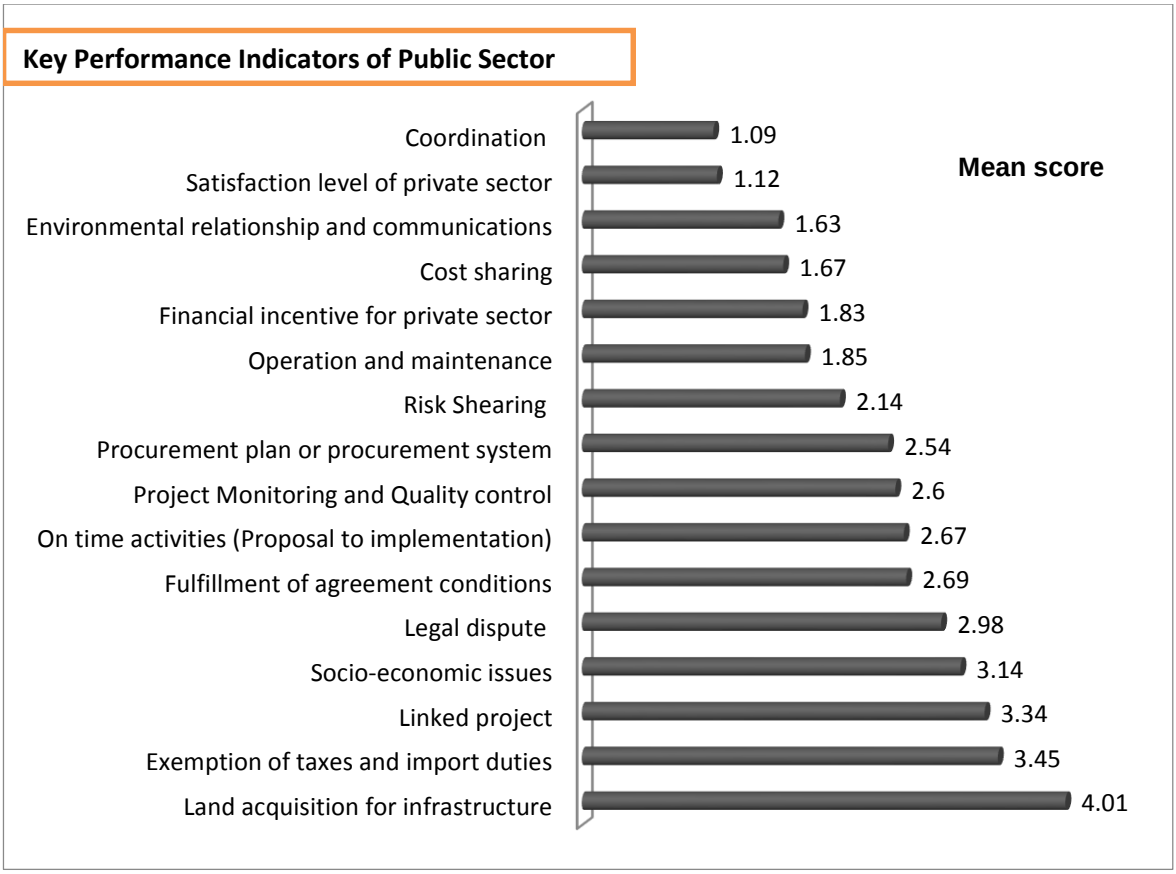


Figure 6.13: Ranking the performance of public sector in infrastructure projects under PPP

The study shows that the weak performances of public sector especially in terms of public infrastructure and delivering essential services are coordination, satisfaction level of private sector and environmental relationship and communications. Clearly, the attractiveness of PPPs in addressing this problem is fully recognized by stakeholders, which drive the private sector to satisfy public client to improve social welfare (*e.g.* price, environment, convenience, opportunity for job etc.) to make society happy (Li *et al.*,2005b).

General contractors are continuously involved in a process of transforming inputs (i.e. materials, labor, and capital) into outputs (*e.g.* constructed facility), during which the private sectors are accompanied by a number of other firms such as subcontractors, material vendors, and equipment dealers. Kale & Arditi (2001) reveal that maintaining a relationship of high quality with subcontractors is positively and strongly associated with the perceived performance. In the PPP

context, this relationship is extremely more important than in traditional construction methods (Kumaraswamy & Anvuur, 2008). Therefore, a growing body of research supports the view that contractual parties are more willing to cooperate and to build good relationships on longer-term contracts in PPPs. On the other hand, good relationship in project team (SPV) is mainly used to evaluate team management, interior organization structure, and organizational culture, which is expressed by team value and team attitude (Kumaraswamy & Anvuur, 2008).

6.5 Measuring Service Quality and Cost of Providing Services of Infrastructure Projects under PPP

6.5. 1 Cost of Providing Services in Infrastructure Project under PPP

To ensure customer satisfaction is the main rewards from partner with private sector through improvements of program performance, cost-efficiencies, better service provisions and appropriate allocation of risks and responsibilities. In this study majority of the respondents 78% opined that cost of the providing services were increased under PPP arrangement than traditional method.

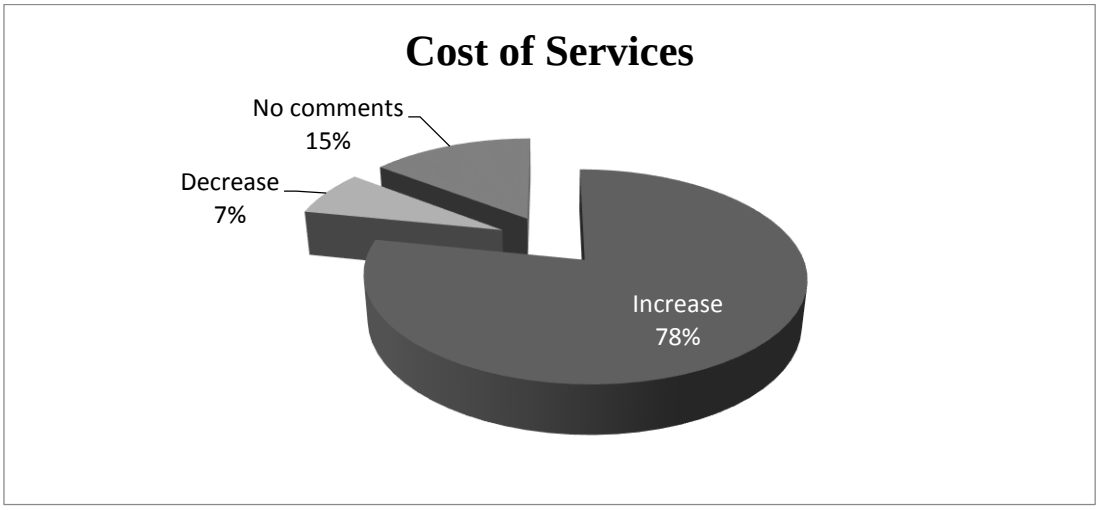


Figure 6.14: Service qualities of infrastructure projects under PPP

6.5. 2 Service Quality of Infrastructure PPP Projects

Generally one would expect better access to quality service in PPP projects, since they can draw on previous experience with the non-operational, state run PPP infrastructure project.

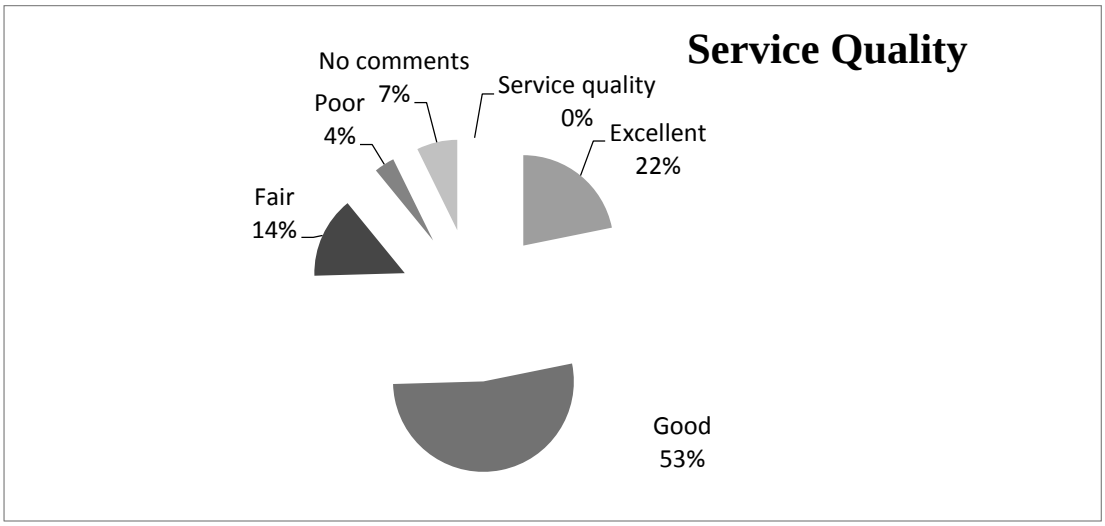


Figure 6.15: Service qualities of infrastructure projects under PPP

Interestingly, it was observed that 22% of the respondents were rate the services quality as excellent means they are fully satisfied with the services and 53% rate as good means they are also satisfied with the services of PPP infrastructure project in Bangladesh. Advances in the field of customer satisfaction have been significant. Literature reviews showed that project implemented under PPP improved quality of services. Experience suggests that the quality of service achieved under a PPP is often better than that achieved by other traditional procurement (United Nations Development Program, 2010). This may reflect the better integration of services with supporting assets, the introduction of innovation in service delivery, or the performance incentives and penalties typically included within a PPP contract. With most PPP projects, the private sector contractor obtains full payment if the required service standards are met throughout the project. Other benefits of PPP include: maximizing the use of each sector's strength; reduction in public capital investment; better environmental compliance; shared resources between both sectors and mutual rewards for both sectors. Although cost of providing services

under PPP arrangement are increase but customer are satisfied herewith paid service.

6.6 Environmental Consideration Infrastructure Projects under PPP

It is of extreme importance that PPP projects are implemented based on environmental regulations and restrictions. Such projects that meet environmental regulations can be referred to as green PPP projects. These regulations are most often enforced by the public sector and some private agencies working as nonprofit organizations.

6.6.1 Environmental Approvals for PPP projects

Respondents were asked whether PPP projects end up meeting the minimum requirements for environmental approvals. Respondents were simply asked to answer "Yes" or "No" to the question: "Do PPP Projects end up meeting the minimum requirement to obtain environmental approval". Responses are illustrated in figure 6.16.

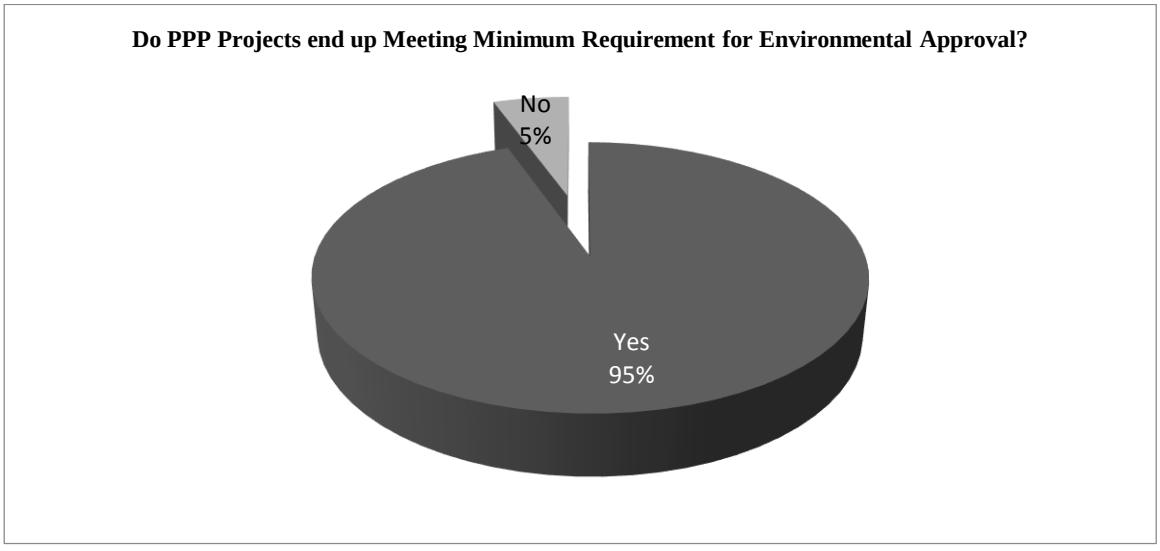


Figure 6.16: Do PPP projects end up meeting minimum requirement for environmental approval?

6.6.2 Environmental Impact Assessment (EIA) for Infrastructure PPP Projects

Environmental Impact Assessment (EIA) is a tool used to identify the environmental, social and economic impacts of a project prior to decision making. The process leads to the selection of the projects on the principle of sustainable development, so that the adverse effects of the new developments are mitigated through proactive and rational decisions making.

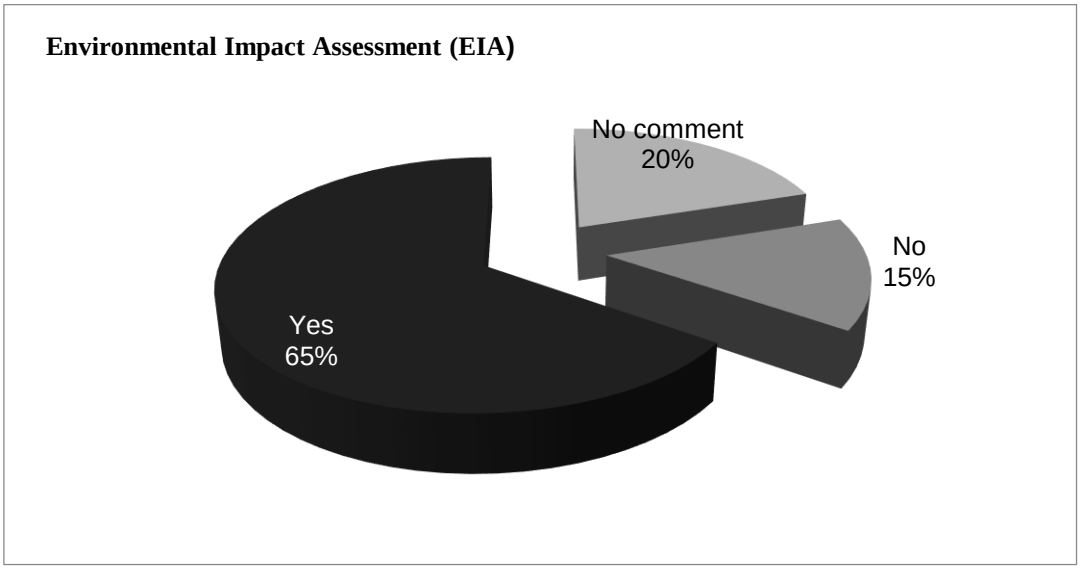


Figure 6.17: Environmental Impact Assessment (EIA) for infrastructure

Over the years, EIA has not been practiced holistically in the developing countries and particularly in South Asian Nations. However in the last few years Governments, environmentalists, researchers, media and communities of these countries have formulated sufficient legislative and institutional frame work for the EIA. The findings indicate that 65% of the respondents had clearly opined that EIA for the infrastructure project under PPP was conducted before establishing the projects where as 20% had no comments and 15% respondents oppose the statement.

6.6.3 Do These Steps of EIA being followed before Starting this Infrastructure Project?

The EIA process of Bangladesh starts with the screening of the projects. This is carried out on the basis of the screening list included in the Environment Conservation Act, 1995 and Environment Conservation Rules, 1997. A project that requires a detailed EIA undergoes an IEE at first. Moreover, an IEE is of no use in the decision-making process where an EIA is needed. The site clearance order allows the proponent to undertake project-site development and to build infrastructures. It affects the importance of EIA for decision-making and also ensures that the project is going ahead, because with the site clearance order the proponent is actually going to start the activity.

Table 6.2: Steps of EIA being followed by before starting infrastructure project

Sl.	Procedure	Percent Respondent		
		Not at all	Partially followed	Properly followed
1	Procedures for update and review of environmental management instruments	34.55	49.09	16.36
2	Compliance audits	34.6	58.2	7.3
3	Provision of audits to Defense; and	34.55	60.00	5.45
4	Procedures for notification of Defense and relevant authorities in the event of environmental incidents.	41.82	52.73	5.45

At this stage, an EIA can only justify a project and delay the project operation with an environmental clearance. It is clear that the present EIA process in Bangladesh aims to develop some of environmental management activities and mitigation

measures for development activities. The EIA processes are under goes with some steps. In the study it was found that most of the respondents near 50% opined that the steps of EIA being partially followed before starting infrastructure project under PPP and only few respondents stated that the procedure and steps of EIA have been properly followed as illustrated into the table 6.2. Above quarter percent of the respondents opined that the procedure and steps of EIA are not followed at all. EIA has been practiced in Bangladesh since the late 1980s but it is through the enactment of the Environment Conservation Act, 1995 and the Environment Conservation Rules, 1997 EIA gained formal status in the country. Introduction in order for EIA to be effective, it has to be intertwined with the country's legal system and backed by a clear set of administrative protocols with sufficient institutional capacity. With a decent set of sectorial guidelines for conducting environmental assessment, a sound legal basis and established institutional framework for EIA review and approval, Bangladesh has a systematic mechanism in place for examining the environmental consequences of development initiatives. But evidence suggests that EIA has not yet evolved satisfactorily in Bangladesh in several aspects (Kabir & Momtaz, 2013; Momtaz 2002). It is a widely speculated that in Bangladesh EIA still remains an instrument for project approval and not a tool that can promote the environmental sustainability of the project.

6.6.4 Environmental Management and Monitoring Plan in PPP Projects for Sustainable Infrastructure Development

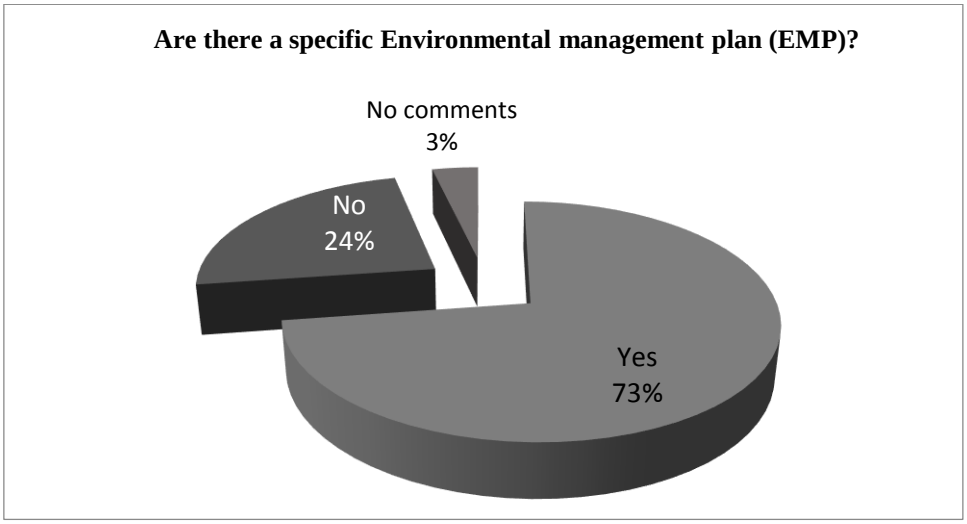


Figure 6.18: Are there a specific Environmental Management Plan (EMP)?

Respondents were asked if their company or agency had specific environmental management plan (EMP) for projects which were to be implemented through PPP. There were mixed responses to the question as shown in Figure 6.18. More than half of the respondents (73%) stated that PPP infrastructure projects have specific environmental management plan (EMP). This emphasis that need for companies and agencies to follow specific environmental management plan (EMP) for implementing PPP projects. These EMP will help increase the efficiency and sustainability of PPP projects.

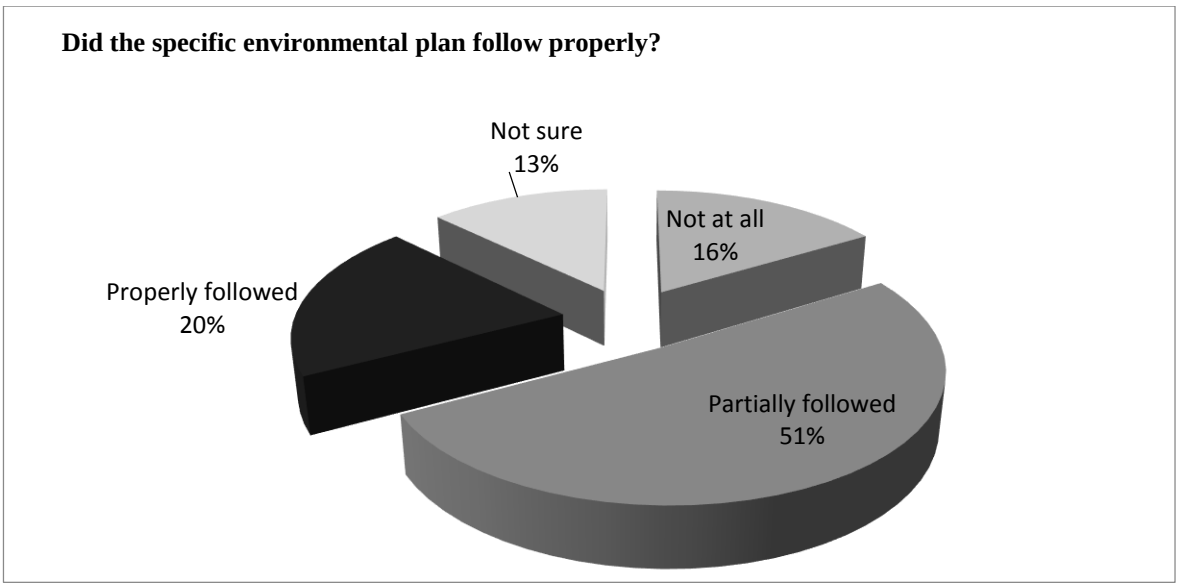


Figure 6.19: Did the specific environmental plan follow properly?

Respondents were asked either their organization follow environmental plan properly. As illustrated in figure 6.19 more than half of the respondents responded as being partially followed and 20% responded as properly followed.

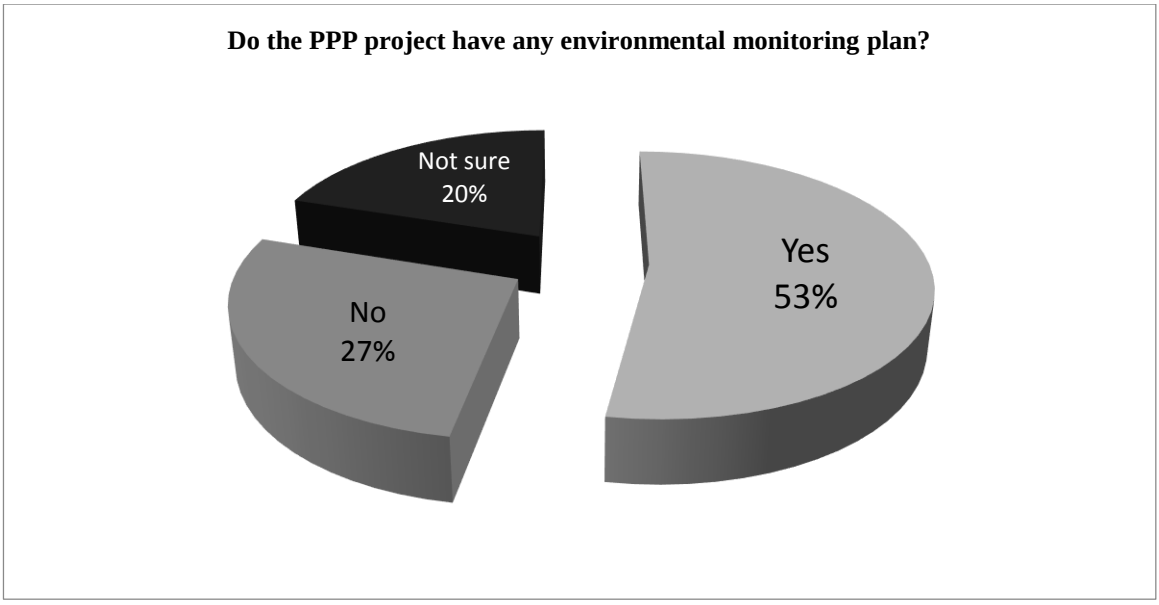


Figure 6.20: Do the PPP Projects have any Environmental Monitoring Plan?

The survey respondents were asked of their opinion on environmental monitoring plan either their organization follows or not. Respondents were to state the responses are illustrated in Figure 6.20.

There are some shortcomings in EIA system in practice infrastructure projects. Despite the many shortcomings, the basic structure of the Bangladesh EIA system can be considered to be sound. It is important for the country to improve on these limitations with an aim to building a robust EIA system for sustainable development. Although a rigorous administrative procedure of submission and approval of necessary environmental documents are in place, evidence suggests that EIA has not yet evolved satisfactorily in Bangladesh.

6.6.5 Environmental Factors Adopting the Infrastructure Project under PPP Arrangement

Table 6.3: Environmental aspects adopting in infrastructure project under PPP arrangement

Sl. No	Statements	Percent respondent opinion					
		Not At All	Poor	Fair	Moderate	Good	Very good
1	Do the projects reduce air, water, soil and all other forms of pollution?	30.91	47.27	9.09	5.45	3.64	3.64
2	Do the projects promote and use environment-friendly technologies?	12.73	74.55	5.45	3.64	1.82	1.82
2	Do the projects provide for the stewardship of ecosystems?	61.82	23.64	5.45	5.45	3.64	0
3	Do the projects contribute to ecosystem and biodiversity management and conservation?	60.00	25.45	3.64	3.64	3.64	3.64
7	Do the projects mitigate greenhouse gas emissions during construction and maintenances?	5.45	5.45	70.91	9.09	7.27	1.82
8	Do the projects use of resilient technologies against natural disaster like earthquakes, floods, droughts and extreme heat etc?	3.64	5.45	27.27	43.64	12.73	7.27
9	Do the projects consider climate change risks in its design, maintenance and operation?	12.73	10.91	20.00	36.36	14.55	5.45

The survey respondents were also asked to rate environmental aspects adopting in infrastructure project under PPP arrangement illustrate in the table 6.3. More than 50% of the respondent stated that infrastructure projects poorly reduce air, water, soil and all other forms of pollution as well as poorly promote and use environment-friendly technologies. On the other hand the projects not at all provide for the stewardship (*responsible use and protection of the natural environment through conservation and sustainable practices*) of ecosystems and biodiversity conservation. Most of the respondents rate other environmental considerations as fair followed by poor.

6.7 Barriers of PPP Projects

Despite the huge recognition of PPPs and its increasing usage in infrastructure development, the experience of both the public and private sector with PPP has not always been positive (Kwak *et al.,* 2009). A number of PPP projects are either held up or terminated particularly in developing countries. This has triggered previous researchers to conduct studies on barriers to PPPs implementation across the globe. Table 6.4 reveals a selection of previous researchers' findings on barriers to PPPs implementation.

Table 6.4: Examples of identified barriers to PPPs implementation by few previous research studies

S/n	Authors and Year	Findings
i	Li *et al.,* (2005)	Lack of suitable skills and experience; lengthy bidding and negotiation process; lack of competition; and lack of well-established legal framework.
ii	Zhang (2005)	Social, political, and legal risks; unfavourable economic and commercial conditions; inefficient public procurement frameworks; lack of mature financing

S/n	Authors and Year	Findings
		engineering techniques; public sector related problems (*e.g.* inexperienced government and lack of understanding of PPPs); and private sector related problems (*e.g.* most people, including investment banks still prefer traditional procurement routes).
iii	Chan *et al.*, (2006)	Lack of suitable skills and experience; and lengthy bidding and negotiation process.
iv	El-Gohary *et al.*, (2006)	Public opposition.
v	Corbett & Smith (2006)	Lack of competition; lack of suitable skills and experience; lack of innovations in design; and lack of flexibility.
vi	Chan *et al.*, (2010)	Lengthy delays in negotiation; lack of experience and appropriate skills; and lengthy delays because of political debate.
vii	KPMG (2010)	Barrier to competition and procurement inefficiencies.

However, none of the previous researchers had fully categorized barriers to PPPs implementation by using PEST (Political, Economic, Social, and Technological) approach or its variants, such as SLEEPT (Social, Legal, Economic, Environmental, Political, and Technological), PESTLE (Political, Economic, Social, Technological, Legal, and Environmental) among others. It was only Zhang, (2005) that partially categorized his findings as social, political, and legal risks among others as a barrier to PPPs implementation. Thus, it is important to categorize barriers to PPPs implementation by using SLEEPT approach, because it is a very useful and widely used tool that helps to understand wider business environment, and enables business leaders worldwide to build their vision of the future.

Barriers of PPP Projects in Infrastructure Development of Bangladesh

A comprehensive literature review, documentary evidence and field survey enabled the identification of thirty five barriers were identified to implementation of infrastructure projects under PPPs in Bangladesh.

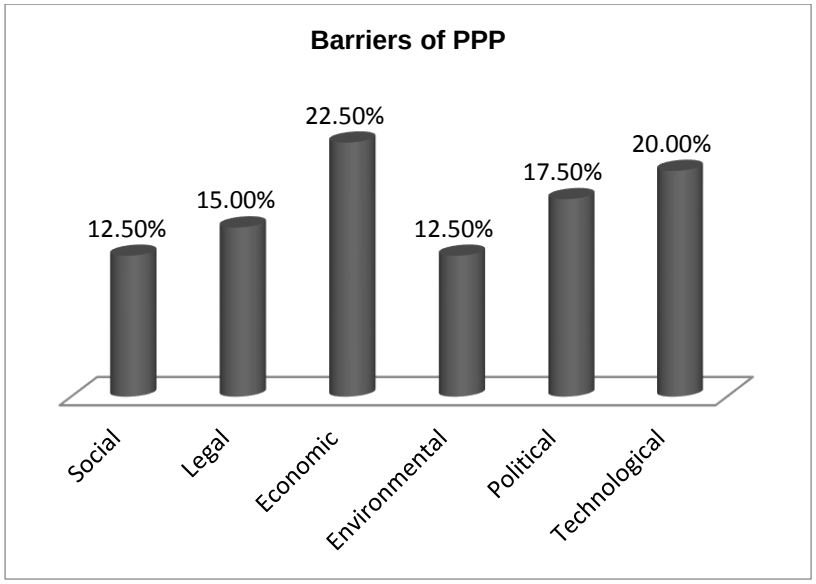


Figure 6.21: Percentage representation of categorized barriers

The identified barriers were categorized by using SLEEPT approach (Social, Legal, Economic, Environmental, Political, and Technological). Figure 7.21 reveals that economic barrier has the higher percentage. This shows that economic barrier is the most important barrier affecting infrastructure development under PPP that implemented in Bangladesh followed by technological barrier, social barrier, political barrier, legal barrier and environmental barrier respectively. In this study a total 32 identified barriers have been found in infrastructure development under PPP. Thus, the identified barriers were categorized as follows:

Social Barriers:

The study revealed social barriers including public opposition, cultural impediments, societal discontent against the private sector, public resentment due to tariff increases, lack of confidence and mistrust in PPP among others which is

similar with Gunnigan & Rajput (2010) that social and cultural norms within a nation are significantly alter the behaviors of people, and ultimately affecting the PPP operation and structures, and public opposition has led to many cancellations, both before and after the concession award. The finding is in contrast with Gibson and Davies, (2008) that identified internal partnership relationships in mature economies. Therefore, it becomes necessary that all the stakeholders' for instance primary stakeholders in PPP to identify the public interest before embarking on any PPP project implementation in Bangladesh.

Legal Barriers:

Findings of the research identified enacting PPP Law, regulations and other guidelines to better specify the outputs, disqualify incompetent tenderers and ensure transparent procurement, poor regulatory frameworks and enforcement, weak institutional capacity and PPP strategy among others as legal barriers to PPP implementation in less mature economies. This finding is similar with Li *et al.,* (2005) that identified lack of well-established legal framework as one of barriers to PPPs project implementation. This indicates that the governments of Bangladesh undertake PPPs without overall PPP policies, which leads to ill-defined goals and a greater likelihood of problems with the projects implementation.

Economic Barriers:

The general perceptions of other developing countries as high risk economies by foreign investors, inability of local institutions to provide long term financing, difficulty in obtaining foreign exchange/foreign exchange risk, access to international commercial finance, fixed rate availability and overall interest rate payable, foreign currency risk and lack of hedging instruments, inadequate domestic capital markets among others were identified as economic barriers to PPPs implementation in Bangladesh. This finding is in contrast with Corbett & Smith (2006) and Chan *et al.,* (2006) that identified high transaction costs and high bidding costs as barriers to PPPs project implementation. Therefore, it necessary

for governments of Bangladesh to create stable economic and financial supports with a view to inducing confidence in both local and foreign PPP investors.

Environmental Barriers:

The research identified environmental barriers as follows; land acquisition problems, lack of coordination between national and regional governments, lack of transparency and accountability, accusations of corruption, corrupt tendencies among others and monitoring and evaluation of PPP projects. The finding is in contrast with Li *et al.,* (2005) and KPMG (2010) that identified lack of competition as barrier to PPPs in mature economies. Thus, it becomes imperative for governments of Bangladesh to create an enabling environment and favorable investment to make PPP attractive.

Political Barriers:

Lengthy delays due to political debate, political reneging, politicization of the concessions, and lack of strong political commitment for PPPs among others were identified as political barriers which is similar with Kwak *et al.,* (2009) that inadequate involvement and incapability of governments to manage PPP projects lead to project failures in Bangladesh. The finding is in contrast with Gibson and Davies, (2008) that identified local political opposition as a barrier to PPPs in mature economies.

Technological Barriers:

The study identified technological barriers as lack of experience and expertise in public sector and private investors, non-availability of model concession agreements, inconsistent risk assessment and management, shortage of professionals to handle infrastructure PPP projects, provision of incomprehensive up-front project information by public sector among others. These findings are similar with Li *et al.,* (2005) and Maralinga (2010) that lack of suitable skills and experience, and lack of project preparation capacity on the part of the public sector

among others are barriers to PPPs project implementation. This shows that Bangladesh rely on mature economies professionals' expertise and skills to develop and structure of PPPs projects. However, the research identified more barriers of infrastructure PPPs project implementation in Bangladesh which is in contrast with KPMG (2010) that identified competition and procurement inefficiencies as barrier to PPPs in Australia.

6.8 Chapter Summery

Indicators related to performance measurement of public sector in infrastructure project under PPP and are qualitative in nature. The area to which focus include: reasons for implementing PPP, why PPP in infrastructure development, performance of public sector, cost and quality of providing services, environmental consideration in project selection and implementing project process, and post-selection process. According to scale, performances of public sector are considered as good if the mean score is 3 or above. Considering all indicators (16 KPIs), only 4 indicators is scored equal or above 3. Rest of indicators is scored below 3 which mean that performances of public sector in infrastructure project under PPP is moderate good. Meanwhile 3 indicators is scored below 2 which means that performance of public sector in terms of coordination, satisfaction level of private sector and environmental relationship and communications are fair. Although cost of providing services under PPP arrangement are increase but customer are satisfied herewith paid service. A rigorous administrative procedure of submission and approval of necessary environmental documents are in place during project approval, the study shows that EIA has not yet evolved satisfactorily in Bangladesh and environmental aspects need to be considered are partially followed. In this chapter also discuss that economic barrier is the most important barrier affecting infrastructure development under PPP that implemented in Bangladesh followed by technological barrier, social barrier, political barrier, legal barrier and environmental barrier respectively.

CHAPTER 7

CONCLUSIONS & RECOMMENDATIONS

7.1 Introduction

This chapter concludes the research study. The major findings from this study are analyzed and triangulated according to the data collection methods adopted. It also includes the recommendations for future research for the same subject area.

7.2 Major Findings:

7.2.1 Reasons for Implementing PPP Projects

The reasons for implementing PPP have been discussed by many researchers and which is summarized in **Chapter 3**. From literature it is found that PPP is a win-win solution and a number of benefits to the general public and government are recognized: Relief of financial burden; better services to the public; encouragement of growth; better focus on social issues; better allocation of risk; technology transfer.

Chapter 6 presented the results found from empirical questionnaire survey. Reasons for implementing PPP was ranked by the respondents included: shortage of government funding, economic development pressure of demanding more facilities, social pressure of poor public facilities, private incentive, and high quality service required.

7.2.2 Why PPP in Infrastructure in Development?

From literature **Chapter 3** it is found that one of the main reasons that projects are procured by PPP is to enhance Value for money by inviting the private sector to handle public works projects.

From the study in **Chapter 6** it is reveal that PPP is essential in infrastructure development for the following reasons accessing private capital and value for money, encourages innovations and incorporate life-cycle cost and realizing

efficiency gains, significant cost savings, improving risk allocation and reduced time on delivery and opinion of the respondents presented in above figure. The higher response rate was received for "Value for Money".

7.2.3 Factors Contribute Success of PPP

From in-depth international literature review, a list of critical success factors are represented in **Chapter 3**. Most of the researcher identified as most common critical success factor is included: an appropriately designed legal framework; a strong central structure to promote and guide PPP project implementation; measurable output performance and transparency; allocation of risk appropriately; strong and good private consortium.

Output of survey conducted based on empirical questionnaire survey is presented in **Chapter 6**. Seventeenth success factors for adopting PPP is rated by the respondents and the top five success factors are identified .These success factors included: favorable legal framework; political support; appropriate risk allocation and risk sharing; strong and good private consortium; commitment and responsibility of public and private sectors and government involvement by providing guarantee.

7.2.4 Negative Factors for Adopting PPP

From literature review, a summary of negative factors of PPP is presented. Findings are presented in **Chapter 3**. Negative factors are identified are: lengthy bidding process; high bidding cost; cost over-run; small number of bidder; excessive risks.

Top three negative factors identified from the same empirical questionnaire survey presented in **Chapter 6**. Top negative factors are distinguished from the analysis of the perceptions of the respondents are included: length delays because of political debate; great deal of management time spent in contract transaction; lack of experience and appropriate skills and lengthy delays in negotiation.

7.2.5 Performance of Public Sector in Infrastructure Project

From literature review, a summary of performances of public sector in world perspective of PPP is presented. Findings are presented in **Chapter 3**. Good performances of public sector are identified are: stable political environment, supporting legal and regulatory framework, ensuring fair and transparent bidding process, providing requisite assistance and grantee etc.

Output of survey conducted based on empirical questionnaire survey is presented in **Chapter 6**. Sixteenth performance indicators of public sector are rated by the respondents and the top five success and last three main weak performances are identified. The good performances of public sector in infrastructure projects are land acquisition for infrastructure; exemption of taxes and import duties; linked project; addressing socio-economic issues and legal dispute. On the other hand the poor performances of public sector are coordination; satisfaction level of private sector; environmental relationship and communications; cost sharing, financial incentive for private sector and operation and maintenance monitoring of PPP projects.

7.2.6 Service Quality of Infrastructure PPP Projects

Literature reviews **Chapter 3** showed that PPP improved quality of service. Experience suggests that the quality of service achieved under a PPP is often better than that achieved by other traditional procurement. This may reflect the better integration of services with supporting assets, the introduction of innovation in service delivery, or the performance incentives and penalties typically included within a PPP contract. With most PPP projects, full payment to the private sector contractor only occurs if the required service standards are met throughout the project. Other benefits of PPP include: maximizing the use of each sector's strength; reduction in public capital investment; better environmental compliance; shared resources between both sectors and mutual rewards for both sectors.

Output of survey conducted based on empirical questionnaire survey is presented in **Chapter 6**. Interestingly, it is observed that 22% of the respondents were rate the services quality as excellent means they are fully satisfied with the services and

53% rate as good means they are also satisfied with the services of PPP infrastructure project in Bangladesh.

7.2.7 Cost of Providing Services in Infrastructure Project under PPP

From literature review **Chapter 3**, it is concluded that to ensure customer satisfaction the main rewards from partner with the private sector are improvements of program performance, cost-efficiencies, better service provisions and appropriate allocation of risks and responsibilities increases the cost of providing services.

From the study in **Chapter 6** it is reveal that cost of providing service under PPP projects were increased under PPP arrangement than traditional method.

7.2.8 Environmental Consideration Infrastructure Projects under PPP

Literature reviews **Chapter 3** showed that the construction and operation of infrastructure generally pose risks to local environment, which will result in environmental damage if not adequately mitigated or compensated but the infrastructure-environment nexus addresses the challenge of meeting the demand for infrastructure services while maintaining or improving the quality of the environment under PPP projects.

From the study in **Chapter 6** it is reveal that the findings indicate that 65% of the respondents had clearly opined that EIA for the infrastructure project under PPP was conducted before establishing the projects where as 20% had no comments and 15% respondents oppose the statement. Although a rigorous administrative procedure of submission and approval of necessary environmental documents are in place, evidence suggests that EIA has not yet evolved satisfactorily in Bangladesh. In most cases EIA being partially followed before starting infrastructure project under PPP. In all infrastructure PP projects agencies have specific Environmental Management Plan (EMP) to follow but this also being partially follows. If these EMP will properly follows this will help in increasing the efficiency and sustainability of PPP projects.

7.2.9 Barriers of PPP Projects in Infrastructure Development of Bangladesh

From literature review **Chapter 3**, it is found that social, political, and legal risks; unfavorable economic and commercial conditions; inefficient public procurement frameworks; lack of mature financing engineering techniques; public sector related problems (*e.g.* inexperienced government and lack of understanding of PPPs); and private sector related problems (*e.g.* most people, including investment banks still prefer traditional procurement routes); public opposition; lack of competition; lack of suitable skills and experience; lack of innovations in design; and lack of flexibility; lengthy delays in negotiation; lack of experience and appropriate skills; and lengthy delays because of political debate are the common barriers of infrastructure PPP projects.

Understanding and enhancing knowledge of PPPs continue to be a matter of significance and importance. Output of survey conducted based on empirical questionnaire survey is presented in **Chapter 6** and it is noted that this study also identified six barriers to PPPs implementation in Bangladesh. This includes; social barriers, legal barriers, economic barriers, environmental barriers, political barriers, and technological barriers. However, the study identified economic barrier (high risk economies by foreign investors, inability of local institutions to provide long term financing, difficulty in obtaining foreign exchange/foreign exchange risk, access to international commercial finance, fixed rate availability and overall interest rate payable, foreign currency risk and lack of hedging instruments, inadequate domestic capital markets among others) followed by technological barrier (lack of experience and expertise in public sector and private investors, inconsistent risk assessment and management, shortage of professionals to handle infrastructure PPP projects, provision of incomprehensive up-front project information by public sector among others), political barrier (Political reneging, politicization of the concessions, lengthy delays due to political debate, lack of strong political commitment for PPPs among others) and legal barrier (enacting PPP Law, regulations and other guidelines to better specify the outputs, disqualify incompetent tenderers, and ensure transparent procurement, weak/poor enabling policies, poor regulatory frameworks and enforcement, weak institutional capacity

and PPPs strategy, weak judicial framework/weak judiciary for resolving PPP disputes among others) respectively as most significant barriers to PPPs project implementation in Bangladesh, while social (public opposition, cultural impediments, societal discontent against the private sector, public resentment due to tariff increases, lack of confidence and mistrust in PPPs among others) and environmental barrier (land acquisition problems, lack of coordination between national and regional governments, lack of transparency and accountability, accusations of corruption, corrupt tendencies among others and monitoring and evaluation of PPP projects) was the least. The study concludes that there are more barriers to PPPs project implementation in Bangladesh. This has made the PPPs project implementation in our countries to be characterized with controversies, cancellations, delays, and renegotiations.

7.3 Conclusion

In this study the area to which focus include: reasons for implementing PPP, why PPP in infrastructure development, performance of public sector, cost and quality of providing services, environmental consideration in project selection and implementing project process, and post-selection process. Reasons for implementing PPP was ranked by the respondents included: shortage of government funding, economic development pressure of demanding more facilities, social pressure of poor public facilities, private incentive, and high quality service required. Key Performance Indicators related to performance measurement of public sector in infrastructure project under PPP and are qualitative in nature. According to scale, performances of public sector are considered as good if the mean score is 3 or above. Considering all indicators (16 KPIs), only 4 indicators is scored equal or above 3. Rest of indicators is scored below 3 which mean that performances of public sector in infrastructure project under PPP is moderate good. Meanwhile 3 indicators is scored below 2 which means that performance of public sector in terms of coordination, satisfaction level of private sector and environmental relationship and communications are fair. Although cost of providing services under PPP arrangement are increase but customer are satisfied herewith paid service. A rigorous administrative procedure of submission and approval of necessary environmental documents are in place during project

approval, the study shows that EIA has not yet evolved satisfactorily in Bangladesh and environmental aspects need to be considered are partially followed. In this chapter also discuss that economic barrier is the most important barrier affecting infrastructure development under PPP that implemented in Bangladesh followed by technological barrier, social barrier, political barrier, legal barrier and environmental barrier respectively.

7.4 Recommendations

It is strongly suggested to policy and decision makers to support and facilitate more use of the PPPs concept for better public service delivery improving the performance of public sector. They could also initiate, develop, support and facilitate more capacity building initiatives and development in both the private and public sectors for a more smooth and successful application of the PPPs concept for better service delivery at local, national, sub-regional and regional levels. Making Infrastructure service accessible to all should not only be considered as one target of SDGs, but also a core responsibility of both national and local governments to satisfy the legitimate rights of all citizens. In this regard, governments are increasingly seeking professional expertise through varies forms of PPPs, which are expected to significantly contribute to achieving national objectives in affordable ways. However, successful PPPs require that all partners and stakeholders promote sustainable development through the formulation and implementation of specific policy measures. The Government of Bangladesh should set the policy and define the frame work for appropriate options for partnership, in accordance with its socioeconomic objectives and the interest of all the citizens. The regulators, which should be independent and trusted institutions, monitor the performance of all parties, oversee the award and execution of partnership contracts, and balance the interests of employers, service providers and consumers. Government should formulate clear legislation and regulatory systems that will give guidance and confidence to all partners, especially to provide operators working in the sector, to determine their own polices and plans and to protect their financial interests and property rights. Qualified local, national and regional enterprises should be given the opportunity to compete for PPP. Governments should consider involving small scale providers, which hold a comparative advantage and can play a key role in

reaching un-served group of households in both rural and urban areas. In partnering with private sector operators, government should select appropriate contractual arrangements that are compatible with their socioeconomic constraints and objectives and address the specific needs of poor consumers related to cost and also quality of providing service. For maintaining better environmental protection it is prime need is to build the capability of the Department of Environment staff in impact prediction and IEE/EIA review and to establish a strong enforcement practice: this depends on the strong commitment of both politicians and bureaucrats. The limitations of this paper includes the using of a pilot survey, this indicates that this is not a conclusive study but a study that will lead to a broader study. But the findings of the pilot were significant and interesting, and show good potential for the broader scale study. Having identified and categorized the barriers to PPPs project implementation in Bangladesh, it will help the stakeholders involved in PPPs practice to build in strategies to cope with the barriers with a view to safeguarding the present and future PPPs implementation. Therefore, the huge recognition of the barriers and the strategies to eliminate the barriers by the stakeholders in PPPs will allow the partnership to function effectively and ensuring successful implementation of PPPs.

PPP contracts should clearly define pro-poor arrangements through establishing adequate tariff systems and policies for service charges and make them affordable and equitable for low income residents. There are a number of issues that the author would have liked to address in this study but it has not been possible due to, mainly, resources constraints. These are areas where a call for further research in the future is made. The areas include making a similar study in other countries; up calling this study in various ways– including covering more LGAs and other public institutions; making more empirical study, especially on the challenges that parties in various PPP arrangements in various parts of the world face and their proposed ways forward. Over time, there will be a need to update this study. The author welcomes collaborative studies on these and other issues that emanate from this paper.

CHAPTER 8

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ANNEXURE I

Data Collected from the Infrastructure Project Implemented Under PPP

No-1: Mayor Mohammad Hanif Flyover

No-02: Construction of Dhaka Elevated Expressway

No-03: Establishment of Hemodialysis Centre at National Institute of Kidney Diseases and Urology

No-04: Appointment of Park Developer for Kaliakoir Hi-Tech Park in Gazipur through PPP model

ANNEXURE II

Department of Public Administration
University of Dhaka

An Interview schedule
On
Role of Public Private Partnership (PPP) in Infrastructure Development : Bangladesh Experience

Part A: About the Respondent	
1	Name of Respondent
2	Age
3	Education
4	Your Position in the organization
5	Name of your organization
6	Which sector do you have experience with?
□ Public sector □ Private sector □ Both	
7	How many years of experience do you have in construction projects?
8	Which of the following projects do you have experience?
□ Transportation □ Water and Sanitary □ Power and Energy □ Housing □ School & Education □ Others (please specify):	
Information about infrastructure Project	
1	Name of the Project:
2	Name of Public sector:
3	Name of Private sector:
4	Total Investment: …… (Tk)
5	Investment by Public sector… ……. (Tk)/ ……..%
6	Which type of PPP MODEL /In this PPP projects, the which Law is used as the legal framework?
Build-Own-Operate (BOO) Build-Own-Operate-Transfer (BOOT)	Build-Operate-Transfer (BOT) Others

B. Features of PPP projects (For assessment of Role of PPP)						
Pleas rate the following statements based on a Scale from 1-5, where 1 represents the "Least Important"; 5 represents the "Most Important"; and select "N/A" if you are uncertain in rating a particular statement.						
1. Please rate the reasons for adopting PPP instead of traditional procurement	1	2	3	4	5	N/A
a) Solve the problem of public sector budget restraint						
b) Provide an integrated solution						
c) Reduce public money tied up in capital investment						
d) Cap the final service costs						
e) Facilitate creative and innovative approaches						
f) Reduce the total project cost						
g) Save time in delivering the project						
h) Transfer risk to the private partner						
i) Reduce public sector administration costs						
j) Benefit to local economic development						
k) Improve maintainability						
l) Technology transfer to local enterprise						
m) Non-recourse or limited recourse to public funding						
n) Accelerate project development						
o) Others (please specify)						

2. Please rate the negative factors for adopting PPP arrangement	1	2	3	4	5	N/A
a) Reduce the project accountability						
b) High risk relying on private sector						
c) Very few schemes have actually reached the contract stage						
d) Lengthy delays because of political debate						
e) Higher charge to the direct users						
f) Less employment positions						
g) High participation costs						
h) High project costs						
i) A great deal of management time spent in contract transaction						
j) Lack of experience and appropriate skills						
k) Confusion over government objectives and evaluation criteria						
l) Lengthy delays in negotiation						
m) Others (please specify):						

3. Please rate the attractions for private sector involvement in PPP Projects	1	2	3	4	5	N/A
a) Government sponsorship						
b) Government assistance in financing						
c) Government guarantee						
d) Tax exemption or reduction						
e) Incentive of new market penetration						
f) Legal support and ensuring security						
g) Others (please specify):						

4. Please rate the driving forces leading to the adoption of PPP	1	2	3	4	5	N/A
a) Economic development pressure of demanding more facilities						
b) Political pressure						
c) Social pressure of poor public facilities						
d) Private incentive						
e) Shortage of government funding						
f) Inefficiency because of public monopoly and lack of competition						
g) High quality of service required						
h) Avoid public investment restriction						
i) Lack of business and profit generating skill in the public sector						
j) Others (please specify):						

5. Please mention why PPP in infrastructure Development	1	2	3	4	5	N/A
a)						
b)						
c)						
d)						
e)						
f)						
g)						
h)						
i)						

6. Please rate the factors that contribute to the success of PPP projects	1	2	3	4	5	N/A
a) Stable macro-economic condition						
b) Favorable legal framework						
c) Sound economic policy						
d) Available financial market						
e) Multi-benefit objectives						
f) Appropriate risk allocation and risk sharing						
g) Commitment and responsibility of public and private sectors						
h) Strong and good private consortium						
i) Good governance						
j) Project technical feasibility						
k) Shared authority between public and private sectors						
l) Political support						
m) Well organized and committed public agency						
n) Competitive procurement process						
o) Transparency procurement process						
p) Government involvement by providing guarantee						
q) Thorough and realistic assessment of the cost and benefits						
r) Others (please specify)						

7. Which type of project do you feel is best suited to use PPP?	1	2	3	4	5	N/A
a) Link between performance and payment						
b) Economically viable						
c) Value for money						
d) Mutual benefits for all parties						
e) Economic infrastructure						
f) High project cost						
g) Appropriate risk transfer						
h) Scope for innovation						
i) Large operating element/cost						
j) Each project unique						

8. Please mention your comments for practicing guidelines for PPP implementation

Yes	No	No Comments

Part C: (Performance measurement of Public sector under PPP projects)

1. Please rate the performance of Public sector on selected KPIs

Sl no	KIPs	N/A (0)	Fair (1)	Poor (2)	Moderate (3)	Good (4)	Excellent (5)
1	Land acquisition for infrastructure						
2	Exemption of taxes and import duties						
3	Linked project						
4	Socio-economic issues						
5	legal dispute						
6	Fulfillment of agreement conditions (production, Commercial Operation Date (COD)						
7	On time activities (Proposal to implementation)						
8	Project Monitoring and Quality control						
9	Procurement plan or procurement system						
10	Risk Shearing (Market and revenue risks, Operating risks, Environmental risks, Political risks, Public acceptance risks)						
11	Operation and maintenance monitoring						
12	Financial incentive for private sector						
13	Cost sharing						
14	Environmental relationship and						

	communications						
15	Satisfaction level of private sector						
16	Coordination						

Part D: (For assessment of cost and service quality in PPP projects)

1. **Client satisfaction:** Please mention your extent of service satisfaction in PPP projects

Increased	Decreased	No comments

2. Please rate the service quality about the following aspects

Sl. No	Statements	Extent of satisfaction					
		NA	1	2	3	4	5
1	Service of officers						
2	Service of staffs						
3	Time management for service delivery						
4	Cost effectiveness in service						
5	Attitude of service delivery officials towards customers						
6	If (Others)						

3. To what extent service charges need to be paid for using the infrastructure

Part E: (For assessment of role of PPP in improving environmental protection) under PPP projects?

Increased	Decreased	No comments

1. Have you ensured the Environmental Impact Assessment (EIA) before implementing this project?

1=Yes		2=Not		0= Don't Know	

If yes, please mention the findings of the EIA.

a. _____
b. _____
c. _____
d. _____

2. Do these steps being followed before starting this infrastructure project?

Sl.	Procedure	Not at all	Partially followed	Properly followed
1	Procedures for update and review of environmental management instruments;			
2	Compliance audits;			
3	Provision of audits to Defense; and			
4	Procedures for notification of Defense and relevant authorities in the event of environmental incidents.			

3. Please rate the environmental factors adopting the infrastructure project under PPP arrangement (1= Poor, 2= Fair, 3= Moderate, 4= Good and 5= Very good)

Sl. No	Statements	N/A	1	2	3	4	5
1	Limit and lower air, water, soil and all other forms of pollution.						
2	Provide for the stewardship of ecosystems.						
3	Contribute to ecosystem and biodiversity management and conservation.						
4	Enhance ecosystem services provided by green infrastructure.						
5	Promote and use clean and environment-friendly technologies.						
6	Support the conservation and the sustainable and efficient use of natural resources, including water, energy and materials						
7	Mitigate greenhouse gas emissions during construction and maintenances						
8	Use of resilient technologies to and help protect against extreme weather events and other natural disasters such as earthquakes, floods, droughts and extreme heat etc						

9	Consider climate change risks in its design, maintenance and operation.						
10	Others (If any)						

4. Evaluation of the EIA system in Bangladesh

Evaluative principles	Rating		Comments
1. Legal/ administrative backing	Yes	No	
Is the system based on clear legal provisions?			Example: Basis provided in the ECA 1995 and ECR 1997
Does the EIA system rest on detailed administrative procedures/guidelines?			
Is there a broad and open process of proposal referral?			
2. Preliminary assessment			
Does the EIA system require the analysis of alternatives?			
Does the EIA system provide a mechanism for screening of actions for environmental significance?			
Does the EIA system require that the scoping of environmental impacts of actions take place?			
3. Detailed assessment			
Does the EIA system require that reports meet prescribed content requirements?			
Are the relevant environmental impacts of all significant actions assessed?			
Do checks on content (by Government assessing agencies) occur before publication of the proponent's EIA study?			
4. EIA study review			
Are the EIA studies presented for public review, and is the proponent required to respond to issues raised?			
5. Decision making			
Is the decision-making process of Government transparent?			
Is the decision, and the reasons for it, published?			Example: The minutes of the decision meeting

			is made public through the DoE website.
Do these reasons include an explanation of how the EIA report and review influenced the decision?			
Does the EIA system require that legally binding conditions be set?			
Does the law/administrative procedures allow for a decision to be postponed until an EIA report has been prepared and reviewed?			
6. Follow-up			
Does the EIA system require post-approval monitoring of action impacts to be undertaken?			
Does the EIA system require that mitigation of action impacts be considered at various stages of the EIA process?			
Is there a process for auditing proponents' commitments?			
Is there a process for monitoring and auditing the EIA system as a whole?			
7. Administrative support			
Is the EIA system given adequate resources?			
Do existing staff have the appropriate skills to operate the EIA system?			
Does a well-qualified, private local consulting sector exist?			
Is the 'across-Government' environmental administrative system supportive of EIA?			

5. Please mention your opinion regarding environmental protections which have been maintained in these PPP project. Please clarify how this PPP protect environment?

a. ……..

b. ……

c. …….

Part F: (For assessment of PPP Benefits and Barriers)

1. Benefits of PPP model: Please mention the factors for adopting PPP in infrastructure development instead of traditional project

Sl. No	Statements	Extent of benefits					
		NA	1	2	3	4	5
1	Solve the problem of public sector budget restraint						
2	Transfer risk to the private sector						
3	Benefit of local economic development						
4	Cap the finial service cost						
5	Technology transfer to local enterprise						
6	Favorable legal framework						
7	Sound Economic policy						
8	Political support						
9	Competitive procurement process						
10	Strong and good private consortium						

*NA= Not at all, 1=Very low, 2=Low, 3= Medium, 4= High and 5=very high

2 Obstacles/ Barriers / Challenges for implementing PPP: Please mention the obstacles/ barriers/ Challenges of Infrastructure project in Bangladesh perspective

a.....

b.....

c.....

3. Barriers associated with PPP: What is the most common barriers associated with this PPP projects

Sl. No	Statements	Extent of risks					
		NA	1	2	3	4	5
1	Social Barriers						
2	Legal Barriers						
3	Economic Barriers						
4	Environmental Barriers						
5	Political Barriers						
6	Technological Barriers						
7	If Others						

4. Please mention the barriers involved implementing Infrastructure PPP project in Bangladesh

Barriers	N/A	Fair	Poor	Moderate	High	Very High
Social						
public opposition						
cultural impediments						
societal discontent against the private sector						
public resentment due to tariff increases,						
lack of confidence and mistrust in PPP among others						
Others (if any)						
Legal						
enacting PPP Law						
regulations and other guidelines to better specify the outputs, disqualify incompetent tenderers and ensure transparent procurement						
poor regulatory frameworks and enforcement						
weak institutional capacity and PPP strategy among others						
Others (if any)						
Economic						
high risk economies by foreign investors						
inability of local institutions to provide long term financing						
difficulty in obtaining foreign exchange/foreign exchange risk						
access to international commercial finance						
fixed rate availability and overall interest rate payable						
foreign currency risk and lack of hedging instruments						
inadequate domestic capital markets among others						
Environmental						
land acquisition problems						

lack of coordination between national and regional governments						
lack of transparency and accountability, accusations of corruption						
corrupt tendencies among others						
monitoring and evaluation of PPP projects						
Political						
Lengthy delays due to political debate						
political reneging,						
politicization of the concessions						
lack of strong political commitment for PPPs among others						
Technological						
lack of experience and expertise in public sector and private investors						
, non-availability of model concession agreements						
inconsistent risk assessment and management						
shortage of professionals to handle infrastructure PPP projects						
Provision of incomprehensive up-front project information by public sector among others.						
If Others						

Thanks for Your Kind Cooperation