Is There a Need for Public Private Partnership Projects in Singapore?

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Abstract:
The concept of Public-Private Partnership (PPP) was introduced to Singapore in 2003. Although there was much hype about what it could accomplish in Singapore in the early days, so far only nine projects have been successfully procured as PPPs. Notably, five of these projects are in the area of building physical infrastructure facilities. Two of the projects are in the area of Information Technology (IT) infrastructure. The remaining two projecrs deal with teh construction of defence facilities. In recent times, several projects initially considered for development as PPPs have been procured following the more traditional methods such as design & build. Despite this lukewarm development in PPPs in Singapore, this paper argues that PPPs remains a procurement method that is viable for development of public infrastructure facilities. The paper examines the key barriers that have contributed to the slow progress made thus far, and what policy and institutional changes are necessary to make PPP a success story in Singapore. The analysis presented and the conclusions reached in this paper are based on a study of the exiting literature and policy architecture.

Keywords:
Public-Private Partnerships, infrastructure development, public procurement, investment, Singapore

1. Introduction

Historically, public infrastructure has mainly been delivered by the public sector, using traditional procurement methods such as, Design-Bid-Build and Design and Build. Further, public finance has been used to award contracts to private sector contractors. The public sector entities awarding the contracts have been in charge of the actual delivery of services to the public once the projects have been developed. Thus, the private sector role was limited to designing and construction of facilities.

As governments started facing the challenge of stretching the scarce public funds to deal with increasing demand for new and modern infrastructure facilities, whilst, also performing the other fiscal duties expected of modern welfare governments, the need to find alternative mechanisms to finance and develop public infrastructure facilities was recognized. Public-Private Partnership (PPP) under which the public sector entities could partner with private sector entities in developing, managing and providing services to the people became the popular option for many countries.

The concept of PPP was introduced to Singapore in 2003 when the first PPP contract was awarded by the Public Utilities Board (PUB) for a desalination plant. Subsequently, the Ministry of Finance (MOF) issued a handbook in 2004 as a guide to the public and private sector for successful structuring and management of PPP projects in Singapore. According to the said handbook, the main aims of implementing PPPs in Singapore include: (a) allowing the public sector to get better value for money in the delivery of public services; (b) offering the private sector more business opportunities and more room to innovate and offer efficient solutions for public services; and (c) combining the expertise of the government and the private sector to meet the needs of the public effectively and efficiently (MOF, 2004). However, since the introduction of the PPP concept in Singapore, it has had very limited success, with only eight PPPs successfully implemented to date.

In the circumstances, it is important to consider whether PPP is a feasible procurement method to be used in Singapore for development of public infrastructure facilities. Further, it is important to examine the reasons for the limited success PPPs have had in Singapore and propose measures that should be taken to give PPP a new lease of life if it is a viable procurement option for Singapore.

The rest of this paper is organised as follows: Section two deals with the research objectives and the methodology. Section three deals with the concept of PPP. Section four examines the current status of PPPs in Singapore. Section five looks at the barriers to PPPs in Singapore. Section six considers the future of PPPs in Singapore. Section seven concludes.

2. Research Objectives and Methodology

The limited success of PPPs in Singapore was not envisioned both, public sector, and private sector entities as the introduction of the PPP concept was met with much enthusiasm. As commented by Harris (2008):

> *"With an apparent championing behind this within the Ministry of Finance, and a strong pipeline of planned projects, the stage seemed set for a promising period for developers, bankers and the usual slew of advisers (financial, legal and technical). Three years later and the common view seems to be that things haven't worked out as planned. That's not to say things have gone badly. More that things have gone slowly and, on a few occasions, with some unexpected hiccups in implementation. Let's face it, in the Singapore context, that's unusual."*

Thus, this paper is based on a study undertaken with the specific objectives of examining the reasons for the limited success of PPPs in Singapore as a procurement method and to identify the measures necessary to give PPPs a new lease of life in Singapore. The study involved an extensive literature review and examination of the relevant policy architecture to examine the objectives and rationale for using PPP as a procurement method, the benefits associated with PPPs and the barriers to PPPs in Singapore. A review of the status of PPP projects in Singapore was also carried out through a survey of existing literature and relevant information available in the public domain.

The literature review was used as the primary research methodology based on the assumption that knowledge accumulates, and that a researcher could learn from and build on what others have done (Webster and Watson, 2002). The literature review has been thus used, to integrate and summarize existing knowledge in the area relevant to the key issue researched in the study and, based on a critical appraisal of the same, to stimulate new ideas and suggests hypotheses for testing and make recommendations. The literature that has been reviewed has been integrated into the different sections and subsections in the paper in order to maintain an uncomplicated flow of the analysis presented.

3. Understanding PPPs

3.1. The Need for PPPs

Even though private investment in public infrastructure can be traced back to the 18th century in European countries (Kumaraswamy and Morris, 2002), According to Harris (2004), the increasing adoption of PPPs by countries in the late 1990s was due to the success of PPPs in the United Kingdom. According to him, it was the development and refinement of private finance initiative (PFI) by the United Kingdom in 1992, as one of a range of government policies designed to increase private sector involvement in the provision of public services, which led to the renewed international interest in PPPs. Since then, many countries around the world have either embark on or considered a PPP programme of their own (Harris, 2004).

The need for private sector involvement in providing infrastructure services to the people arose due to a variety of reasons. From the perspective of developing countries, the key reasons were the lack of public funds, need for modern technology and efficient management skills. From the perspective of developed nations, allocation of project risks was the key reason.

Two alternative mechanisms considered for engagement of private sector were total privatization of public facilities and PPPs (Ford and Zussman, 1997). The former enables governments to transfer the total responsibility of developing, managing, and providing services to the people to the private sector. The later enables governments to invite private sector entities to finance and develop infrastructure projects without losing the state control over the regulatory aspects of service delivery, including, the pricing of the services provided by the infrastructure facility (Savas, 2000; Gunawansa, 2001; Abdul-Aziz, 2007). The total privatization of public infrastructure facilities that have provided services to the public at prices heavily subsidized by the governments was considered politically controversial. Further, the governments were hesitant to subject certain facilities to total privatization due to reasons such as interest of national security. Thus, PPP became the popular option.

The concept of PPP was also adopted by many countries as it provides an opportunity for efficient allocation of project risks whereby risks could be borne by parties who are best able to manage them. Further, procurement of PPPs became popular as they enable the provision of value for money to the public by tapping on the expertise of, and benefitting from the technology and management skills, of the private sector (Algarni et al., 2007; ADB, 2008).

3.2. Definition of PPP

PPP is a procurement method which involves private sector supply of infrastructure assets and services that have traditionally been provided by the public sector. As commented by Khanom (2009), there is no precise and commonly accepted definition of PPP.

According to the dictionary definition in Webster, a partner is "one of two or more persons contractually associated as joint principals in business." The same dictionary defines "partnership" as a legal relation existing between two or more persons contractually associated as joint principals in a business. According to Duhaime's Legal Dictionary "partnership" is an organization in which two or more persons carry on a business together. Thus it is not difficult to conclude that a public-private partnership is a contractual arrangement in which a public sector entity and a private sector entity come together to do a business.

However, the difficulty in defining PPP as noted by Khanom (2009) arises as a result of the diverse interests and objectives the public and private parties have in entering into PPPs. For the public sector, as noted earlier, the need to enter in to PPPs may arise as a result of one or more of the following reasons: lack of finance, need for modern technology, effective and efficient management skills, and the need to transfer risk. For the private sector entities, PPPs offer new investment opportunities, new markets and the opportunity partner with public sector who has in the past enjoyed a monopoly in provision of certain infrastructure facilities (Gunawansa, 2000).

The needs of public sector as well as private sector entities to enter into PPPs can differ from project to project and jurisdiction to jurisdiction. This is another reason for the absence of a common definition of PPP. For example, the need of a cash strapped developing country to enter into a PPP to develop a project to provide clean water or electricity to the citizens will be different from the need a developed country may have in considering a PPP to develop an airport or a highway.

One definition of PPP as embraced by The Canadian Council for PPP is as follows:

> *"A cooperative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards."*

In UK, Her Majesty's Treasury (1998) defines PPP as:

> *"An arrangement between two or more entities that enables them to do public service work cooperatively towards shared or compatible objectives and in which*

there is some degree of shared authority and responsibility, joint investment of resources, shared risk taking and mutual benefit"

In Singapore, the MOF (2004) has defined PPP as:

"PPP refers to long-term partnering relationships between the public and private sector to deliver services. It is a new approach that Government is adopting to increase private sector involvement in the delivery of public services."

In India, the Department of Economic Affairs of the Ministry of Finance (2005) defines PPP as:

"The Public-Private Partnership (PPP) Project means a project based on contract or concession agreement between a Government or statutory entity on the one side and a private sector company on the other side, for delivering an infrastructure service on payment of user charges."

The Canadian definition focuses on the cooperative venture between the public and private parties and the appropriate allocation of resources and risks. This gives the indication that PPPs are looked at as partnering arrangements between parties with equal bargaining power. Similarly, the UK definition focuses on compatibility between the parties and sharing of responsibilities, risks, resources, and profits.

The Singapore definition focuses on PPPs as a long term relationship between public and private sectors which enables the public sector to involve private sector in providing services to the people. This definition does not give any indication as to the real need for the public sector to enter into PPPs. Further, in Singapore, PPP is also seen as a way to bring in specialist private sector expertise to stimulate an exchange of ideas and bring more international players into the domestic market (KPMG, 2007).

The Indian definition focuses on the fact that the government gives a concession to the private sector to develop a project and provide services in return for payment of user charges. This gives the indication that the public sector engagement in the partnership is limited to the granting of the concession due to financial constraints and lack of modern technology. The private sector is required to finance and develop the project and offer services in return for payments for services provided.

3.3 Main Characteristics of PPP

Under PPP, usually, a public entity would typically specify the outputs or services required, and a private company or consortium would be responsible for the finance, design, construction, operation and maintenance of a facility. The consortium is typically organized by a project developer who brings together financiers, engineering firms, construction companies and facilities management companies to provide individual services. A typical PPP structure is shown in Figure 3.1. below:

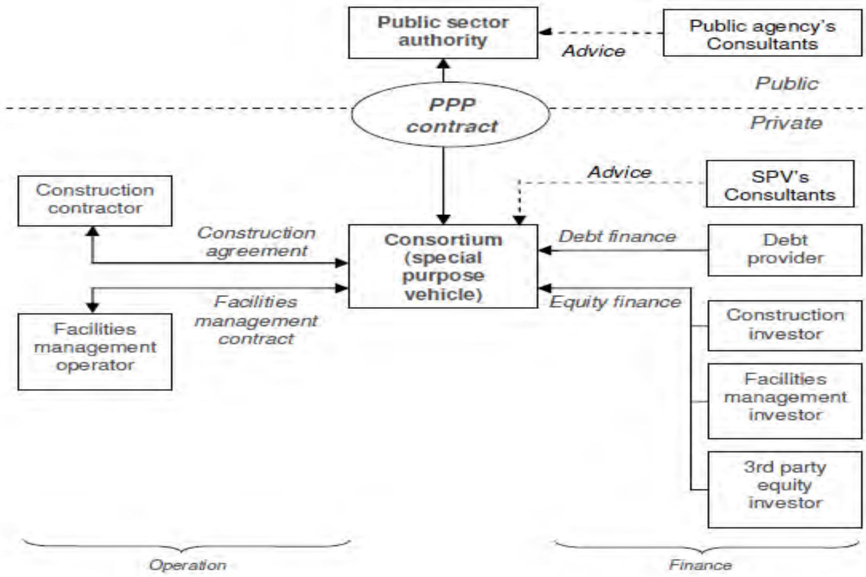

Figure 2.1: PPP Structure (MOF, 2004)

The PPP contract between the public agency and the consortium would usually be for a period of 10 to 30 years, and unlike traditional procurement methods, the public sector does not own the facility during this time period. A PPP thus allows the public sector to move away from directly owning and operating facilities, to purchasing services directly from the private consortium (MOF, 2004). However, the public sector may continue to deliver the core services traditionally associated with a facility (such as teaching in schools and medical services in hospitals) while the consortium may deliver the ancillary services which support the infrastructure (Department of Treasury and Finance, 2002). It is often only after the contract period that the facility returns to public ownership.

Unlike in conventional projects, in a PPP, the consortium would only be able to recover its investment through income earned by operating the facility. As stated by KPMG (2007), the public sector may compensate the consortium with service payments, rights to levy tariffs or fees against the public users, or a combination of these. For a project that produces a public utility service, an off-take contract may be signed between the consortium and the public agency, whereby the public agency agrees to purchase the output of the facility at an agreed price and volume on a long-term basis. This off-take contract serves as the basis for the financing of the project (Yescombe, 2002).

The PPP payment mechanism typically provides the government with the power to withhold or deduct payments if the quality of service provided by the private sector consortium is lower than agreed. The government may also reserve the right to step in and regain control of the asset, in the event of repeated default in service provision by the private sector operator.

3.4 PPP Models

PPPs are implemented for a wide range of social and economic infrastructure projects. However, they are mainly used to build and operate hospitals, schools, prisons, roads, bridges and tunnels, light rail networks, and water and sanitation plants (IMF, 2004). For its application, the project may take the form of one of the PPP models such as joint-ventures, strategic partnerships between the public and private sector, Design-Build-Operate (DBO), Design-Build-Finance-Operate (DBFO), Build-Operate-Transfer (BOT), Build-Transfer-Operate (BTO), Build-Own-Operate (BOO) and many other variants (MOF, 2004; IMF, 2004). As each PPP project is unique, the different PPP models can be flexibly selected and tailored according to the project (Gunawansa, 2000). The public sector and private sectors have to work closely together to determine the optimal scope of collaboration in each PPP project to the benefit of members of the public who use the services, the government and the private sector (MOF, 2004).

4. Current Status of PPPs in Singapore

4.1 Rationale for Introducing PPP

PPP was first introduced in Singapore in 2003 under the Best Sourcing Framework whereby the public sector will engage private sector providers to deliver non-core government services which the private sector can provide more effectively and efficiently (MOF, 2004). Singapore's interest in PPP was set out in a consultation document and a subsequent "PPP Handbook" that was published in October 2004 by MOF[1]. This handbook provides a general guidance on PPP procurement, and dictates that all government infrastructure projects in excess of S$50 million be actively considered for suitability as PPPs. As stated in the handbook, a number of sectors in Singapore have been identified by MOF as suitable for PPPs. These includes sports facilities, incineration plants, water and sewerage treatment works, large IT infrastructure deals, education and healthcare facilities, expressways and government buildings.

According to the Department of Treasury and Finance (2002), by using the joint skills of the public and private sectors, Singapore will be able to:

- Potentially create new infrastructure which is of a standard beyond that which could be delivered by the public sector alone;
- Support the infrastructure with guaranteed services to ensure its continued usefulness, efficiency and longevity;
- Take advantage of innovative ideas and technology which have traditionally been fostered in commercial environments, for the benefit of users of public infrastructure; and

[1] In addition to the handbook, the MOF created a PPP Advisory Council whose aim is to create awareness of PPP, draft PPP policy and provide guidance on PPP matters. The Council also oversees the progress of major PPP projects and facilitates resolution of inter-agency issues.

- More effectively manage the risks that naturally come with very large and complex infrastructure projects by allocating risks to the party which is best able to manage them.

However, as stated in a report by KPMG (2007):

> *"Unlike many countries undertaking PPP, the government of Singapore does not need private funds to improve its social and other infrastructure. It has large reserves and typically a budget surplus. Nor would the government necessarily concede that private sector provision of goods and services is more efficient than that of the public sector. The need or ability to raise capital is a less pressing concern in Singapore than it might be in some parts of the region."*

Thus, the rationale for introducing PPP into Singapore is mainly focused on the need to achieve value for money in the delivery of public services as stated in the PPP Handbook (Lam, 2004). This means that PPP was perceived as a mechanism that could be used for projects to allow optimal balance of benefits and costs on the basis of total cost of ownership, even though it may not be at the lowest price. This could be achieved when synergies are generated through the alignment of design, construction, maintenance and operation phases, taking into consideration the whole life cycle of the project (MOF, 2009).

4.2 PPP Projects Implemented in Singapore

Since the introduction of PPP in 2003, the Singapore government has explored various projects to be implemented as PPPs. Some have met with success, whilst the others have been abandoned, awarded under traditional procurement methods, or still under consideration. A summary of these projects and their status are presented in the Table below:

PPP Projects in Singapore as at 27 October 2009.

(Sources: MOF; PUB, 2007; CNA, 2009; Lazauskaite, 2009; Loh, 2007; Wang, 2009; Dalal, 2009; IFR Asia, 2009)

No	Project Description	Launched	Public Agency in Charge	Project Status
1	Desalination Plant - Design-Build-Own-Operate (DBOO) facility to supply desalinated water to the Public Utilities Board (PUB) for 20 years	September 2001	PUB	Tender awarded on 19 Jan 2003. Project completed and in operation since September 2005.
2	Ulu Pandan NEWater Plant – DBOO project for recycling and supply of waste water to PUB for 20 years	May 2004	PUB	Tender awarded on 15 Dec 2004. Project completed and in operation since March 2007.
3	Fifth Incineration Plant - DBOO project to incinerate 800 tones of refuse per day for a period of 25 years	May 2005	National Environment Agency (NEA)	Tender awarded – 14 Nov 2005. Project completed and in operation since the beginning of

				2010.
4	TradeXchange – IT PPP project to develop the software for one-stop integrated logistics information port, including the maintenance and operation of the system for 10 years.	Dec 2005	Singapore Customs	Contract awarded on 8 Dec 2005. Tenure of 10 years between 2007-2017
5	Basic Wings Course – a 20 year PPP to acquire and maintain a fleet of trainer aircraft and ground-based training systems to meet the hardware requirements for the Republic of Singapore Air Force's basic wings flying training.	Aug 2005	Ministry of Defence (MINDEF) — RSAF	Tender awarded / Financial close achieved on 3 Nov 2006. Tenure of 20 years from 2008-2028.
6	Rotary Winged Course – a 20 year PPP to leverage on commercially available platforms and maintenance operations to optimise the resource and risk allocation between public sector and private sector in flying training operations.	Nov 2005	MINDEF –RSAF	Tender awarded in November 2005 for duration of 20 years from 2006-2026
7	Next Generation National Broadband Network - A PPP project for the design and construction of the passive infrastructure of the Next Generation National Infocomm Infrastructure which seeks to transform Singapore into an intelligent nation and global city, powered by infocomm. The project also involves the sale of services to an operating company.	February 2006	Info-comm Development Authority (IDA)	Passive Infrastructure Tender awarded in October 2008. Active Infrastructure: Tender awarded in April 2009. Estimated completion date in 2012.
8	ITE College West - Design-Build-Finance-Operate (DBFO) project for a period of 27 years Under the PPP, the consortium would which includes the management and coordination of all building-related and estate management matters, allowing the ITE to focus its resources and attention on the delivery vocational and technical education.	July 2006	Institute of Technical Education (ITE)	Tender awarded / Financial close achieved on 11 Aug 2008. Construction phase of the project is expected to be completed in 2010.
9	Changi NEWater Plant - A DBOO project for the supply of 50 million gallons of NEWater per day to PUB over a period of 25 years.	Aug 2007	PUB	Tender awarded in early 2008. In first phase of commercial operation since 2009. To be fully completed in

				mid-2010.
10	Sports Hub – A 25 DBFO concession for a sports hub.	December 2005	Singapore Sports Council (SSC)	At preferred bidder stage since 19th January 2008.
11	NUS University Town – PPP for the development of a 6,200-bed student housing with ancillary facilities.	June 2007	National University of Singapore (NUS)	Consortiums were shortlisted in June 2007. Decision to launch the project as a PPP was subsequently terminated in September 2007.
12	Advanced Fighter Winged Course - PPP for providing classroom teaching and aircraft simulators for Advance Fighter Winged Course.	December 2008	Defence, Science & Technology Agency (DSTA)	Bids submitted for project in August 2009. Current status unknown.
13	Rifles Range Training Facility – A 20 year PPP for the construction, maintenance and management of a training ground for small arms.	Unknown	DSTA	Bids submitted for projects in late August 2009. Currently in tender evaluation stage.

As can be seen from Table 2, the Singapore government has considered 13 PPP projects in various asset classes, including water, solid waste, education, defence and IT sector, since the introduction of the concept in 2004. Nine of these projects have been successfully implemented (items 1 – 9 of Table 2). Five of these projects (Desalination Plant, NEWater Plants, Incineration Plant, ITE College West) involve building infrastructure. The projects involving the water and solid waste sector are utility related PPPs. These have been procured by two agencies, National Environment Agency and Public Utilities Board. These projects consist of a single demand stream model with little political sensitivity (KMPG, 2007), thus their procurement should not be considered complicated.

Singapore has also sought to procure large-scale social infrastructure projects such as the ITE College West, Sports Hub, and the University Town @ Warren. Such projects involve multiple revenue streams and numerous stakeholders, with greater scrutiny of business plans (KMPG, 2007), thus making them more complicated. The implementations of these projects except for the ITE College West project have not been successful. It should be noted that even in the case of the ITE College West, the procurement process had met with delays in financing as the banks which initially backed the private sector consortium had dropped out as a result of the subprime crisis (Lee & Rathbone, 2008; Menon, 2008).

The University Town project was initially earmarked to be financed, designed, constructed and operated by private sector entity for a period of 25 to 30 years. However, according to a government press release in January 2008 (MCYS, 2008), it is now owned and funded by the National University of Singapore (NUS), through government grants. This US$423-million (SGD $500-$600 million) project is expected to be completed before the end of 2010. No clear reason has been disclosed for the shift. However, it is likely that being a social infrastructure development project, the project proponents found it not viable for development as a PPP, given that administration of the university facilities require active participation of the public sector, whilst, the revenue for the private sector developer has to be sourced from student fees and other sources of revenue to be generated by the facilities within the University Town. Being an educational institution controlled by the public sector, the private developer's freedom to price the services would have to be highly regulated, a condition that the private sector developer may not have found favourable.

As far as the Sports Hub project which was launched in 2005 is concerned, to date it has not advanced from the preferred bidder stage. The completion date for the project has repeatedly been pushed back. The current expectation is that the project would be completed by the end of 2013 or early 2014, provided that there are no further delays (Wang, 2009). The first delay of the project had occurred due to the addition of a public water sports centre into the original bid requirements, resulting in the process of the submission of the bid proposal and the evaluation period being postponed by about a year (Lim, 2007). The second delay had occurred as a result of increased construction cost and the recent global financial crisis which made it difficult to raise funds from financial institutions (Straits Times, 2009).

5. Barriers to PPPs in Singapore

Even though there has been considerable interest in the use of PPP as a procurement method, there are a wide range of barriers to using PPPs. As found by Zhang (2005) in a questionnaire survey to different organizations in different countries such as United Kingdom, Australia, and China, the barriers to PPPs can be broadly classified into six categories:

1. Social, Political, and Legal Risks
2. Unfavorable Economic and Commercial Conditions
3. Inefficient Public Procurement Framework
4. Lack of Mature Financial Engineering Techniques
5. Problems related to the Public Sector
6. Problems related to the Private Sector

It is important to note that the above barriers are not generic to every country. In the case of Singapore, it is not difficult to argue that social, political and the legal risks which usually discourage investors from investing in countries are not present in Singapore (IMF, 2004). Since independence in 1965, Singapore has steadily developed its social, political and legal infrastructure to offer one of the politically steadiest, corruption free and investment friendly environments in the world (Lim and Lloyd, 1986; Peebles and Wilson; 2002). Furthermore, according to some sources, currently Singapore is ranked as the fourth richest country in the world[2], behind Qatar, Luxemburg and Norway (Global Finance, 2010; IMF 2010a). Moreover, according to the World Economic Forum's Global Competitiveness Report for 2009 – 2010 (WEF, 2010), Singapore is ranked the third most competitive economy in the world. It provides inter alia that:

> *"Its institutions are viewed as the best in the world, while business confidence in the government remains strong despite the global recession. That, along with a highly skilled workforce and sophisticated financial markets, helped Singapore jump two places in the 2009 rankings from last year's result."*

In the circumstances, it is also difficult to argue that the categories 1, 2 and 4 listed by Zhang (2005) apply in the case of Singapore as barriers to PPPs.

As far as the public procurement framework is concerned, it should be stated that Singapore has a well knit legal framework that provides a sound architecture for efficient and corruption free public procurement. For example, the Singapore Government is bound by certain commitments in the various international agreements on public procurement which the country has entered into, specifically, the 1994 Agreement on Government Procurement under the World Trade Organisation ("GPA"), the Agreement between New Zealand and Singapore on a Closer Economic Partnership (ANZSCEP), the Agreement between Japan and Singapore for a New Age Economic Partnership (JSEPA), EFTA-Singapore Free Trade Agreement (ESFTA) and Singapore-Australia Free Trade Agreement (SAFTA), and the United States-Singapore Free Trade Agreement (USSFTA), to name some.

In addition, as far as national legislation is concerned, Singapore has enacted the Government Procurement Act No. 14 of 1997 as amended (Chapter 120) which deals with public procurement. There are also four relevant subsidiary legislations, namely Government Procurement (Challenge Proceedings) Regulations, Government Procurement Regulations, Government Procurement (Application) Order and Government Procurement Act (commencement) Notification 2002. In addition, there is a Government Instructions Manual on procurement procedures and this is publicly available[3].

All public contracts awarded by the Singapore government are published on the Government e-Business website on the internet. The award notice contains the name of the successful tenderer, contract sum, and a description of the contract along with the name and address of the awarding government procuring entity. A similar disclosure is made by the Ministry of Finance concerning PPP projects[4]. According to the self assessment made by Singapore in response to the ADB/OECD Anti-Corruption Initiative for Asia and the

[2] There are two standard methods of defining the richest countries in the world. One takes into account the economies that are the largest, as measured by total gross domestic product (GDP). However, the most commonly accepted definition of the wealthiest countries is to determine how rich the average resident of a country is. For this reason, the best method is to use GDP data per capita. The ranking of Singapore is based on this method.

[3] See: http://www.gebiz.gov.sg.

[4] See: http://app.mof.gov.sg/ppp.aspx

Pacific (ADB/OECD, 2006), normally, the government procuring entity will at the request of unsuccessful renderers, promptly explain reasons why their bids have not been accepted. Thus, transparency in the process is maintained.

As commented by Mr. Kamran Khan, head of the World Bank Office Singapore (East Asia Infrastructure Finance Practice Group), in an interview by The Business Times Singapore in November 2009:

> *"The public entities in Singapore are one of the most efficient in the world. They are professional and act almost like the private sector, but they protect the interest of the public sector, which is a very unique thing."*

In the circumstances, corruption in public procurement as a barrier to PPPs in Singapore could be ruled out.

This leaves us to consider whether there are any problems with the public or private sector that works as barriers to implementing PPPs in Singapore. Typically, problems with public sector in successfully implementing PPP projects would arise due to unfamiliarity with the PPP mechanism, reluctance to share responsibilities with the private sector, problems relating to regulations, lack of commitment towards investor protection, and hesitancy to share risks (Gunawansa, 2000; Zhang, 2005). On the other hand, problems with the private sector in implementing PPPs would arise due to lack of financial and technological capacity, reluctance to work with the public sector, reluctance to deal directly with the end-users of utilities and other infrastructure services, inability to be competitive in delivering services to the public, and incapacity to work in a consortium (Gunawansa, 2000; Zhang, 2005).

However, given the success story of Singapore's economic development and market competitiveness as well as the efficient and transparent public procurement in place which have been summarized above, it is not difficult to argue that there are no obvious problems with the public sector or the private sector in Singapore that prevents PPPs. If so, then what reasons, if any, are there for the limited success of the concept in Singapore since its introduction in 2004? In answering this question, the following hypotheses are proposed:

1. The public sector entities in Singapore such as the PUB, which is in charge of power and water utilities, Land Transport Authority, which is in charge of the road network, and Housing Development Board, which is in charge of the public housing, to name a few, have been providing efficient services to the public. They have the regulatory and management capacity to take charge of the facilities. They have the necessary funds for development of infrastructure through direct contracting. Thus, the need for PPPs is limited.

2. Singapore government is committed to finance and encourage research and development in various spheres, including in the area of physical and social infrastructure development in the country. As a result, technologies relevant for sustainable development of the nation are financed by the public sector and developed largely in public sector entities such as state universities and

research centres set up within universities. For example, the Singapore Economic Development Board (EDB.) has announced that it will spend about S$680 million (US$483.3 million) to build a clean technology ecosystem over the next five years as part of the country's plan to become a global research and development hub. EDB has already allocated S$350 million Singapore dollars of the total investment to develop the country's clean energy sector, with a focus on solar energy. The remaining S$330 million will go toward developing water and waste management solutions. This initiative is part of the government's plan announced in September 2009 to invest S$1 billion to build a greener and more energy efficient country by 2015 (EcoSeed, 2010). In addition, the Inter-Ministerial Committee for Sustainable Development in Singapore has earmarked about S$700 million to develop the rest of the clean technology sector and S$3.4 billion to boost the country's economic output along with the creation of 18,000 green jobs by 2015 (EcoSeed, 2010). Thus, public entities in Singapore which have the money and invests in the advancement of technology might find direct contracting with contractors to build public facilities more appropriate than PPPs.

3. The absence of a centralized body within the MOF or outside of the MOF to champion the cause of PPP has also worked as a barrier. The PPP Advisory Council that was set up at the time PPP was introduced into Singapore has functioned largely as an entity to promote PPP awareness, help draft relevant policy and provide guidance on PPP matters. What is required is to give it more teeth or replace it with an agency that could act as the "one stop shop" between public and private sector entities to facilitate PPPs.

4. Inadequate focus on project identification and feasibility studies is an apparent weakness in the PPP procurement machinery in Singapore. The number of projects that have been unsuccessfully procured which were discussed above supports this point.

5. The failure to maintain a published pipeline of projects has also worked as a barrier, limiting the scope for public-private engagement to develop projects. If a centralized public sector entity could work with the other government agencies and identify sectors for PPPs and lineup possible future projects, then it would provide a more efficient platform for interested private sector entities to engage with the public sector concerning the development of such projects.

6. However efficient and transparent the current procurement mechanism is, use of open tenders may not always be the best procurement practice for PPP. This is because such procurement practice limits the scope of private sector participation to projects specifically identified by the government. If sectors are identified and a pipeline of possible projects are maintained, that would enable the interested private sector entities to submit early proposals to the

government to develop the pipelined projects. This would enable the government to take a decision whether to engage in direct negotiations with the private party that has shown the early interest or to call for competitive tenders.

6. Future of PPP in Singapore

As noted earlier, Singapore offers one of the most reliable and competitive environments for investment. The country has an efficient and corruption free public sector. Further, the people in Singapore ha the money and the desire to pay for efficient public services. Furthermore, the local private sector has the capacity to provide the necessary local partnership to foreign investors or, to take the lead in investment projects in the country. In the circumstances, there is no reason for the future of PPP in Singapore to be bleak, if the issues identified above are adequately addressed.

The PPP Advisory Council that has been already established should be empowered to coordinate with the various government agencies to identify sectors in which PPPs could be introduced. It should also take a more active role in promoting guidelines and framework on the implementation of PPP projects as well as promoting PPPs to the different agencies. In addition, the PPP Advisory Council should also act as a repertory of knowledge for all projects that have been either considered or implemented as PPPs. In the alternative, the government should consider establishing a new agency that could perform the functions discussed above.

Establishment of a “one stop shop” that could facilitate the engagement of public and private sector entities should be considered. Such an agency should, in addition to giving publicity to the pipeline of projects and sectors identified for PPP, have the capacity to facilitate investor engagement by cutting red tape and enabling the acquisition of relevant approvals and permits provided that such process remains legal.

As far as identification of suitable sectors for PPP is concerned, Singapore should concentrate on sectors where there is still room for its financially strong, technologically savvy, and efficient public sector entities to partner with the private sector. Construction of sustainable cities, an area in which Singapore has shown a keen interest and has a good reputation, is an area that has much scope for such partnering. This is because building environmentally sustainable cities require not only the financial capacity to build, but also the technological knowhow in many spheres such as roads, water, electricity, telecommunication, public housing, industrial and office complexes, and social infrastructure facilities. Such projects require expertise in designing and engineering and participation of manufactures of environmentally friendly construction materials and equipment. Piecing together a sustainable city by entering into thousands of individual contracts would be impractical and difficult compared to a well knitted project development structure in which a few PPPs can work towards developing the project.

7. Conclusion

PPP is a feasible procurement method to be implemented in Singapore. As has been pointed out in this paper, Singapore has a very conducive environment for PPP projects. However, due to the barriers that have been identified in this paper, too few projects have been implemented in Singapore since the introduction of the PPP concept in 2004. This said, there is room for improvement. If the government addresses the concerns discussed and implements measures to deal with them, including the recommendations that have been made here, PPPs will have an important role to play in the continuing development of Singapore. However, if the government fails to take adequate measures, there is the risk of flight of capital, experts and expertise away from Singapore to other countries in the region. Countries such as China, India and Vietnam offers larger markets to investors, although they may not yet have the efficient and reliable investment environment Singapore offers.

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