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GOVERNMENT INSTITUTIONS AND INFRASTRUCTURE SKILLS DEVELOPMENT

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The capacity of state institutions is central to the efficient delivery and management of infrastructure. The paper examines two models for improving the skills of managers in central and line agencies of government for infrastructure procurement and management in emerging economies. The first examines the role of the Public Private Partnership (PPP) unit, a specialist agency equipped with the technical capabilities, transactional experience and budget to provide training and assistance to line agencies for the effective delivery of infrastructure projects. Integrated into this model, and used by several nations, is the use of trained relationship managers to manage service contracts including government commissioned build operate transfer (BOT), outsourcing and concession arrangements. This approach uses relationship management principles whereby the regulatory framework of the contract in matters such as price, quality, service standards, and performance measurement is exercised within the contract. The second model is the Gateway approach to infrastructure project analysis and development. Gateway was initially implemented in the United Kingdom and has been widely adopted in OECD countries over the past decade as an alternative governance framework for public projects that require the participation of multiple government agencies, private advisers, several levels of approvals and close liaison between the executive and political arms of government. Gateway imposes new disciplines on the project procurement process, requires central and line agencies to undertake professional development training and imposes new governance standards for large and complex infrastructure procurement projects. Evidence suggests that Gateway is playing a significant role raising the capacity of public agencies to manage large and complex procurement projects, and improving procurement performance.

Keywords: public procurement, skills development, public institutions.

INTRODUCTION

Public private partnerships (PPPs) are a form of specialised infrastructure procurement in use in over 130 countries worldwide. The PPP procurement method is one of several new methods that have appeared in the past 20 years in response to systemic failure in government delivery of public infrastructure (Latham, 1994, Levene, 1995, Department of Trade and Industry, 1998). Technology and skills transfers are most effective when tied to project procurement. This approach is quick and effective if training and technology transfer are a condition of the procurement. When government takes responsibility there is a need to design a formal training program for either a central agency of government or in line agencies of central government. The

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government line agency is a ministry of government responsible for a specific portfolio of government policy and activity. Line agencies are responsible for delivering projects within their portfolios. In countries with federal political structures or autonomous regional governments, the task of standardised training for government managers becomes that much harder. It is also difficult for developing countries to find the funds to invest in training programs across all line agencies.

PAST PRACTICES

The public procurement practices of earlier years included systemic optimism bias, late delivery of projects, poor coordination between state agencies, higher costs, and low stakeholder and user satisfaction levels. As a centrepiece of the reform of public procurement in Britain, PPPs were introduced in 2001 as part of a wider Private Finance Initiative (PFI) policy and were adopted in Australia and other countries shortly afterward. In Australia, the build own transfer (BOT) procurement model was employed by federal, state and local governments from the mid-1990s. It was also employed in several early infrastructure undertakings in Victoria (Citylink) and New South Wales (Sydney Harbour Tunnel). Early transactional evidence suggested private investment in infrastructure improved the rigour of major project procurement, led to greater innovation and new technology, and significantly improved value for money outcomes for government (National Audit Office, 2001, 2003; Fitzgerald, 2004).

In developing countries with a PPP policy, a PPP Unit is often created to implement national PPP policy and ensure consistency of application across the line agencies which are required to deliver projects. The primary role of a PPP unit within a central policy-making agency of state (usually Treasury and Finance or Prime Minister's Department) is to provide early stage financial and technical assistance to line agencies for complex PPP projects.

Most national PPP policies require that all projects above a threshold value or otherwise eligible for procurement as PPPs be selected, evaluated, prepared and commissioned by line agencies. As happens with all governments, often the line agencies simply lack the skills to do this properly, especially in the early years of a PPP program. PPP units also have another important role of providing training to develop the commercial and professional skills necessary to successfully implement these projects. They commonly achieve this with courses and instruction in the following:

- Business case preparation
- Options analysis
- Discounted cash flow methods
- Negotiation skills courses
- Risk-weighted financial forecasting
- Preparation of a public sector comparator
- Conducting a bid process
- Value for money and bidder selection methods.

The PPP Unit employs experienced PPP practitioners, many with international experience, and with the financial support of multilateral agencies such as African Development Bank, World Bank, Asian Development Bank, Economic Research Institute for ASEAN and East Asia (Japan), and Commonwealth Secretariat. The PPP programs employed in the Australian states from 2001 introduced systematic project evaluation, the requirement for detailed business case, the identification, measurement

and transfer of project risks, value for money bid evaluation methods and lifecycle costing. These were significant advances in the process of delivering better infrastructure in the form of improved public goods. The introduction of improved rigour in the procurement process led to improvements in procurement practice which were transferred to traditional government procurement policy with the Gateway programs now employed in the Commonwealth, states and territories. The benefit of these changes has been our improved understanding of major project procurement, significant improvement in procurement outcomes (Regan, *et al*, 2011) and more efficient delivery of public goods and services (National Audit Office, 2005a).

The PPP approval process requires agencies to undertake comprehensive analysis of projects prioritised for PPP delivery. This involves identification of the service needed and preparation of an output specification, cost benefit analysis then preparation of a business case, assembly of the project team, preparation of a procurement plan and timetable, stakeholder consultation, the evaluation of procurement alternatives, construction of a risk-weighted benchmark or public sector comparator selection, agency and ministerial approvals at predetermined steps in the implementation process, the conduct of a competitive bid process requiring pre-qualification in an expression of interest stage, then bidder selection through an invitation to bid process, bidder selection and negotiations for the PPP contract and creation of the *ex post* contract management framework (Partnerships Victoria, 2001, p. 14).

In OECD countries, PPPs are generally managed under policy frameworks that operate independently of traditional procurement laws and policies. In federal constitutions such as Australia, PPP policy is generally administered by the states and territories and its implementation is managed within central policy-making agencies of government such as State Development, Treasury and Finance or Infrastructure and Planning.

PPP units provide assistance to line agencies in the selection, prioritisation, development and implementation of PPP projects. In developing countries where the institutions of government may be less well developed, most PPP policies are given statutory form and a dedicated PPP unit is created to assist the implementation of policy. The PPP unit can provide technical and financial assistance to line agencies to assist project analysis, development and implementation (in World Bank and Public Private Infrastructure Advisory Facility 2007, *Public Private Partnership Units: Lessons for their Design and Use in Infrastructure*, World Bank, Washington).

FUNCTIONS OF THE PPP UNIT

The World Bank defines a PPP unit as any organisation designed to promote and/or improve public private partnerships that has a lasting mandate to manage multiple PPP transactions in response to government failures (poor procurement incentives, lack of coordination, high transaction costs, lack of skills and information) (World Bank-PPIAF, 2007). The PPP unit may control the total number of public private partnership projects and ensure that projects fulfil specific quality criteria, or it may function as an advisory centre and coordinate the responsibility for assisting line agencies with project implementation. Further, the unit's role may include PPP policy and strategy, project identification, analysis, transaction management and contract management, monitoring and oversight. In some jurisdictions, it may have a more formal role as an approval agency for the Gateway development of projects.

Gateway refers to the approval points in the progressive development of a PPP project within government. The PPP process may require agencies to select a project against specified criteria and then conduct a detailed analysis of the project. This is then submitted for Gateway review by the PPP unit before proceeding to the next Gateway stage, which may take the form of a procurement options analysis, the preparation of a life-cycle costed traditional procurement benchmark (the public sector comparator), the bid process and bid evaluation criteria, negotiations with the successful bidder, contract and financial close and then the commissioning of a contract management framework. A Gateway procedure imparts rigour to the procurement process and imposes oversight at key stages in project implementation. The Gateway process (developed in the UK) is now employed widely in OECD countries for alternative procurement methods and is largely responsible for the rapid improvement in government project procurement performance since 2001 (National Audit Office, 2003a, 2003b).

The World Bank generally takes the view that PPP units are designed to compensate for an inability to deliver PPP projects using the existing machinery of government which is largely the case in developing countries (World Bank-PPIAF, 2007, p. 25). However, in OECD countries, PPP units are generally viewed as specialist resource centres designed to build capacity in line agencies and implement PPP projects that meet policy criteria. The independence of a PPP unit is an important instrument of governance that ensures line agencies do not use PPPs to circumvent formal budgetary constraints. PPPs are not an off-balance sheet alternative to traditional procurement and an effective PPP unit will provide fiscal oversight and compliance with the government's overall fiscal policy objectives and management. An independent PPP unit may also serve as a central coordinating agency for infrastructure planning and program management. This is important in avoiding planning delay or "hold up" risk, the major cause of high transaction costs in PPP projects. In Queensland, the location of the PPP project implementation agency within the office of the Coordinator General, Department of Infrastructure and Planning, meets this requirement.

PPP units draw their expertise from personnel in the public and private sectors. In Victoria, private consultants assisted in the drafting of policy guidelines 2001-03 and with the exception of advisory and legal services; most project implementation services are provided in-house. The development of in-house capacity to deliver complex PPP projects is also the preferred approach in South Africa, South Korea, Portugal and the Philippines. A study of PPP units by the OECD identified six core functions of the PPP unit: policy guidance, "green lighting" projects, technical support, capacity building, PPP promotion and PPP investment (OECD, 2010, p. 3).

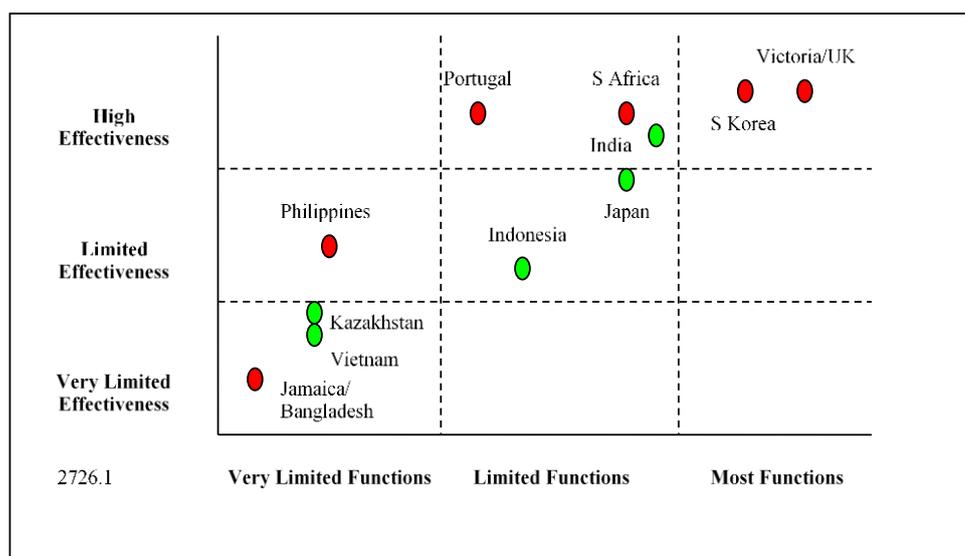
The role of a PPP unit is also that of ensuring that the PPP program is meeting the state's objectives, that transactions are achieving value for money and comply with standards of good governance. The World Bank-PPIAF study (2007) identified a correlation between the scope of functions of the PPP unit and the effectiveness of the national PPP program (see Figure 1).

PPP units are a key component of the PPP project implementation process. In OECD countries, PPP units are designed as resource centres and staffed by practitioners with both infrastructure and PPP project experience. Frequently, senior appointments within the unit are offered to experienced private sector executives with wide transactional experience. As a highly specialised form of project procurement, PPPs

are exempt from conventional procurement laws and policy. The unit offers agencies information, guidance and expertise in matters that may include:

- A sound understanding of policy procedures and methodologies
- Private participation in infrastructure
- Business case development, evaluation and financial modelling
- Risk analysis and risk allocation
- Project finance
- Negotiation skills
- Standardisation of procedures and templates
- Assistance with stakeholder consultation and management
- Financial assistance with early-stage project development and consultants
- Contract management and regulation of long-term contracts
- An executive approval or post-commissioning review role
- A data base of information
- Agency staff professional development and training.

Figure 1: World Bank-PPIAF Study 2007: PPP Unit Scope and Program Effectiveness



PPP units function as the coordinating agency for both policy dissemination and the rollout of projects. Nevertheless, there is no standard specification for a PPP unit and they are mostly designed to fit within the institutional framework of each country. They are most frequently attached to an agency close to the policy-making centre of government although practices vary widely throughout the world. In the United Kingdom, the functions of a PPP unit are provided by three institutions. Partnerships UK provides assistance to line agencies regarding policy application, transactional and project management matters. H.M. Treasury provides policy guidelines, and the Office of Government Commerce provides technical information and training information on matters such as business case analysis, life cycle costing and risk analysis and weighting. The functions of the three agencies overlap.

In the state of Victoria, PPP policy is implemented by the Commercial Division of the Department of Treasury and Finance and projects are selected, developed and managed by line agencies with Departmental oversight. A similar approach is applied

in New South Wales. Prior to April 2012, projects in Queensland were delivered through the Coordinator-General as head of the Department of Infrastructure and Planning, now the Department of State Development, Infrastructure and Planning. Projects in New South Wales and Queensland are selected, evaluated and implemented by line agencies with PPP unit oversight (see Figure 1). At the present time (2014) the global financial crisis together with a number of failed projects has impaired new PPPs in Queensland. The state government is attempting to develop better arrangements for financing and encouraging PPPs in the future working with the federal government.

Similar practices apply nationally and in the other states and territories. In 2008, Australia adopted a national PPP policy which consolidates various policy models operated in the various national, state and territory jurisdictions. However, each jurisdiction has discretion to vary policy to meet specific regional requirements (Infrastructure Australia, 2009, pp. 39-44).

As a general rule, the work performed by a PPP unit is designed to successfully implement a government PPP program. This may include direct participation in policy design and implementation and/or the provision of financial and technical assistance to line agencies to enable them to undertake their own projects or a combination of these roles. The specific activities undertaken by PPP units may include:

- The preparation of policy and procedural guidelines. In some cases, this may include delegated legislative and/or regulatory powers
- Assistance with project selection and analysis to ensure projects meet policy requirements governing value for money, risk transfer and the affordability of future availability payments. This may include an approval role as the project is developed through a number of specified “Gateways” set out in the policy.
- Management of transactions including assistance with contract design, management of the bid process and contract management
- Provision of oversight to ensure agencies and sub-national governments comply with reporting, accounting and governance standards
- Coordination of the PPP project pipeline to avoid tension between the government’s project delivery strategy and the capacity of private bidders to absorb the work flow. Labour market constraints in particular require regular phasing of projects to balance optimal capacity utilisation with skills retention in the market.
- Provision of grants to line agencies and sub-national governments to assist early project development and meet the cost of specialist advisers and consultants
- Creation of a resource centre for the identification of pre-qualified transaction advisers and in developing countries, provision of technical information, introductions to multilateral institutions, international private investors and financiers.

There are three further roles for the PPP unit. Firstly, to assist line agencies and sub-national governments to develop their own in-house capabilities for project implementation over time. Secondly, to provide specialist training to help line agencies acquire greater understanding of the PPP procurement option and acquire specialist skills in areas such as contract negotiation. Thirdly, to conduct post-implementation reviews and build a data base of transactional experience and lessons

learnt to assist further refinement of the policy and assist capacity building at the agency level.

INTERNATIONAL EXPERIENCE

Recent international studies have examined the operation of PPP units in a number of developed and developing countries (World Bank-PPIAF, 2007; Economist Intelligence Unit, 2011; OECD, 2010; Farrugia *et al.*, 2008). See also Sanghi *et al.* (2007). A study by Mahalingham *et al.* (2011) surveyed the performance of PPP coordination agencies in India. The conclusion reached by these studies is that there is no “one size fits all” solution for every nation and PPP units need to be developed to meet the distinctive institutional and policy characteristics of a national government. In some countries, it is necessary for the PPP unit to have executive authority embedded in law to provide the direction and manage policy implementation. In others, the PPP unit has an advisory role within Treasury or another agency of government to provide assistance to line agencies. In others, the PPP unit may provide an intermediate role that includes limited executive powers of approval and the facilitation of projects for line agencies which undertake the “heavy lifting” of project selection, measurement and bidder selection. In Victoria and Western Australia, Treasury and Finance agencies and Treasury Corporations provide dedicated training for line agency staff in areas such as project procurement, risk and contract management.

The World Bank-PPIAF study found a high positive correlation between the success of a country’s PPP program and effective PPP units designed to correct institutional weaknesses of the host government (World Bank-PPIAF, 2007, pp.4, 29-30). Other characteristics linked to the effectiveness of PPP units include:

- Political leadership and support
- Complimentary institutional frameworks including a regulated capital market, public governance and effective measures against corruption
- Friction and dysfunction between government agencies (World Bank-PPIAF 2007, p.8).

Other lessons learnt about the design of PPP units:

- The authority given to the PPP unit must match the expectations placed on the unit
- The unit should be placed in a central decision-making arm of government. In western government experience, this is typically the Department of Treasury and Finance (World Bank-PPIAF, 2007, p.8; Economist Intelligence Unit, 2011, pp.12-14).

A study by the Economist Intelligence Unit (EIU, 2011) examined the institutional frameworks in operation in 16 Asia Pacific countries. Countries that scored highest in the survey were those with strong state institutions and effective PPP units. The study found that new PPP units have been, or are in the process of being established in Japan, Bangladesh, Indonesia, Kazakhstan, Mongolia, Pakistan and Papua New Guinea. The Philippines recently relocated its PPP unit while Indonesia is currently developing a new entity within its Ministry of National Development Planning, Bappenas. Thailand and Vietnam recently launched inter-ministry taskforces to develop the PPP agenda, and India has the powerful ministerial-level Committee on Infrastructure, with the Planning Commission and PPP Unit of the Department of Economic Affairs supporting development and execution of projects (EIU 2011, p. 14). China is distinctive in the Asia Pacific in its lack of PPP-specific institutions with

projects delivered through the same provincial government agencies as traditional procurement (EIU 2011, p. 14).

In OECD countries, PPP policy most often takes the form of a policy with supporting guidance materials. In developing countries, PPP policy frequently has a statutory foundation which includes the establishment of a PPP unit as a division of an existing line agency (The Philippines, Mauritius) or a new agency that assumes responsibility for policy and project implementation (Indonesia). PPP policy is generally put in place by national governments (Britain, Australia, South Africa, Germany and Korea). In Australia, Canada, Japan and China, most PPP projects are delivered by provincial and local government agencies (Economist Intelligence Unit 2011; OECD 2010, 50).

THE GATEWAY PROGRAM

The Gateway program was initially developed in the United Kingdom and employed in 2001 by the Office of Government and Commerce (OGC), in New Zealand in 2006, and adopted by the Government of Victoria in 2003 and the Commonwealth of Australia Government in 2007. Gateway attempts to improve the performance of traditionally procured public projects, reduce cost overruns, late delivery and scope creep by requiring projects to pass through a series of gates at various stages in the project cycle. The gates include justification of the business case, procurement options analysis, the tender procedure, the contract management framework, and post-implementation review. Each Gateway is a review involving a panel of experienced and independent reviewers and all projects above threshold values (in Australia they are AUD10 million for IT, AUD20 million for other projects) are required to undergo the process. Having review gateways for the key stages of projects permits independent assessment and applies an additional governance framework to the development stages of a project to ensure key project performance targets can be continuously monitored and managed. Gateway is designed to improve the procurement process by requiring major or complex projects, including construction to be subject to review at key stages by an independent panel to ensure the project is justified, and that the procurement approach is likely to achieve value for money – a test of quantitative and qualitative project outcomes (National Audit Office, 2005b).

In a relatively brief period, Gateway has delivered significant improvement in traditional procurement performance, delivered knowledge transfer, assisted in building the skills of line agencies, and led to better procurement outcomes (Australian National Audit Office 2012; Sharpe 2005). The building of technical proficiency in line agencies is reflected in the improvement in performance of projects delivered through the process.

Gateway uses three possible results for each review; red denotes immediate remedial action required, yellow indicates conditions apply before the project may proceed to the next review and green, which indicates the project is approved. In the first four years of Gateway in Victoria, an average 18% of projects were graded red and an average 56% graded yellow. In the fifth and six years of the program, all projects were graded yellow. The first 5 years of the program for the Australian Commonwealth Government also achieved a marked reduction in red and yellow grading with 66% of projects receiving a green rating and a significant improvement in project performance. The Australian Audit Office Performance Audit in 2012 (ANAO, 2012) explained the Gateway program as a learning process that provides line agencies with a rigorous project evaluation and process management system and the opportunity to improve technical and project delivery competencies. A series of reviews of New

Zealand's Gateway program in 2011 and 2013 concluded that Gateway was developing skills and experience in line agencies and demonstrating project ownership and leadership from both senior public service employees and government ministers (State Services Commission, 2011, 2013).

CONCLUSION: THE EVIDENCE

The evidence from nearly 20 years of international PPP experience suggests that PPP programs are most effective when they are implemented and managed by a competent PPP unit equipped with the authority, the technical and financial resources to manage both policy rollout and project delivery through an advisory and oversight role with responsible line agencies. The effectiveness of PPP units is positively correlated with the unit's continuing engagement with the project, particularly the development of skills in line agencies and a support role as the project is developed through to implementation. The effectiveness of the PPP unit is also dependant on political support and a regular flow of projects to maintain a skilled and competitive bid market. As a mature PPP market with stable and efficient institutions of state, Australia should be well positioned to operate effective PPP units and deliver "best practice" projects. However, the performance of the commonwealth and state governments in PPP delivery is far from uniform. The stand-out and best performing PPP programs occurred in Victoria and New South Wales, both being recognised internationally as best practice templates. South Australia and the Commonwealth have delivered a small number of challenging and complex projects and in Queensland and Western Australia, the project roll-out as a component of public capital expenditure since 2001 has been negligible. The Gateway project approach integrated into the dedicated PPP units in government agencies offers an emerging and realistic alternative to established PPP units, which often carry too much 'baggage' in bureaucratic administration of these programs. There is evidence that where Gateway has been introduced into the PPP framework, the project implementation is more successful.

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