# Examining the “True Cost” of Public Private Partnership Projects to the Public: A Challenge for the African Surveying Profession

1Wilfred M. Matipa, 2Katyoka Mutale, 3Alice Suzyo Lungu and 2Christian Henjewele

1Liverpool John Moores University (LJMU), School of the Built Environment, Liverpool, UK

2University of the West of England (UWE), Department of Construction and Property, Bristol, UK

3The Copperbelt University (CBU), School of the Built Environment, Department of Building Sciences, Riverside Campus, Jambo Drive, Kitwe, Zambia

**Abstract**

For over 30 years the quantity and valuation surveying professions have been facilitating infrastructure development in Zambia regardless of the economic environment at any particular point in time. Recently, however, there has been a trend where the information about infrastructure development policy has been punctuating daily tabloids without a notable participation of the surveying professionals. A case in point is the reemergence and reinvigoration of the Public Private Partnerships (PPP) for nearly every major project in Zambia over the last 5 years. Anecdotal evidence indicates that while the costs of such projects have been the subject of the built environment and engineering professional discussions, there has been no clear policy evaluation and guidance from the Surveyors Institute of Zambia (SIZ); more so with a clear indication of the true value and cost of such projects to the public coffers over the proposed concession periods. There could be a myriad of reasons for a lack of professional surveyors’ engagement with policy development; but the outright outcome of such a stance by the surveyors could arguably lead to poor utility value though the life cycle of the infrastructure. This paper strives to ignite critical discussions of the role the surveying profession ought to play in the overall infrastructure development within Zambia, and Africa at large; and how professionals could engage policy makers with a view of creating a mutual appreciation of the importance of either profession to the public life without jeopardising the institutional trust between policy makers and surveyors. The paper concludes that unless surveyors can prove their importance to policy makers, development would continue costing the tax payer beyond what they ought to pay for.

**Key Words**: Public Private Partnerships, Value, Cost, Policy, Surveyors Institute of Zambia

## Introduction

Having realised the increasing pressure on the current infrastructure, the government of the republic of Zambia realised that it could tap resources from private financers by engaging them in public sector based projects, reported Mukela (2006). The government under the Ministry of Finance and National Planning has since set up a Public-Private Partnerships Unit (PPPU), governed by the Public-Private Partnerships Act number 14 of 2009; whose main focus is the delivery of projects through the public private partnership model of procurement. Public Private Partnerships (PPP’s) “*are essentially partnerships between private sector organisations and public sector investors and businesses for the purpose of designing, planning, financing, constructing and/or operating infrastructure projects, which would usually be provided through traditional procurement mechanisms by the State*” (NRA, 2001). “*At the heart of the PPP approach is the concept that better value for money can be achieved by utilisation of private sector enterprise due to the enhanced scope for innovation and by allocating the risk to the party best able to manage it*” (NRA, 2001). The main challenge for the PPPU of Zambia, among others, would be the ability to demonstrate that the concept of value for money has been adhered to, and that the risks for the project are allocated to the best placed partner to the project. Because the aim of PPPs is to accelerate the provision of infrastructure through the use of private funding and experience, (Akintoye *et al*, 2003), the initiative of the Zambian government is welcome; hence the need for a thorough evaluation of the current performance of the institutions such as the Surveyors Institute of Zambia with regard to how they are supporting policy implementation for PPP projects in Zambia. There are perceived advantages of PPPs such as improved value for money in public expenditure and delivery of services. This improvement in value for money, according to Akintoye et al (2003), is expected to occur through:

* Optimum risk allocation,
* Utilisation of private sector innovation
* The adoption of a ‘whole life approach’ to infrastructure costing; and
* Greater utilisation of private sector skills of financial management and efficiencies (Akintoye *et al*, 2003)

Based on anecdotal evidence of the current projects that Zambia has been undertaking, there is no proof within the public domain as to how the “whole life approach” has been carried out; and that the Surveyors Institution of Zambia has not been actively pursuing the issue so as to avail cost and value information for the public consumption. It could be argued that there are many risks to the public purse on such projects that are being left in the hands of policy makers. This paper, therefore, examines some of the key indicators on the Zambian economy that could used by the Surveyors Institute of Zambia (SIZ) as a means of engaging policy makers on how best to deliver PPP projects in a developing country like Zambia.

## Policy Interpretation of Public Private Partnerships: What a Surveyor Needs to Know

There is no place or book where one can find a specific statement as to what the “Surveyor” role would be on a PPP project; however, based on the characteristics of the procurement system, and the resource involved, it can be deduced that the major role of the surveyors could be to model the whole life cycle cost of the projects; as well as identifying the market value (depended on the quality and status) of the facility when handed back to the public. The Local government task force (2003) of the United Kingdom (UK) once stated that ‘mega projects’ involving vast sums of capital expenditure before any return on the investment is realised are becoming increasingly common. In principle, the promoter of this type of project is usually a consortium of entrepreneurs, merchant banks, construction firms and governments. Sometimes World Bank funds are available for such projects. The promoter creates a special company (called a Special Purpose Vehicle or SPV) and makes a deal with the ultimate owner (usually a government or other public authority) to undertake the financing, design, construction, furnishing, equipping, commissioning and operation of the project for a fixed period of years. The SPV finances the project through the merchant banks and by offering shares in the scheme (HM Treasury, 2002). The capital and finance costs are repaid through the revenue earned over the given number of years set out in the contract.

In the Zambian context, the PPPU of the Ministry of Finance handles the submissions for PPP projects. As a government wing, they are required to explain the key aspects of these projects such as capital costs, rates of return, and periods of concessions given to the private sector business entities.

## The Public Sector Comparator (PSC) approach for Quantitative Value for Money (VfM) assessment

 The PSC (Public Sector Comparator) is a standardised method to assess VFM used around the world as a quantitative benchmark (Grimsey and Lewis, 2005). The PSC is based on a hypothetical reference project, and it describes in detail all costs to the public sector as if the project was to be developed in a traditional way (Akintoye et al, 2003) as shown in Figure 1.



Figure 1: VFM assessment using the PSC (Adapted: Grimsey and Lewis, 2005)

The PSC discounts cost in a form of net present costs (NPC) (net present value, NPV) to account for future uncertainty and simplify comparison (Grimsey and Lewis, 2005; Ball and King, 2006). Calculating the PSC for a project would include the four key components presented in Figure 1. Ultimately the surveyor needs to know key sources of capital costs as well as the operating (running) costs for the facility. In principle:

* The PSC base costing includes capital (initial and lifecycle cost) and externalities which covers the cost associated with project development but not covered by in PPP service charges (DH, 2004)
* A cash flow for competitive neutrality accounts for net competitive advantages that accrue to public ownership and including equivalent costs that would otherwise be incurred, such as exemption from taxes that are only levied on private enterprises. This allows a like-with-like comparison with PFI bids.
* Risk is an important component of the PSC and typically categorized as retained or transferable risks. Retained risks are those that the public sector agency would bear regardless of the procurement arrangement. Transferrable risks are those proposed for transfer to the private partner in the PPP alternative. A comprehensive list of these risks can be found from Akintoye et al (2003b)

The main goal for the surveying profession would be to examine projects from the angle of cost and value to the public sector using a transparent method such as the PSC. This process is crucial for Zambia when you consider the key financial indicators of the Zambian Economy, as is the case in the following section.

## Simple Regression Analysis of the Cost Indicators in Zambia

Figure 2 shows the economic indicators for Zambia – specifically inflation, interest rates and the exchange rate of the Kwacha to the US dollar. These have been looked at as they are macro economic factors that impact everyone and have a bearing on Zambian construction costs.

Figure 2: Economic indicators for Zambia (Source: World Bank and Datastream, 2011)

When the financial indicators are correlated, we can deduce the true cost of construction. For instance, Table 1 reveals that the foreign exchange rate (US$ per Zambian Kwacha) is highly correlated with both inflation and interest rates at r=0.848; p <0.001 and r = 0.733; p = 0.001 respectively. This is an indication that both inflation and interest rates are valuable in explaining the foreign exchange rates. This implies that the Zambian Kwacha will appreciate (depreciate) against the US dollar if rates of inflation or interest rise (or fall). The correlation for the foreign exchange rate and both inflation and interest rates in 0.855 (See Table 1 and 2). Given a rate of inflation and interest rate, the foreign exchange rate can be estimated from the regression model with the formula below:

$$y= β\_{0 } + β\_{1}x\_{1} + β\_{2}x\_{2}$$

Equation 1: Regression Model to be used to estimate the financial variables on the Zambian Economy

Where ‘**y**’ is the dependent variable (foreign exchange rate); **β0**is the intercept with ‘**y**’; **β1**and **β2**are slopes of the independent variables, **x1** and **x2** symbolise inflation and interest rate respectively.

Using the current model this equation translates to

$$y= -0.0000672+ 0.0000338x\_{1}-0.00006799x\_{2}$$

*Where y is the foreign exchange rate*

$x\_{1}$*and* $x\_{2}$ *are the inflation rate and interest rate respectively*

This can therefore be written as

*Foreign exchange rate = -0.0000672 + (0.0000338)(inflation) – (0.00006799)(interest rate)*

|  |
| --- |
|  | US$ per Zambian Kwacha | Inflation, consumer prices (annual %) | Lending interest rate (%) |
| Pearson Correlation | US$ per Zambian Kwacha | 1.000 | .848 | .733 |
| Inflation, consumer prices (annual %) | .848 | 1.000 | .914 |
| Lending interest rate (%) | .733 | .914 | 1.000 |
| Sig. (1-tailed) | US$ per Zambian Kwacha | . | .000 | .001 |
| Inflation, consumer prices (annual %) | .000 | . | .000 |
| Lending interest rate (%) | .001 | .000 | . |

Table 1: Summary of the results from the correlation coefficient model on financial indicators of Zambia

In Table 2, the model shows that inflation and interest rates explain 69% of the variability of inflation. This is an indication that the model fits the data well (Note: because the time series is less than 30, adjusted R Square has been used as opposed to R Square (73%).

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| --- | --- | --- | --- | --- |
|  | 1 | .855a. | .731 | .689 | .000209109 |
| a. Predictors: (Constant), Lending interest rate (%), Inflation, consumer prices (annual %) |
| b. Dependent Variable: US$ per Zambian Kwacha |

Table 2: *Regression Modeling Results based on the Financial indicators of Zambia*

The above trends clearly show the relationships of the indicators amongst themselves. Given that construction costs in Zambia are a function of the strength of the domestic currency with reference to other currencies (the US Dollar in particular), high instability of all the above indicators pose a threat to the construction costs in Zambia. In other words the fluctuation of either the inflation rate or the interest rate or both is related to the fluctuation of the foreign exchange rate which in turn leads to fluctuations in construction costs. This is a key factor because it is envisaged that foreign companies will be involved in PPP projects owing to the colossal amounts of money involved (which might be difficult to raise locally).

It is imperative that the awarding authorities (the government) take this into account as it will have an impact on the unitary value that the government will pay the PPP providers for infrastructure for the duration of the contract which can be up to 30 years. This is likely to be a very expensive way of providing public services because the bill to the tax payer will actually be very high. This leads to the question of affordability and value for money. The question is whether the Zambian surveyors are engaging with the government to assess whether the infrastructure projects are affordable and provide value for money.

## Affordability and value for money

It is essential that affordability of PPPs is looked at critically especially in the long run. It can be seen from Figure 2 that serve for 2006 Zambia has been operating under a deficit (the level of expenditure exceeds the income). According to the forecast, this is likely to continue for the foreseeable future. PPP will have an impact on the deficit because unitary payments have to be made by the government. Effectively PPP is a way of government borrowing from the private sector albeit more expensively (Pollitt, 2000), as the government can usually borrow at a lower cost than the private sector. Because PPP is generally treated off balance sheet, this does not show as debt but it will still need to be paid for. To all intents and purposes the levels of debt forecasted in Figure 3 will be even higher if PPP is taken into consideration. It is therefore cardinal that the issues of affordability and value are properly assessed professionally and not politically.

Figure 3: Comparison of Government Revenue, Expenditure and Total Gross Debt (Source: Economy Watch, 2011)

In examining the value for money it is important that issues around the possible gains in future refinancing of PPP projects are taken into consideration before signing of the contracts. According to the House of Commons (2003) refinancing occurs after the development period when initial risks have been successfully overcome, hence funders’ willingness to provide better terms which in turn reduces the financing costs. Under the UK’s Private Finance initiative (PFI), the returns increased dramatically after the refinancing with all the gains originally going to the private sector (NAO, 2000). There is now guidance with regards to sharing the refinancing gains between the private and public sector so that the public sector also benefits. It is in this regard that the surveyors should engage with the government in the whole PPP process. The focus should not only be about the development period but also about issues regarding the transfer/handover of the project to the government after the effluxion of the PPP contract.

## Surveyors are Irrelevant to Political Leaders

The main risks associated with PPP are) (i) Uncertainty of demand over a long period; (ii) Uncertainty of price levels that can be maintained over a long period (HM Treasury, 2002; OGC, 2005); (iii) Escalation of construction costs (Flanagan et al, 2005); (iv) Changes in tax and other levies (Flanagan et al, 2005); (v) Future competition or alternatives; (vi) Uncertainty of maintenance costs (which are likely to increase with time); (vii) Changes in attitude (e.g. changed reliance or availability of fuels used in the design of the operating plant or transport system) (OGC, 2005); (viii) Government intervention and risk of nationalization; (ix) residual value at the end of PPP contract- as asset transfer will be required.

Table 3 summarises the types of risks that the public would undertake. Operation and maintenance of risks for a facility after it has been handed over to the government needs to be reviewed, with a full cost implication identified before the project can be awarded.

|  |  |
| --- | --- |
| **Type of arrangement** | **Public Partner 🡺 🡺 🡺 Risk Transfer 🡺 🡺🡺 Private Partner** |
| Operations and Maintenance (OM) | Design Build Operate (DBO) | Build Operate Transfer (BOT) | Design Build Finance Operate (DBFO) | Build Own Operate Transfer(BOOT) |

Table 3: PPP spectrum of risk transfer (Akintoye et al, 2003b)

Surveyors need to explain the cost implication of operating costs as early as possible in the design process; which makes it imperative to create dealership with political leadership on the issue of PPP. Proper valuation is another critical issue a surveyor can add to the financial accounting of PPP projects. In advance PPP models such as PFI, determining the cost of legal transfer and final survey is carried out in advance to avoid signing long-term contracts based on guesswork which may result into disputes and international litigations.

## Discussion with evidence of institutional reaction to policy

Henjewele (2007) developed a typical framework that could be used for defining the generic factors for adopting a PPP/PFI approach to the provision of a service, as shown in Figure 3. These factors are evident in the Zambian construction industry; and that the surveying profession tends to deal with them at various stages of the lifecycle product development. Factors such as the “sound PPP government commitment” and “political stability” need further analysis from the SIZ through strategic engagement of the leadership within government. Ultimately, the biggest risk the public can undertake is that of political decisions made by the leaders of the day; hence there should be a way of explaining these difficult decisions in a non technical way.

Strong Constructors’ Competitive market

Experienced Advisors

Sound PPP structure

Committed Government

Supports and Incentives

Advancing economy

Convertible currency

Low inflations

Low interest rate

Experienced advisors

Political stability

Peaceful environment

Sound Public Sector

Innovative PPP strategy

Specific policies

Supportive policies

Specific regulations

Integrated Legislatures

Latest Codes of practice

Social support

(No definable standards)

Low investment risks

Dedicated Banks

Accessible finance

Experienced Banks

**Figure 4:** Framework for defining generic factors for PPP adoption (Source: Henjewele, 2007*)*

## Conclusion

The introduction of PPP on the Zambian construction market is a right step; however, there is a lack of high level engagement of political leaders with surveyors. While politicians may not be aware of the risk they pose to the PPP process, surveyors could do more in terms of selling their technical capabilities to the government in terms of technical evaluation of all political decisions on PPP. Such evaluation would enlighten the public about government commitment promoting value for money and safeguarding the public purse, now and beyond.

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