

## **Financing Municipal Infrastructure in Developing Countries: the need for utility engineers to learn new skills**

Barry M. Jackson, Policy Analyst<sup>1</sup>  
Development Bank of Southern Africa

*Municipal engineers have always battled to raise sufficient capital finance to improve and extend municipal infrastructure and to secure enough recurrent funds to ensure adequate operations and maintenance etc.. This is particularly acute where first world approaches meet third world needs; where resources are always scarce and new approaches must be embraced. Various strategies are needed: understanding what bankers are looking for, understanding where donors are going, greater involvement of the private sector, matching service levels to affordability, improving revenues and influencing the regulatory regime in order to achieve all this. Municipal engineers must gain new skills to engage better with financiers, policy makers and private sector service providers. They must forge new partnerships in order to enhance their effectiveness in the market place.*

### **1. INTRODUCTION**

One of the most frustrating parts of the municipal engineer's job is the constant battle to obtain sufficient finance. The needs may be clear, and in a third world environment they are always pressing, but they must still compete for finance with all kinds of projects that may have a higher political profile; even though they may be less long lasting or assured of success. Not only that, but engineers must sell ideas to non-technical decision makers and immovable budget controllers who may not understand, for example, that they must invest more funds in order to save more money. Municipal engineers need to learn new skills and forge new partnerships in order to understand the demanding world of capital markets and the regulatory framework in which they work; to prepare attractive and achievable investment plans, to improve revenue and to make the most of partnerships with the private sector.

### **2. THE CHANGING FACE OF DONOR FINANCE**

Donor finance is where first and third worlds meet. In the past international donors may have been motivated by such varied forces as altruism, post-colonial guilt, tying up markets, buying political influence and perpetuating cold war rivalry. Today there is a mixture of good intentions and the desire to secure economic influence driven by enlightened self-interest and the recognition that reducing third world poverty is essential for global security and hence economic development must be more broadly based. There is a significant commitment among donor countries to assist third world countries meet the Millennium Development Goals but, if based on the approaches of the past, a massive leap in budgetary allocations is needed, which is not very likely. Today, instead of making large amounts of capital available for recipient governments' pet projects, donors are showing much more interest in activities such as supporting capacity building, regional integration, project preparation, establishing capital markets and setting up public-private partnerships.

There is widespread recognition that the capital needs of third world countries will not be met from government taxes, donor grants, or DFIs (Development Finance Institutions) such as the DBSA, but the extra money must come from private sector investors. This is a growing trend and discernible everywhere: that much effort needs to be put into making financial markets work (DBSA, 2003). Municipal engineers, and municipal and national policy makers, must begin to respond to this shift in emphasis. From the private sector viewpoint there are funds available, but there is a shortage of good projects and empowered borrowers. From a donor viewpoint, there are funds and capacity support available for those that are prepared to work towards good governance and to include the private sector in their development plans. Most DFIs are willing and able to assist potential borrowers approach the capital market but, while they may be more sympathetic and flexible, they too must follow banking disciplines. There are numerous international support programmes being set up by donors and DFIs to assist developing countries plan for and build relationships with the private sector. The challenge at municipal level is to comprehend the range of such relationships and to know what the private sector is looking for.

---

<sup>1</sup> This is an updated version of a keynote speech prepared for the Annual Congress of the International Federation of Municipal Engineers in November 2003.

### **3. WHAT BANKERS WANT**

In a nutshell, private sector investors and DFIs (or “bankers” for short) seek the following: good returns, reliable returns, risk-adjusted returns and socially responsible investments. Each category of investor might give different weights to each of the above, but all need to be present in one form or another.

Achieving good returns is all about ensuring that the proposed investment will indeed generate the kind of returns required. Investment proposals must be supported by a financial model that includes accurate estimates of investment requirements (over time), projected income, debt servicing and an overall cash flow that remains positive. The investments should be based on achievable plans, which are not always politically popular in a third world environment where promises regularly outstrip resources. In a municipal context, plans for municipal infrastructure must be comprehensive, matching the proposed levels of service with affordability (of both consumers and the community as a whole), be based on an appropriate quality specification, and contain a clear roll-out plan to meet the basic needs of everyone, including the poor and marginalized. Finally, the financial model must be clear on its assumptions, avoid being excessively optimistic and be capable of testing the sensitivity of the proposals to possible changes, when things do not go according to plan.

Achieving reliable returns depend on doing business with a sound borrower, with sound project fundamentals, within a predictable regulatory framework with clear enforceable remedies for default. Each of the above presents its own challenges in a developing country municipality or utility. Investors want to see a sound balance sheet (for which they must be able to read and understand the municipal accounts!) and be convinced that the borrower has the necessary human and institutional capacity. Apart from the project fundamentals required for the financial model there needs to be a degree of certainty over throughput or sales, and confidence in the ability of the borrower to secure the income that is due. Last but not least is the predictability of the regulatory environment. In the municipal context this means clear legislation and freedom from central government interference, especially things like ministerial discretion to dictate tariffs or limit increases.

Risk adjusted returns are largely influenced by investors’ perceptions of the factors above, which are inherently conservative but may be ameliorated by various credit enhancement measures offered by DFIs such as the World Bank, DBSA, MIGA (Multilateral Investment Guarantee Agency) and so on. There will be more on risk management, and related issues in the following section on the private sector. Lastly in this section, there is an ever-increasing recognition of the value of socially responsible investments, the so-called “triple bottom line” that refers not only to financial returns, but also to social and environmental benefits of an investment. This comes from three directions: shareholder pressure in first world countries to act responsibly, the needs of multinationals to be seen to embrace social and environmental objectives (earning a “license to operate” in the third world), and enlightened self-interest of companies and investors who are willing to look beyond short term returns.

### **4. INVOLVING THE PRIVATE SECTOR**

Many municipalities and service utilities in the developing world find it difficult to qualify as borrowers because of limited human and institutional capacity or their inability to offer secure returns. One expedient that is gaining momentum is involving the private sector in service delivery to overcome some of the more intractable institutional problems that are common in the developing world. This happens in various ways: from something as simple as out-sourcing meter reading through to letting a long term concession involving capital investment, or even the outright sale of a service which is considered suitable for moving out of municipal control (eg airport, abattoir, brewery, guesthouse etc).

Private sector service delivery in the developing world has received a mixed press. The shortcomings or failures are proclaimed loudly by opponents of private sector participation, while the quiet successes remain just that – quiet successes. International experience shows that very real benefits can be gained from a well-prepared competitively procured and diligently monitored service delivery contract. It also shows that most problems derive from insufficient project preparation or wavering political support in the face of opposition (whether well-founded or manufactured), or both. The message is: there are no short cuts. Sound advice is essential and politicians must be kept on board all the way. Commitment must be for the long haul – so each new batch of politicians must also be educated into the role of “defender and enforcer of the contract”.

If a decision is made to involve the private sector in order to mobilize private sector finance more effectively, a number of new benefits and issues may arise from a banker's perspective. In the third world bankers are often happier to deal with a private sector service provider than with a municipality or other sub-sovereign entity. They will be looking for a sound project sponsor that is willing to invest its own equity or offer a parent company guarantee. They will insist on a competent experienced operator, if different from the sponsor. Their lawyers will scrutinize all the relevant legislation for signs of central government encroachment on sub-sovereign autonomy or unpredictable discretion or interference by others who are not parties to the contract. They will observe the general conduct of legal proceedings to see if the sanctity of contracts is upheld in that country.

Involving the private sector in service delivery also requires considerable attention to risk allocation and management – in order to generate the risk-adjusted returns mentioned earlier. Service providers are generally comfortable with handling the commercial risks inherent in such a contract. These include completing construction on time and within budget, predicting market size and growth, managing operations and revenue, and raising finance. The private sector is not comfortable with bearing non-commercial risks such as force majeure (eg natural disasters, war etc), and various MAGA (Material Adverse Government Action) occurrences such as change in legislation, political non-cooperation etc. The basic rule is that risk is allocated to the party best able to manage it, and any extra holding of risk can entail an extra cost.

To sum up this section on involving the private sector: the main issue is almost always the need for regulatory CERTAINTY. Service providers must be sure of what it is they are to provide, secure in the knowledge that what is specified will be affordable. Investors want to know that their ability to secure returns is limited only by commercial risks and not subject to unpredictable government actions. A sound, consistent regulatory framework is necessary whatever delivery mechanism is used. An engineer in Chile contrasted the two main approaches in the following way (Cardenio Atero, 2000):

- *An uncontrolled private monopoly could lead to the maltreatment of clients through high prices.*
- *An uncontrolled public monopoly could lead to the maltreatment of clients through poor quality of service.*
- *So monopoly services are an issue of control, not of ownership.*

## **5. AFFORDABILITY AND SERVICE LEVELS**

As mentioned earlier, investment plans must be achievable and that means affordable. This is another area where first and third worlds meet. Parts of a developing country will contain the highest possible LOS (Level Of Service) comparable to those in the first world, but it is rarely feasible to extend this LOS to all citizens, or even to all residents of one locality. This frequently becomes a political debate, with politicians promising high levels of convenience with little understanding of how this will be paid for. There is a real need to involve all stakeholders in making informed decisions about what LOS is most appropriate in the near term, in order to ensure that all residents, especially the poor, will experience some improvement even if it is not as great as they hoped.

Any services development plan, and subsequent rollout plan, including that in a concession contract, must be affordable. Affordability can be viewed at several levels: the price paid by individual households, the price paid by "high-end" consumers to generate a surplus to cross-subsidize others, the cost to the municipality or community as a whole, taking into account any reliable sources of subsidies, and the cost of any ongoing subsidies provided by other levels of government (that is: are these affordable to that level of government so that they are sustainable?).

In order to test the affordability of a proposed infrastructure investment plan it is essential to carry out some form of financial modeling. This includes investment plans, the cost of raising finance, the cost of operations and maintenance (good quality maintenance, not just getting by), and the implications for consumer or household payments. All services should be modeled since they will all require some form of financial contribution from residents, and the total household bill should be checked against the range of typical household incomes. The DBSA has developed several such financial models together with a guideline published with the DPLG (Department of Provincial and Local Government) (DBSA/DPLG, 2003).

## **6. IMPROVING REVENUES**

For a municipality or utility to be considered creditworthy it must manage its service provision in a sustainable manner. The services rendered must be financially viable, as they should be for any service provider, public or private. However, municipal trading services commonly suffer from cost recovery problems. This takes various forms. Perhaps, with the best of intentions, the council or central government has chosen to keep down the price of a service or to offer it free; but this means it is no longer a trading service, but more of a cost-centre - in constant need of budgetary support, which is rarely sufficient to do a good job, or which may not be reliable. The developing world has a history of poor customer payments for municipal services, for many reasons: low incomes, inadequate billing and collection systems, and lack of political will to discontinue services for non-payment. There is some scope to increase tariffs for business, industry and high-income consumers to cross-subsidize the poor, but this must be approached with caution because there is a limit as to how far this can be done before the local economy begins to suffer.

Improving revenue performance must be treated as a high priority for all concerned. In particular it should be a joint effort of both engineering and treasury staff. Typically, the engineer's department spends the money and the treasurer's collects it. Poor metering and meter reading, and illegal connections and breakages, often go unreported because it is another department's responsibility. A joint effort could address some of these problems, especially if the engineer got to spend a proportion of the extra revenue raised, or losses avoided. In this way investments with the highest returns could be prioritized.

Other expedients include outsourcing aspects of the work such as cleaning up the customer database(s), reading and fixing meters, modernizing the billing system and debtors management, addressing unaccounted for water etc. These could be combined into a comprehensive revenue management programme including all of the above plus new and rehabilitated meters, and credit control (including legal remedies). Some companies are willing to do this on an incentive or commission basis related to the amount by which revenues are increased. Outsourcing contracts need to be carefully designed, competitively procured and subject to periodic random checks, with the threat of termination if agreed service levels are not maintained.

## **7. INFLUENCING THE REGULATORY REGIME**

Finance institutions (whether DFIs, private sector banks, pension funds etc) are looking for strong, competent, reliable borrowers within a stable environment. Foreign banks will have additional concerns such as guaranteed repatriation of debt-service payments and being protected against foreign exchange fluctuations. (Incidentally, this has led to more attention to raising local finance, since incomes are typically in local currency, and limiting foreign exchange exposure to an international loan guarantee which hopefully will not be invoked.) A municipality or utility may have no control over macro-economic conditions but it has considerable influence over its own internal operating environment. And it may well need to apply considerable effort to change some of the political and governmental constraints that limit its ability to raise loan finance.

High on the list of constraints is the lack of autonomy, or extensive government interference, in the running of municipal trading services. Restrictions on tariff increases are common, as mentioned above. There are many reports of political directives to hire and fire staff irrespective of their competence. Grant funds for capital expenditure may be delayed or withheld, and investment priorities changed by persons far from the operational problems. Furthermore, lack of government support can undermine a council or utility through fluctuating budgetary allocations, non-availability of funds or simply failing to pay for services consumed by government departments (police and the army being the most obvious culprits, but not the only ones).

All of the above problems make it extremely hard for a service provider to maintain an efficient operation and a strong balance sheet. Three generic ideas are proposed to reduce the constraints mentioned above: (a) entrench commercial approaches within the organisation, (b) formalise relationships with other players, especially central government, and (c) begin to introduce private sector participation (PSP). Where a municipal service provider or utility pursues these actions, it could create a situation in which it can constructively engage other levels of government in order to improve its external operating environment or regulatory regime.

A commercial approach capable of attracting private sector finance requires a service provider that has sufficient income to be able to recruit and keep quality people and so become an efficient business selling a desired product at an affordable price. It must be sensitive to the needs of customers and have the flexibility to provide a level of service that is consistent with its customers' ability and willingness to pay. Strong political commitment will be needed to introduce a commercial approach in what has been commonly regarded as a public sector activity.

A key requirement for sustainable service delivery is sufficient income to meet all of the service provider's obligations. Technical departments should also have an incentive to get involved in revenue management. One idea that might assist utility or municipal managers in negotiating a full cost recovery approach could be to commission an independent credit rating of the municipality or utility by a professional credit rating agency. This would identify major weaknesses as perceived by the banking fraternity, and so draw attention to remedial measures that may be required. Alternatively, a DFI could be approached to carry out a similar assessment. All DFIs do borrower assessments; in this case the results would be shared with the client to assist with focussing institutional reform. The ultimate aim of the exercise would be to improve on the credit rating in order to become creditworthy.

A service provider needs clear relationships with its customers and the various levels of government with which it interacts. It should establish a closer link between the customer and the service provider, and between services rendered and customer payments. This can be started through a "customer charter" spelling out a customer's rights (quality and reliability of service, right to redress etc) and responsibilities (paying for services rendered, preventing vandalism, reporting problems etc). New customers could sign a form of contract; existing customers would be informed through the billing system.

It is desirable, where possible, to have an 'arms length' relationship between the service provider and the political authority, to enable the provider to make day-to-day management decisions and to deal firmly with defaulters in order to secure the required income, free of political interference, for the benefit of the majority. This needs some form of contractual arrangement or service level agreement with the council, and possibly one with national government, detailing the responsibilities of each party and actions to be taken in the event of a dispute. A municipal service provider or utility should establish just how much autonomy it has and insist that responsibilities are clearly allocated. Any agreements with local and national government should also deal with the need for a coherent and supportive policy environment, consistently applied. Political decision-makers (and customers/voters) should be made aware of the consequences of their interference or neglect.

Increased private sector participation can make a significant contribution to increased efficiency as mentioned above. It will also lead to a more commercial approach, to more formalised relationships, and thence to enhanced creditworthiness. Some organisations have suffered so much in the past that drastic restructuring measures are needed. Others are keenly aware of the need for change but wish to manage it cautiously. PSP can be introduced incrementally. It may start with outsourcing certain simple functions which enable officials to gain experience and confidence. The private sector can be mobilised to deal comprehensively with a number of problem areas. As with revenue management this could be structured in such a way that costs, risks and returns are shared, thus taking advantage of the skills and drive of the private sector through incentive-based contracts. Other possibilities are a management contract to bring in skills and experience, a BOT (Build Operate Transfer) on a new plant where the operator raises the capital. Even though a full-scale investment-linked concession may be what is really needed, the lack of information on the existing system could make it difficult to prepare such a contract. A compromise could be to start with a management contract while system data is being collected.

Whichever of the PSP options is used, the presence of the private sector on a contractual basis, and its contractual performance indicators, both increases creditworthiness of the utility, service provider or municipality and introduces a degree of rigour in relationships. Customers may see a firmer hand, but receive accompanying benefits and be more willing to pay; government may begin to pull back for fear of incurring contractual penalties, and the general ethos should become more business-like.

## **8. CONCLUSIONS**

Municipal engineers need to understand the demanding world of capital markets and engage with the regulatory framework in which they work. Attracting loan finance needs carefully prepared and achievable investment plans, and improved revenue. Partnerships with the private sector can go a long way to helping municipalities achieve their service delivery goals and municipal engineers need to learn how to set up and manage such partnerships. The public v. private debate needs to mature beyond rhetoric to a careful assessment of the best approach for any given situation, making best use of scarce resources and the best mix of public and private capabilities. With these new skills municipal engineers will be better equipped to raise the finance they need and to make it go further.

*Despite numerous borrowings from the work of others, the views expressed here are the author's and are not necessarily those of his employer.*

[3,800 words]

## **REFERENCES**

- DBSA Development Report 2003, Finance for Development: Enhancing the role of private sector finance, November 2003.  
Cardenio Atero, AIDIS, Santiago; presentation to MSP Study Tour, 2 June 2000.  
DBSA/DPLG, Guidelines for services infrastructure investment planning, 2003.