



# Nurturing property investment by re-engineered systems for land pricing by local authorities

Nurturing  
property  
investment

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## Abstract

**Purpose** – The research in this paper is aimed at re-engineering existing approaches to the analysis of proposed developments in local authorities – from land pricing to planning permission – hence reducing the loss of revenue in councils, and nurture property development.

**Design/methodology/approach** – This paper is a case study of seven city councils on the Copperbelt province of Zambia was conducted using the same template of questions.

**Findings** – The research found that councils had overly politicised management structure, static appraisal methods, poor market data capture, analysis and use. Additionally, councils did not use market data on property values; hence the existing analysis and appraisal systems are static and ineffective.

**Research limitations/implications** – The paper shows that extracting current data from the councils proved a severe limitation.

**Practical implications** – The paper shows that councils can: learn how overly politicised their interdepartmental communication and data exchange is; enhance paper based systems of appraising proposed developments by adding established methods of project appraisal that can ease the collection, analysis and synthesis of construction business data used in the appraisal process; Employ, and support qualified personnel with adequate resources necessary to perform their duties professionally; make gradual improvements to existing systems within the cultural and political atmosphere of the council; and appraise proposed developments using accepted business approaches; just like private sector consultants do.

**Originality/value** – The research provides practical solutions that enhance professional appraisal techniques in councils of most underdeveloped countries, hence setting the basis upon which market driven strategies for nurturing property development can be made

**Keywords** Property, Investments, Local Authorities, Zambia

**Paper type** Research paper

## Introduction

Mining has always been the main industrial activity of the Copperbelt province in Zambia. The free-market oriented economic strategy pursued by the government in the 1990s has led to *inter alia* the privatisation and eventual break-up of the then Zambia Consolidated Copper Mines (ZCCM) into separate business entities. This development has resulted in a vibrant property market – especially residential – on the Copperbelt because most of the housing units held by the mining conglomerate were sold to sitting tenants. Because of the sudden increase in the demand for professional services, councils are failing to cope with the appraisal and analysis of development projects. Some key indicators of the deficiencies in the property development process in local authorities have been, but not limited to:



- The mushrooming of illegal housing units – estimated at 80 percent of every city’s housing stock (Mwimba, 2002).
- The generically poor city architecture.
- The poor record of collecting council tax and rates from property owners (*Times Reporter*, 2004).
- Lengthy bureaucratic and/or political systems that overpower technical prudence in the planning application and land allocation process.

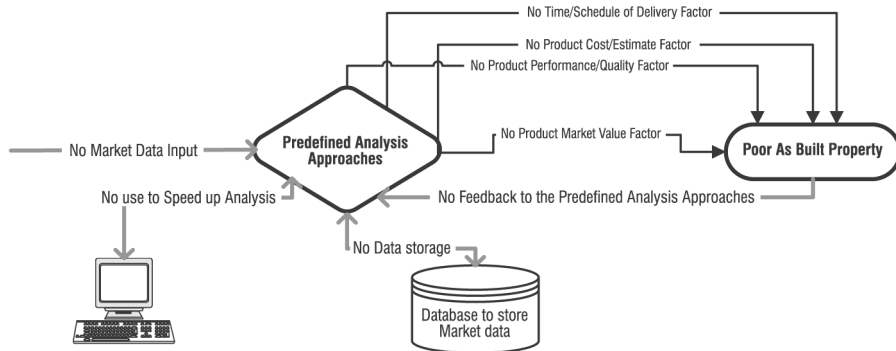
At times, factors such as general political, economic, and legal risks could abruptly change ones’ business architecture; resulting in abandonment of property development. However, much of the problem emanates from the outdated and usually inadequate project analysis approaches used by local authorities to advise property developers.

This research is aimed at identifying the weaknesses of the current practices, proposing a re-engineered approach to the analysis and appraisal of proposed construction developments by the local authorities. It uses seven cities in the Copperbelt Province of Zambia, as case studies. The research suggests that re-engineering existing systems is both necessary and possible, because proper project analysis could on one hand help developers better determine the viability of their proposals, and on the other, nurture property investment in cities.

### **Poor project analysis in councils: the problem**

When the mines were privatised by the government in the 1990s, most local authorities never anticipated a rapid increase in the demand for professional management of the areas that had previously been run by the mining company. The municipality is the only remaining authority that could provide professional planning and property services in the city. However, the municipalities are failing to provide these services adequately because of the sudden increase in demand resulting not only from the sale of the housing units that belonged to the mining conglomerate (Pangaea Partners, 2000) but also increased rural to urban migration (Chakwe, 2004), increased proliferation of squatter settlements, and an increasing unwillingness to pay for services (Ntengwe, 2004). Additionally, a presidential decree of the late 1990s that forced councils as well as parastatal organisations to sell their residential properties to sitting tenants at undervalued prices, created a significant loss of revenue for the councils (Kaswende, 2005). Various reports such as that by Madon *et al.* (2004) show a worldwide trend where councils in underdeveloped nations are experiencing difficulties in the collection of rates and council tax. In the Copperbelt, however, this problem is compounded by:

- The overly politicised, static and bureaucratic planning system devoid of any established project appraisal techniques.
- The insecurity associated with land tenure and title deeds for land in the mining area (Hansungule *et al.*, 1998; Smith, 2004).
- Poor construction cost and property value data capture, analysis and storage.
- Non-use of market data such as rental and capital values, inflation and interest rates to appraise a project at its initial stages, as shown in Figure 1.



**Figure 1.**  
A model abstracting the  
problems associated with  
existing analysis  
approaches

- The lack of any interdepartmental link between the councils and other government organisations that process proposed project developments.
- The lack of a system to inform developers of their financial obligations to the council, in the form of rates and council tax, people in many mining cities were not used to paying rates (Kaswende, 2005).
- The huge number of unfinished buildings, which translates into loss of revenue to the developer and the council.

Furthermore, most councils are overwhelmed by the demand for residential development land (*Times Reporter*, 2004a, b, c, d), applications for extensions to existing units, while the predefined planning and project analysis process remains largely static and highly politicised. The demand for land is reinforced by the Land Act 1995 because it supports the principle of trading land on the open market (Government of Zambia, 1995; Phe, 2002). Figure 1 abstracts the key problems associated with project appraisal and analysis process in local authorities. Presently, factors such as time, cost, value and performance of the proposed development do not form part of the success and/or failure criteria in the analysis and appraisal process. Moreover, there is no use of computers to increase the speed, reliability and storage of business data crucial to the appraisal of project proposals, nor is there any use of even simplistic simulation techniques.

The councils' failure to provide adequate services for their citizenry is – *inter alia* – reducing the tax base, dampening local economic activities and exposing people to environmental hazards emanating from mining waste disposal such as contaminated water resources (Von der Heyden and New, 2004). Additionally, city architecture is being altered for the worse; hence there is a need to re-engineer the approaches that councils have relied upon for decades, without necessarily altering, and/or attempting to alter, their overly politicised structures of governance.

### Research design and sample details

The research was designed to start with a pilot study of the processes and operations that govern residential property development in the Copperbelt province. The research sample (*n*) was the seven cities found in the Copperbelt, namely: Ndola, Kalulushi, Luanshya, Kitwe, Chingola, Chililabombwe and Mufulira. The Copperbelt province was selected because it is the most urbanised province in Zambia, and its cities are

closer to each other, reducing research expenses. A structured interview was used to collect data from the seven case study councils. Figure 2 shows an abstraction of the sequence of questions and the key points covered. The main sub-sections included:

- General information about the council – covering management structure, operational systems of revenue collection and client interface.
- Planning permission and building regulations – aimed at testing the availability and enforcement of the regulations, availability of advice systems, data archiving and information sharing.
- Project cost appraisal service – assessing the availability of a project appraisal specialist and the systems used to appraise projects on behalf of clients.
- Property value appraisal service – testing the use of the Land Economics Surveyor in determining the value aspects of the project.
- Respondent opinion on the current service provision.

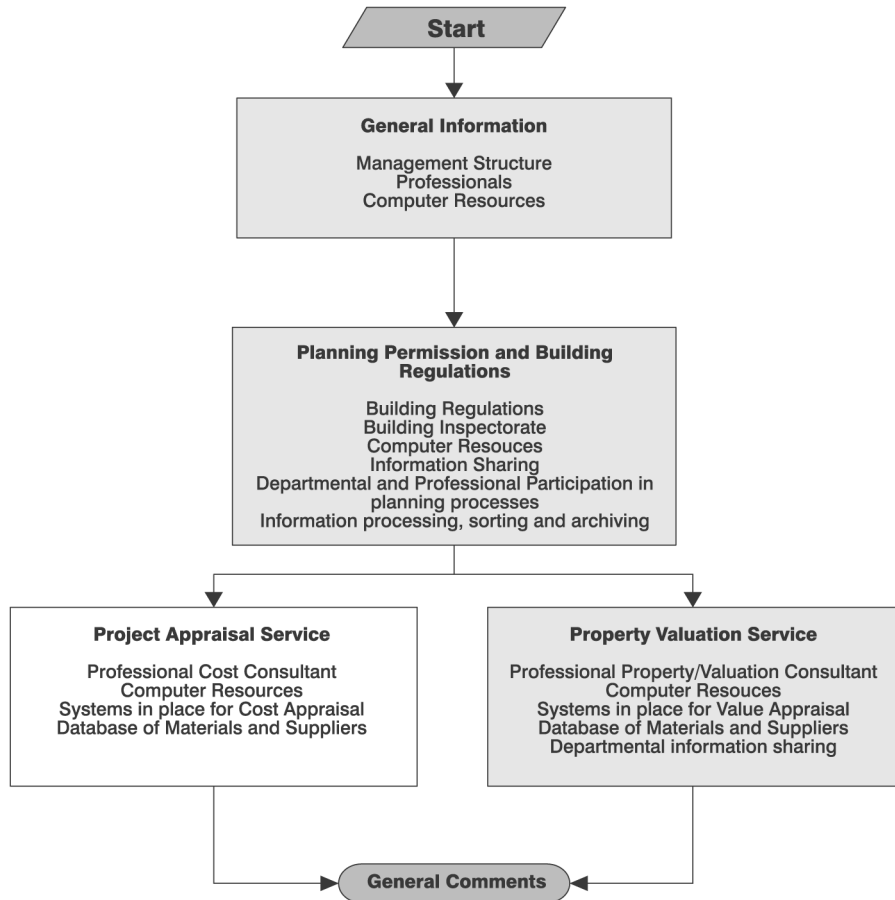


Figure 2.  
Structured interview  
sequence model

Each council was requested to circulate a set of structured questions to all concerned sections and/or departments so as to have as much information as possible available from its professional officers for use by its selected interviewee. The aim was to widen the perspective from which the response to the research questions could be provided. The research was designed in this manner because of limited research funds; it was prudent to start a pilot study so as to acquire an insight into the problem, and then, on the basis of the result, to offer a professional overview of what further research and/or applications might be needed to enhance current project appraisal practices to assist in the achievement of their declared objective of nurturing property investors.

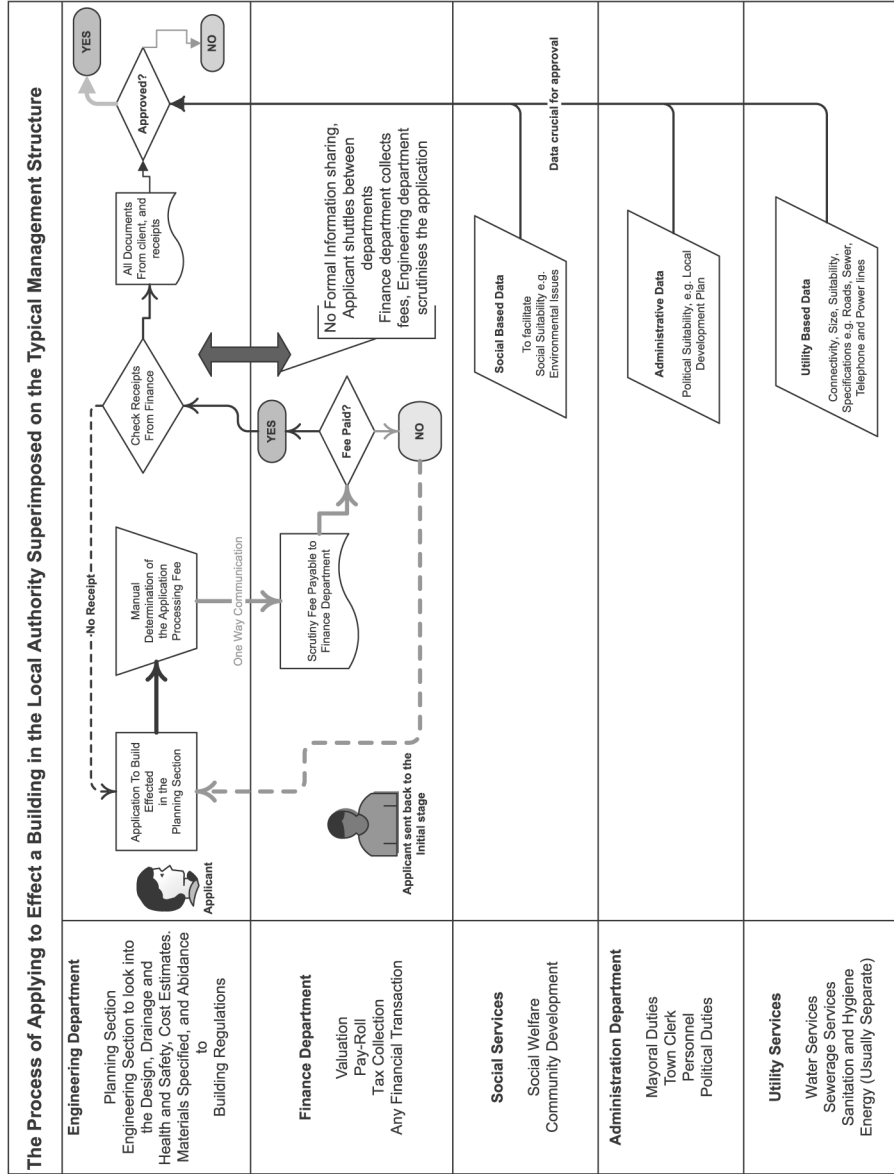
### Research findings and analysis

The results and analysis of the responses to the pilot study are presented in the same sequence as the questions were put to the interviewees. This is to maintain the readability of the report.

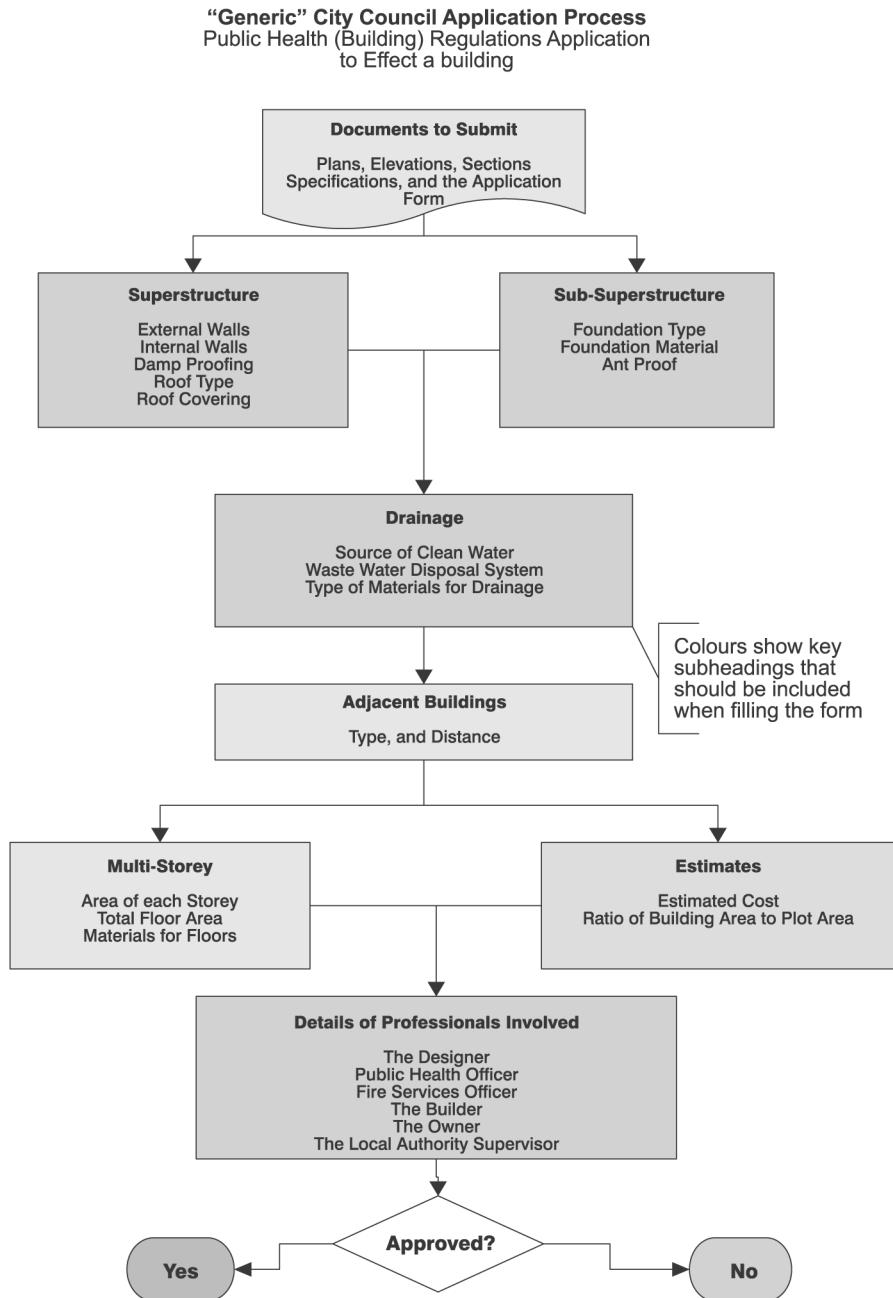
#### *Generic management structure and application to build in the councils' jurisdiction*

The management systems of each individual council in the Copperbelt, like any other local authority countrywide, are structured in the bureaucratic way about which management theorists have long been writing (Cole and Gerald, 2004). The most striking feature, though, is the strict segmentation of managerial levels, from high to lower level management, and the not-so-visible yet strict, departmentalisation of the service provision to the clientele. Figure 3 shows the typical building and planning application process in a council superimposed onto the generic management structure found in all the seven councils. The figure highlights the point that interdepartmental communication at the time of project appraisal and analysis is non-existent. The applicant is expected to interface with each of the departments separately as directed by personnel within the council. There is only one-way communication from the engineering department to the finance department at the time of paying council charges. The key driver to such a management set-up is the local and national political environment within which each council must operate. This seriously restricts the independence of professional opinion which council officers should bring to bear when providing advice and, among other things, when making appraisals of proposals for property development. However, much care is needed when proposing changes to the appraisal system because upsetting and/or attempting to alter the overly politicised management structures could backfire on those professionals initiating changes.

All the councils currently rely on a paper-based generic form that an applicant – usually with the help of a designer or a council-approved builder – submits so as to commence the process of professional scrutiny of the application by the engineering department of the council (in this paper, the process is referred to as “analysis and appraisal”). Figure 4 shows a generic application process highlighting the major components that typify all the seven local authorities. Essentially, the process explicitly requires the description of various elements of the building including materials, specifications and estimates. If the applicant does not know the cost estimate, the council provides a “highly speculative” estimate on which it bases its charges for processing the application. On the various forms, and within the overall process, there is no explicit mention of project appraisal and analysis being offered to



**Figure 3.** Process of application to build superimposed on the generic management structure



Source: Abstracted from Kitwe City Council, Engineering Department (2005)

**Figure 4.**  
Generic application  
process to effect building  
works in the local councils

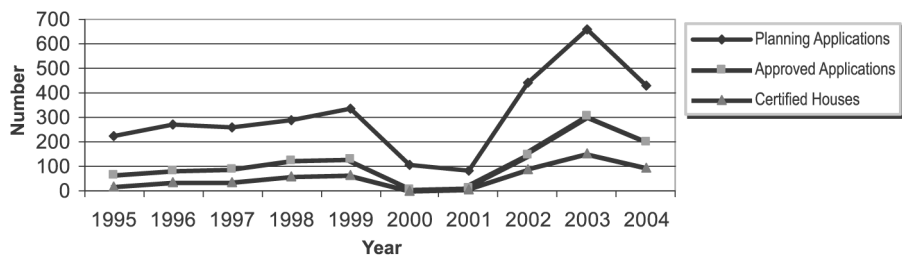
the applicant. Neither ecological and/or environmental impact assessments are mentioned.

This paper-based system, as shown in Figure 4, has been in use for over 35 years in councils throughout Zambia. Reliable as it may seem, it does not encourage the nurturing of property development as it does not provide for the easy capture, use, and storage of construction business related data such as the cost of key materials (such as concrete and timber), inflation rates and their effects on the deliverance of constructed products, market value of constructed products and/or the effect of economic factors, such as interest rates, on the potential for development. Failure to consider the impact of these factors in a properly constructed project analysis and appraisal has resulted in fewer finished constructed products being brought to the market and the many other problems mentioned earlier.

For instance, if the average number of residential development applications is compared with those developments approved and certified in the four cities – Luanshya, Kalulushi, Chingola and Chililabombwe – shown in Figure 5, there is clearly a large disparity between the number of applications made and the number of residences constructed. Apart from poor analysis and appraisal approaches, councils do not have reliable systems for recording vital information from applicants. Neither do they have any archiving system that could easily provide essential information for use in connection with reviews of property development – past, present or future. For instance, each council has a large stock of unfinished residential buildings with no record of details (suitable for the public domain) that could be of use to prospective buyers or prospective developers.

The four councils mentioned earlier readily provided public information on the average number of applications for residential developments, approved plans and certified residences from 1995 to 2004. They do, however, have more residences that could have been certified but their records could not give that information. Extracting the number of applications is relatively easy because interviewees could look up data from the applications register. However, figures for “approved applications” and “certified finished houses” are very low. Chililabombwe council, for example, had no register for certified buildings prior to 2001. Additionally, record keeping is predominantly in paper format, stacked in poorly labelled box files. The four councils that submitted the data are comparatively smaller than the other two councils – Kitwe and Ndola – but surprisingly, these last two could not furnish the research team with any sort of information that is available in the public domain on certified residential

**Total Number of Applications, Approved, and Certified Houses for Luanshya, Kalulushi, Chingola and Chililabombwe**



**Figure 5.**  
Average number of planning applications and certificate of completion and fitness for habitation issued in Luanshya, Kalulushi, Chingola, and Chililabombwe



developments. This according to interviewees is because unearthing such data would be a complex operation, which would be both taxing, and time consuming. It is clear, therefore, that the larger the council the more complicated the filing system; hence the higher the likelihood of the council being able to provide no meaningful data to potential developers/applicants.

*Strategic personnel and equipment to facilitate project appraisal in the council*

Current professionals employed by the councils in the Copperbelt are sufficiently qualified and competent enough to execute their duties to international standards. For example, the planning permission approval board included – among other officials – a Buildings Inspector, an Architect, a Civil Engineer, a Health Inspector, a Roads Engineer, a Fire Safety Officer, a Town and Country Planner and Legal Services personnel. This implies that, on paper, councils are well served by the necessary personnel to provide engineering and development services. However, to ensure that professionals execute their duties properly, there is a need to resource their operations adequately. For instance, Table I compares the availability of computer-based equipment in the finance department and engineering services department of each council. The table also shows key aspects of the planning process, such as “availability of building regulations inspectorate” and “information sharing between departments”. It is clear that computer resources in the revenue collection departments are more extensive than in the engineering services department, except in Luanshya City Council whose engineering services has one computer more than the finance department. The unequal distribution of resources has a negative impact on the efficiency and motivation of professionals involved in the property development process. Nurturing property investment requires an increase in the amount of data requested and the speed with which relevant data (such as cost, rental and capital values, inflation and interest rates) is captured, analysed, synthesised and, where possible, used in the appraisal of proposals for development projects. Current resources

Data extracted	Kitwe	Ndola	Chingola	Mufulira	Luanshya	Kalulushi	Chililabombwe
Computers used in revenue collection	16	9	4	5	2	3	4
Computers used in engineering services	3	2	3	3	3	1	1
Planning permission and certificate of compliance	✓	✓	✓	✓	✓	✓	✓
Building regulations and inspectorate	✓	✓	✓	✓	✓	✓	✓
Use of spreadsheets by planners and engineers	✓	✓	✓	✓	✓	✓	✓
Information sharing between departments	✓	✓	✓	✓	✓	✓	✓
Planning department linked to valuation	✓	✓	✓	✓	✓	✓	✓

Source: Authors, 2005

**Table I.**  
Tabulated comparison of  
results extracted from the  
data collection tool

used in the project planning process cannot be used for appraisal, or for carrying out “what if analyses” on development proposals.

*Current project cost appraisal service in local authorities*

The paper-based system used to determine an applicant’s council service charge, when commencing the planning application, does not allow the use of project cost, time or market value analysis in appraisal, because it is not flexible enough to adapt to, or incorporate, prevailing economic factors. The quantity surveyor, if available, has been involved in advising the council on cost aspects of development projects. However, because the system used to determine the cost of the development is overly simplistic – as shown in Figure 4 – often other professionals, such as planners, architects or engineers advise the council on cost aspects of the proposal. Despite the availability of computer resources with essential programs such as the MicroSoft Office suite, there is no council that uses such resources during cost appraisals and they do not have a cost database or a database of material suppliers and/or price lists of essential elements common to residential developments. The list of suppliers and a database system (paper and or electronic) is crucial to the operations of the project appraisal service in a volatile economy such as Zambia, because it becomes easier to monitor the price changes each time crucial factors such as base rates change. Using past records, one could infer the likelihood that a project could be completed as estimated. Interviewees reckoned that lack of a system that stores and monitors changes to supplies is a crucial factor that has led to the difficulties experienced when ascertaining the scrutiny fees. Furthermore there is a general misconception that the uptake of professionally accepted systems of critical evaluation and analysis of information relevant for decision making – such as those prevalent in the private sector – is prohibitively expensive for public institutions. Hence the underutilisation of existing computer resources by professionals within the council impede the ability to nurture property investment because decision making on crucial aspects of the project such as costs and market value are subject to simplistic “guesstimates”.

*Project market value appraisal service in local authorities*

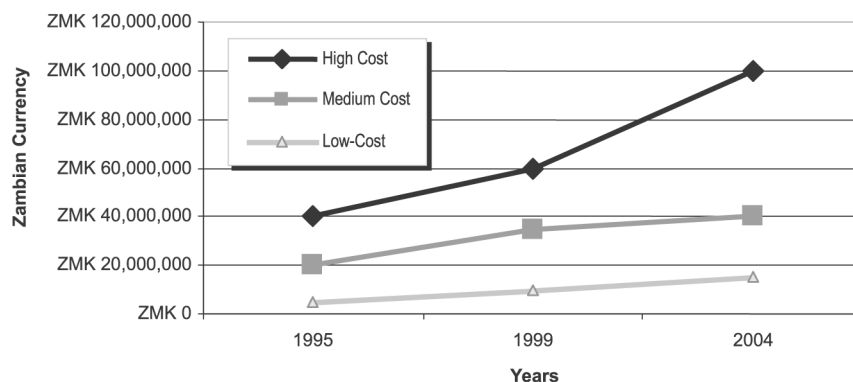
When preparing a valuation roll for local taxation (rating) purposes, valuation staff currently receive data from all departments especially Finance, Engineering, Planning, Administration and Social Services. Councils use electronic systems – mainly – spreadsheets to compile the valuation roll for the finance department. Some councils use a paper-based system while others use a hybrid (paper and automated systems). The three systems are said to be effective, although an improvement is desired. There is, however, little or no available market value evidence used; primarily because the “open market” is still evolving. However, the information-sharing systems between departments, according to interviewees, is effective, but could be improved. Councils that have no land economics surveyors, valuation surveyors and/or property consultants rely on the services of the Government of the Republic of Zambia Valuation Department (GVD) located in Kitwe, but this data is not always current. The availability of up to date market value data is of paramount importance to effective project appraisal and analysis (Darlow, 1988).

The legacy of the planning systems used in Zambia, according to Mwimba (2002), encourages segmentation of a city into three categories:

- (1) high cost residential areas – which are predominantly for the upper-class citizens, and accommodate the lowest density of the total city population;
- (2) medium cost residential areas – mainly for the middle class citizens, and contain medium density of the city population; and
- (3) low cost residential areas – which are for the low class citizens, and contain the highest density of city population.

Councils allocate land according to the existing segmentation of high, medium, and low cost, irrespective of the market value. In fact, land allocation in cities still experiences a lot of political influence from national and local government. Therefore, the correlation between value and density is a result of the planning allocation process and not, at present, a clear result of the working of the open market – where demand and supply fixes the market value. This planning system has a major impact on the values of residential properties. For instance, Figure 6 shows average capital values of residential properties in the Copperbelt. Prior to 1995, land was a social resource that was deemed to have no market value (Smith, 2004). After the introduction of the Land Act 1995 (Government of Zambia, 1995), the value of residential properties in each of the three categories differed. However, the alleged “market value” is clearly not yet defined by the market itself. It appears to be based on a “cost plus” or “stack-up” approach. In the last decade there have been some open market transactions and property re-sale values have risen to a certain extent. However, Chart 2 shows that the capital value of high cost residences rose more sharply than that of its counterparts. This could partly be due to the influence on the current planning/zoning system within the cities. It is common to find properties that could have cost the developer a colossal sum of money to develop, yet because of the location, its “market value” falls under local cost housing category.

The project analysis and appraisal system should have been using available data on capital and rental values to nurture property investment by advising developers on the market trends so that the developer can optimise capital investment and the council could eventually increase the tax base. But the current system does not.



**Figure 6.**  
Average capital values for  
residential property in the  
copperbelt province

**Source:** Government of the Republic of Zambia, Valuation Department (GVD) Kitwe Office (2005)

Average rental values of residential properties follow a similar pattern to capital values where high cost residences command a higher rental value than that of medium and low class residential areas. However, this is to be expected. The intrinsic problem revealed by this preliminary investigation is that there is, as yet, no well-established price information exchange facility. Land prices (but not values) are fixed artificially by the local authorities – acting both as town planner and vendor. There is also a disparity in “values” between cities. For instance, the capital value and rental values of residential properties in Kitwe were highest on the province, while that of Luanshya were the lowest. This could be attributed to, inter-alia, the economic activity – mainly mining business – that a city commands, the population size of the city, and the location. According to Chakwe (2004) Kitwe city catchment population is estimated to be 2 million, with a 2.3 percent annual urban migration rate. Therefore the city’s economic activity is much better than other cities.

Despite the availability of valuation data from the government valuation department (GVD) and the council, the developer is not advised as to the implications of building houses in certain locations of the city. As a result, potential council taxpayers are lost within the planning application and analysis system because they end up spending more capital in less valuable areas, where capital growth is low. Therefore, a proposed system of appraising developer’s applications should start with a review of anticipated market value of the finished product before moving to a determination of the land price as a vendor.

Information on the relative size of the houses in high cost residential areas and those of low-cost areas does not seem to be easily available. Without this information and without the information on plot ratios, the “values” fixed would appear to be artificially set on the basis of the cost of construction. As a result the property “market” developed in the last five to seven years (after the mining conglomerate offloaded its residential property) is artificial. There has been insufficient time for a truly “open market” to establish itself. Comparative evidence of re-sales and other value related data is not available. Therefore, until a market develops and information on sales and lettings becomes available to the local authority, town planning will continue to dictate the prices because there is no clear evidence of how, if at all, the market arrives at a view of “open market value”. Indications point to the use of a crude form of developer’s appraisal based on the cost of construction.

#### *General overview of the current services from the councils*

Generally, councils are of the view that project analysis and appraisal services to the developer should not be carried out by the council because:

- the cost of development is a private and confidential matter to the developer;
- it is the job of private cost consultants (interestingly not valuers); and
- councils are already overburdened with the sharp increase in the demand for technical services, while professional employees turnover has been increasing steadily.

On the other hand, others are of the view that the provision of project appraisal services to developers in their jurisdiction has been long overdue because:

- councils already do that each time they are ascertaining the scrutiny fees. So it would simply be a matter of improving the system so as to accommodate the client needs;
- council professionals are better acquainted with the mechanics of development in their jurisdiction; and
- councils are the ultimate benefactor when a development project is smoothly completed because it can be enlisted for council tax and other revenue.

### **Conceptual model for re-engineering the existing project appraisal systems: benefits to the local councils**

In a nutshell a re-engineered approach to the existing approach to the analysis of proposed construction developments include, but is not limited to:

- An assessment of the property market.
- Using the captured market data such as capital and rental values, and property resale values as primary data to feed into established and tested methods such as the “developer’s budget”.
- Realigning the administrative processes performed by council professionals so that they can use existing resources such as computers to collect data, set up data repositories and create data feedback for future use.
- Tapping the existing data from other government organisations such as the government valuation department (GVD) or the Zambia Revenue Authority (ZRA).
- Performing comparative studies and “what if analyses” at the appraisal stage so as to test the impact economic factors such as inflation and interest rates could have on the success/failure criteria of proposed developments.
- If possible, testing the utility of the final product in relation to factors such as location, environment, amenities and others, and assessing how the product could impact on the environment.

Making the above changes to the existing project analysis and appraisal system, therefore, requires the use of computer resources, so as to increase the speed with which analysts could perform. This is the key reason why the proposed two-fold strategy is Information Technology (IT) centric. Re-engineering in this case does not mean an attempt to change established methods such as the “developer’s budget calculation” and “discounted cash flow” method. On the contrary, it encourages the subtle introduction of such methods so as to tap into their capacity to aid decision makers; attempting to make a huge positive impact if they were to be deployed by council professionals.

Because a free and open market is not yet operating and therefore the availability of data on completed sale transactions is somewhat limited, we would suggest that, in the interim, all councils should make use of capital and rental valuations produced by the government valuation department for rating purposes as an artificial, but useful starting point for a professional developers budget calculation. In this way, the shortage of market-derived information can be overcome and residential plot selling prices (and taxation base) can be determined using a proper and acceptable methodology.

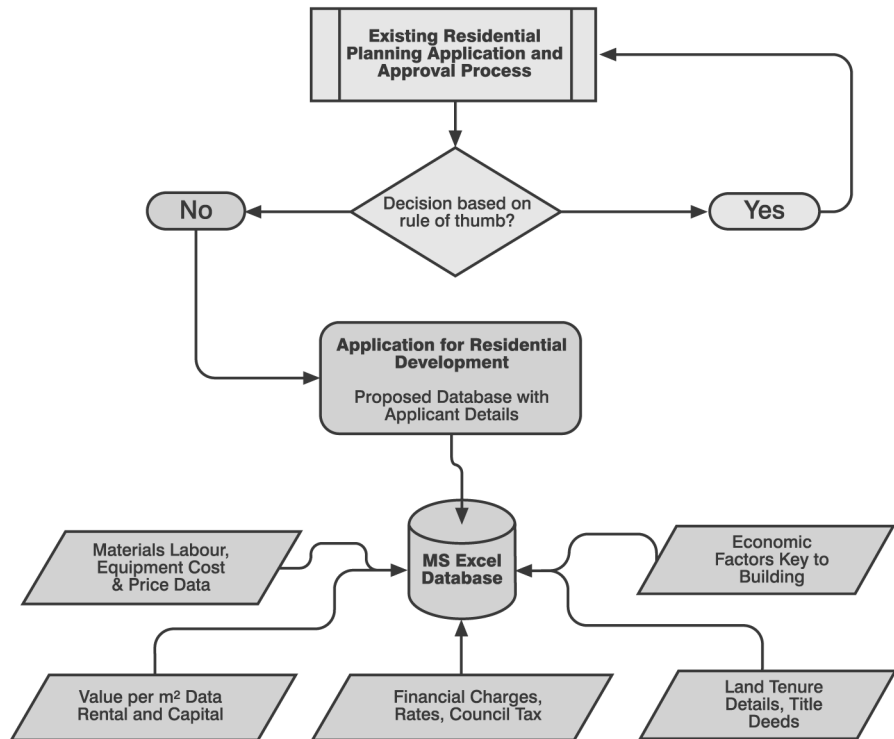
Innovation related to Information and Communication Technologies (ICT), according to Ayres and Williams (2004), has continued to make a good impact in

science, engineering, manufacturing, system integration and many more areas of life. ICT is, therefore, considered essential to any proposal in the research because of the reported non-use of ICT systems at the appraisal stage (*Zambia Daily Mail*, 2005). Figure 7 shows a conceptual model of how an existing paper based proposed development application and approval analysis could be extended to include a database system that could supplement data requirements and speed up the processes. Therefore, the overall proposal is largely two-fold.

1. Short-term system

This is for immediate use until five to eight years. It relies on the capability of Microsoft Excel™ Spreadsheets to create data models and act as a:

- database;
- mathematical equation container for using value, cost and price information;
- data-entry form;
- data archiving;
- data-sorting;
- linkage – directly and or indirectly using file sharing using a floppy disk or other external data storage devise; and



**Figure 7.** Short-term conceptual model to a re-engineered project appraisal for residential developments using MS Excel as a database

- preparatory and training scheme for would be users of the long-term software scheme.

The main aim of this proposal is to enhance the use of existing software systems without upsetting the performance of professionals; hence, introducing a gradual change to project appraisal and analysis approaches. This strategy is not only cost effective but also efficient because the council already has personnel that can set up such data models without costly training.

Nevertheless there are weaknesses with a spreadsheet centric system such as:

- data persistence and possible interference by civic leaders – politics;
- work duplicity due to lack of a networked central data repository;
- data protection and integrity problems in case of fraudulent transactions in land;
- inconsistency in data collection, analysis and presentation; and
- indifference from various sections of the council, especially the non-technical sections.

According to Koneman (2001) a database is a collection of information arranged in such a way as to make it easy to access; with a view to creating, storing and manipulating such information for the purpose of facilitating business decisions. Microsoft Excel<sup>TM</sup> has built-in database management capabilities. One can treat a worksheet or portions of a worksheet as a database to create, enter, edit, locate, sort, and analyse information. In addition to creating a database, Excel can retrieve information from an external database (Edwards and Finlay, 1997; Raffensperger, 2003). Data sharing between departments will largely be through portable data storage devices. One can also import information from database programs such as Microsoft Access, dBase, FoxPro, Paradox, and SQL Server. This facility would be particularly useful at the time of the change to a customised Relational Database Management System (RDMS) for the councils, which can be accessed on the network, so as to avoid work duplicity.

The director of planning in Luanshya city council, and the director of engineering in Chililabombwe council have started using the proposed short-term model; and have recorded improvements in their ability to capture and analyse data for the purpose of appraising developments. For instance chart 1 shows that the overall gap between the recorded “approved applications” to that of “certified houses” in 2003-2004, has been reducing; partly because development appraisal has been shifting towards accepted businesslike practices in Luanshya and Chililabombwe. Additionally, private development consultants, such as Minerva International<sup>TM</sup>, working on behalf of new mining companies have recorded visible benefits of applying a business orientation to project analysis and appraisal, because they have delivered constructed facilities in towns where, all things being equal, councils and professionals therein could have been deeply involved, as opposed to merely granting planning permission.

## *2. Long-term – for immediate development, but for use starting five years from now*

A long term proposal to re-engineer the proposed project analysis and appraisal systems in the council relies heavily on the development of a customised, simple to use relational database supported system that can be accessed either remotely using the network or physically on a specific work station. It also relies on the availability of

current transaction data from an open market property sales/letting market. Some of the desired features of such a system would be:

- easy data entry, sorting, archiving and sharing;
- ability for remote querying;
- extremely high data integrity and persistence;
- electronic file sharing; and
- customised view of the data model, depending on the departmental demands.

### Conclusion

Even though the local authorities in the Copperbelt province are faced with many difficulties in nurturing property development, the research has shown that the biggest problem lies with their overly politicised management structure, static appraisal methods, poor market data capture, analysis and use. The research has also shown that, because of the lack of open market data on property values, the existing project analysis and appraisal system is static and ineffective at best. As a result, none of the developers are advised on how to get the best out of an investment in property development. There is also clear evidence that project analysis and appraisal systems in councils could be re-engineered to enhance the existing paper-based system with a spreadsheet centric system in the short term. In the long run, a customised database supported system should be developed which can store not only construction cost information but also sales and re-sale values of property.

### Lessons from the research

In most countries, the problem of proposed project analysis and appraisal is non-existent because of the level of development achieved, as well as the existing tools and techniques available to councils. In Zambia however and probably in other developing countries, the lessons are that:

- In an overly politicised local authority, interdepartmental communication and data exchange is essential when analysing and appraising proposed development projects if property investment is to be harnessed.
- A static paper based system of appraising a proposed development could be user friendly, but it becomes useless if it does not include established methods of project appraisal and analysis. It lacks the capability to collect, analyse and synthesise construction related business data for use within the appraisal process.
- Employing qualified personnel in the council should be matched with the provision of the resources necessary for them to perform their duties professionally.
- Underutilisation of available resources compounds the problem of inefficiency.
- Gradual improvements to existing systems such as project appraisal forms should cater for the cultural and political governance of the local authority.
- The ability to appraise proposed developments using accepted business centric approaches could be used in local authorities, just like private sector consultants do.



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#### **Further reading**

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