

CHAPTER SIX

6. THE PSP MODEL

6.1 DEVELOPMENT OF THE DECISION TREE

There are several PSP options which policy formulators can select once a decision to invite the private sector to participate in service delivery has been made. Each option possesses unique characteristics which address specific issues. It is imperative therefore that those entrusted with this responsibility are availed all the necessary information pertaining to each option such as;

- Allocation of responsibility for operations and maintenance
- Who assumes the responsibility for capital investment and by how much
- Who assumes overall responsibility for the workforce
- Duration of the contract
- Who assumes responsibility for enhancing service provision to the poor

The decision tree was developed after identification of all the main issues that need improvement and general redress in a publicly owned utility as per the findings in Chapter Two (Literature Review) which covered experiences encountered amongst several countries all over the world. The main identified issues were;

- (i) Low operational efficiency
- (ii) Lack of capital required for refurbishment and upgrading of the infrastructure
- (iii) Inadequate infrastructure to cater adequately for the existing population levels
- (iv) Poor maintenance activities
- (v) Inability to raise external capital
- (vi) Overstaffing
- (vii) Poor service levels and low coverage overall, most especially in the peri-urban areas

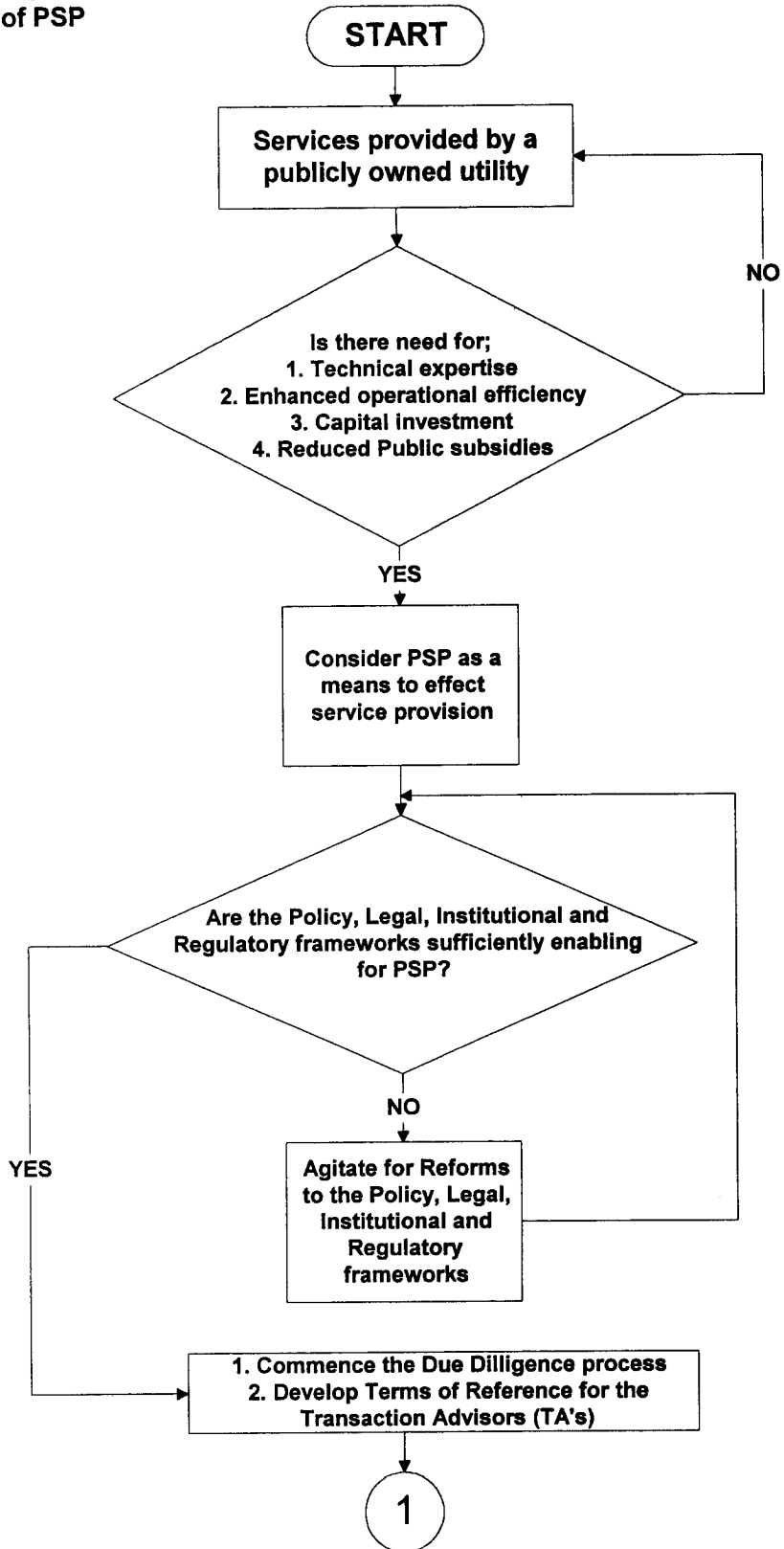
- (viii) Poor commercial management due to poor billing and low collection rates

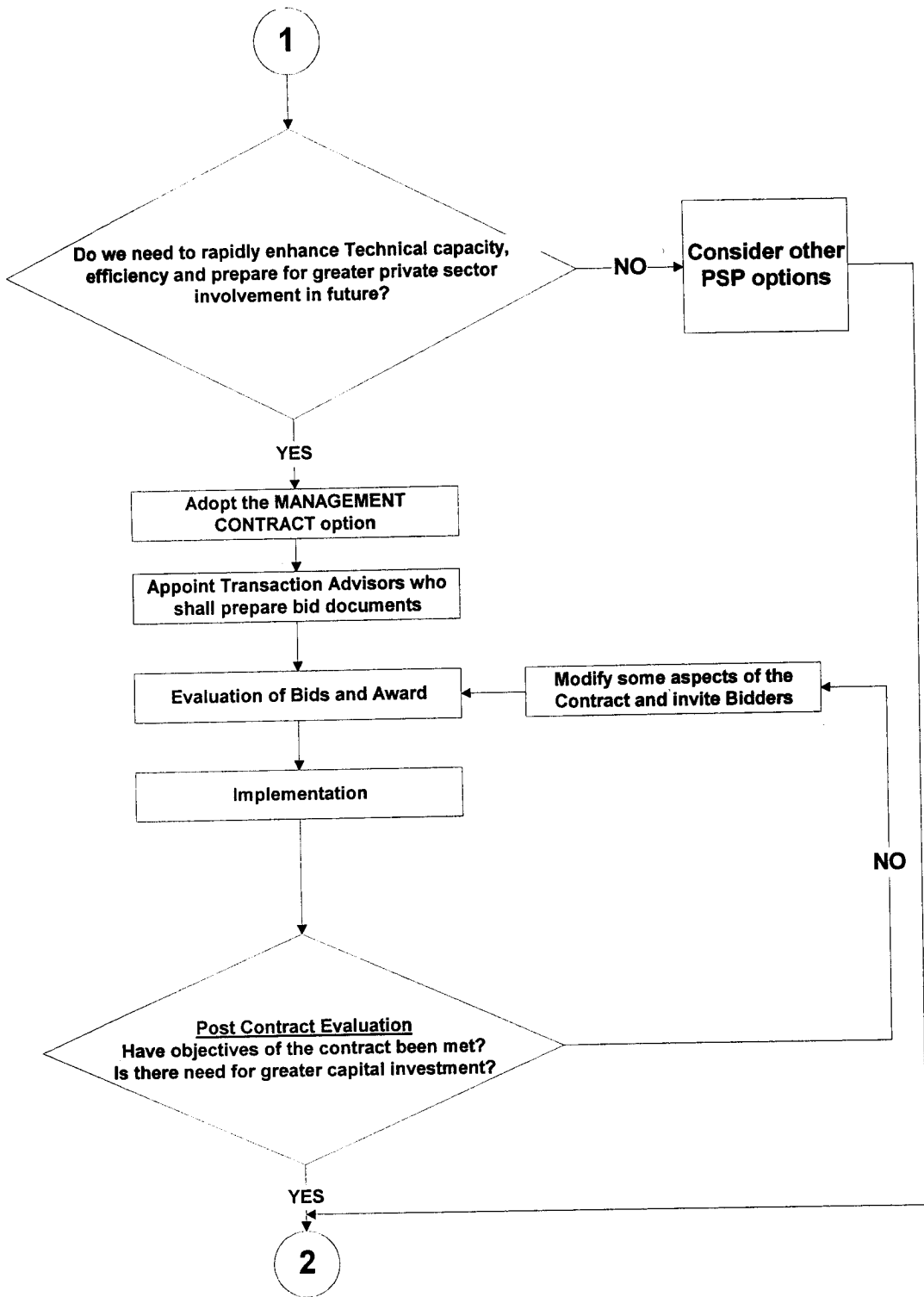
The issues outlined above together with all the key stages that were undergone in arriving at the PSP arrangements for Uganda, Tanzania and to a lesser extent on the Copperbelt Province of Zambia including all the main factors and considerations that are taken into account world wide as described in Chapter Two – Literature Review, were used to formulate the decision tree.

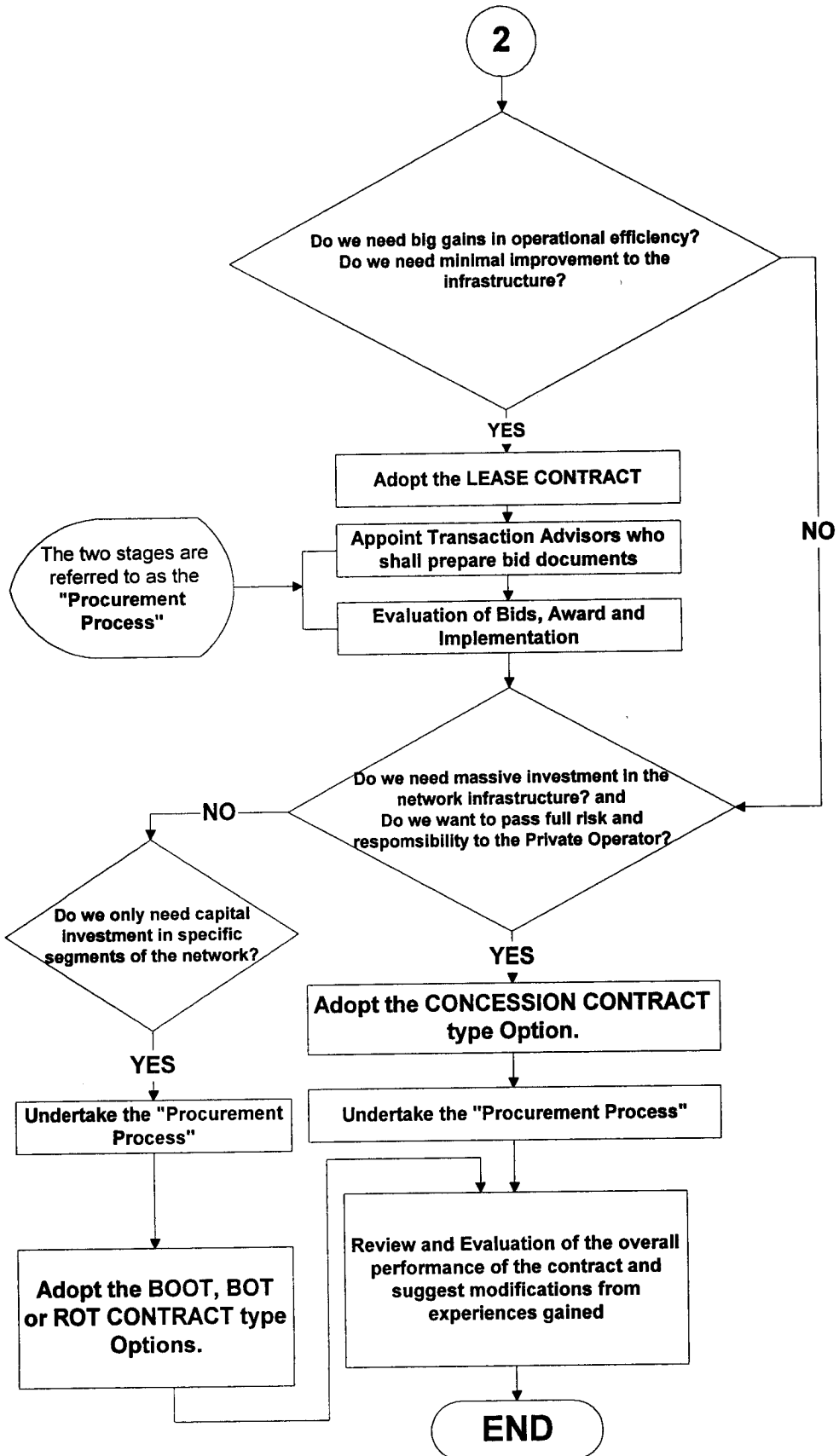
6.2 THE DECISION TREE

The flow chart shown on Fig 6.1 describes the entire decision making process that is to be undergone during the design and selection process of a PSP option that can be adopted by key stakeholders once a resolution to invite the private sector to participate in service provision has been made.

Fig 6.1: Flow chart process outlining key events prior to adoption of PSP







BOOT	Build Operate Own Transfer
BOT	Build Operate Transfer
ROT	Rehabilitate Operate Transfer

Explanation of key issues:

- (i) The ‘START’ stage refers to a scenario where services are provided by a local authority’s Engineering Services department or a publicly owned utility.
- (ii) Enabling the Policy, Legal, Institutional and Regulatory frameworks refers to reviewing the existing policies, legislation, institutional and regulatory arrangements and thereafter implementing new policies which are more appropriate, enactment and amendment of existing legal instruments, creation of new institutions, effecting of modifications to existing institutions and review, realignment and or strengthening of the regulatory agencies.
- (iii) Due diligence refers to an exhaustive assessment and evaluation of the existing utility in order to ascertain its condition prior to venturing into a PSP arrangement and to provide would be partners with reliable information on critical aspects such as human resource levels, revenue base, balance sheet position, equipment, network infrastructure, and service area characteristics.
- (iv) The Transaction Advisor is the expert who shall advise the client on the various aspects that need to be included in the bid document and the subsequent evaluation of the submitted bids by the bidders.

Fig 6.1 is applicable during the selection process for any of the main PSP options normally in use in municipalities worldwide.

6.3 APPLICATION OF THE DECISION TREE

The decision tree (Fig 6.1) can be applied on any service area earmarked for PSP. In this study, the decision tree was used to design a PSP model for the City of Lusaka. The design of the model using the decision tree is described in Table 6.1 below;

Table 6.1: Application of the Decision Tree

Key Question(s) from the decision tree	Output	Comment
Is there need for enhancing Technical expertise, operational efficiency and capital investment?	YES	Consider PSP as a means to effect service provision
Are the policy, legal, institutional and regulatory frameworks sufficiently enabling for PSP?	YES to a large extent	The Government of Zambia has effected reforms to the water sector which resulted in a new policy and legal framework and establishment of new institutions.
Do we need to rapidly enhance Technical Capacity, Efficiency and prepare for greater private sector involvement in future?	YES	This can be achieved using a Management Contract and Lease Contract. Since baseline information is not comprehensive and that PSP is a relatively new phenomenon in Zambia the <u>Management Contract</u> is opted for (2 to 3 years duration).
Do we need to achieve bigger gains in operational efficiency and effect improvements to the infrastructure?	YES	Adopt the <u>Lease Contract</u> (7 to 10 years duration) once the post evaluation process has been undertaken and the findings reveal that the objectives of the <u>Management Contract</u> were

Key Question(s) from the decision tree	Output	Comment
		achieved within acceptable tolerance levels.

The model proposed for effecting water supply and sanitation services to the City of Lusaka is shown in Fig 6.2. The schematic layout of the PSP option model in Fig 6.2 is shown in Fig 6.3. This model is applicable for **both** a Lease and Management Contract service arrangement with specific focus and attention given to effecting service improvements in the peri-urban areas where the largest sectors of the population reside and service levels are currently at their lowest ebb.

The arrangement proposed in Fig 6.2 provides for a main Private Operator who shall have a **direct** contract with the Asset Holding Company and in order to significantly enhance service provision to the peri-urban areas, smaller private operators shall be engaged with responsibility for specific zones within the overall service area. The Smaller Private Operators are to be sub – contractors to the main Private Operator.

It is proposed that the implementation is effected in two distinct stages as follows;

Stage one:

Performance based Management Contract where the private operator assumes full operational and management control. The LWSC will retain responsibility for bulk water supply and sewage collection, transportation and treatment and also assume the role of “Asset Holding Company”.

The reasons that justify the adoption of this option for the first stage are;

- Private Sector Participation at levels higher than the “Service Contract option” is a relatively new phenomenon in Zambia, therefore it would be prudent to initially enter into a contract where not much responsibility is transferred to the private operator. During this initial stage, the performance

and perceived benefits that arise out of usage of a private operator can be assessed and evaluated in order to ascertain whether this format is appropriate or not.

- The baseline data can be verified and validated during this stage, which will form the basis of a higher level PSP contract where more responsibility is transferred to the private operator.
- The private operator's ability to manage the technical and commercial aspects of service provision to the peri-urban areas (where the highest efficiency and overall service improvement gains are desperately needed) can be verified, which will act as a key indicator on whether this type of service arrangement is viable or not.

Stage two:

Lease contract upon successful completion of the Performance Based Management Contract. In this contract the private operator assumes control of the management, operational and maintenance aspects of service provision. Investment responsibility will be retained by the LWSC. The remuneration to the private operator shall consist of the difference between the tariff revenues and the monthly rental (lease) fee.

The reasons that justify the selecting of this option for PSP during the second stage in Lusaka are;

- There will be accurate, validated baseline data on which the performance indicators of this contract will be based, having been collected during the first phase i.e. the Performance Based Management Contract.
- The major portion of the commercial risk associated with the service delivery process shall be passed on to the private operator whilst the AHC will retain the capital investment risk.
- There will be a high incentive upon the private operator to maintain and render efficient operations overall, since their (the private operator) revenue shall emanate from the collections. This means that higher collections will

only be realised when there are good and high standards of billing practices, collections and general customer services.

- In the Lease Contract the AHC shall retain responsibility on the level and type of capital investment, which for Lusaka City is crucial as it is unlikely that the private operator will on his own volition direct investments to effect improvements to the peri-urban areas where the vast majority of the “un-served and or poorly served” inhabitants reside.

Fig 6.2: Proposed service delivery arrangement for Lusaka City

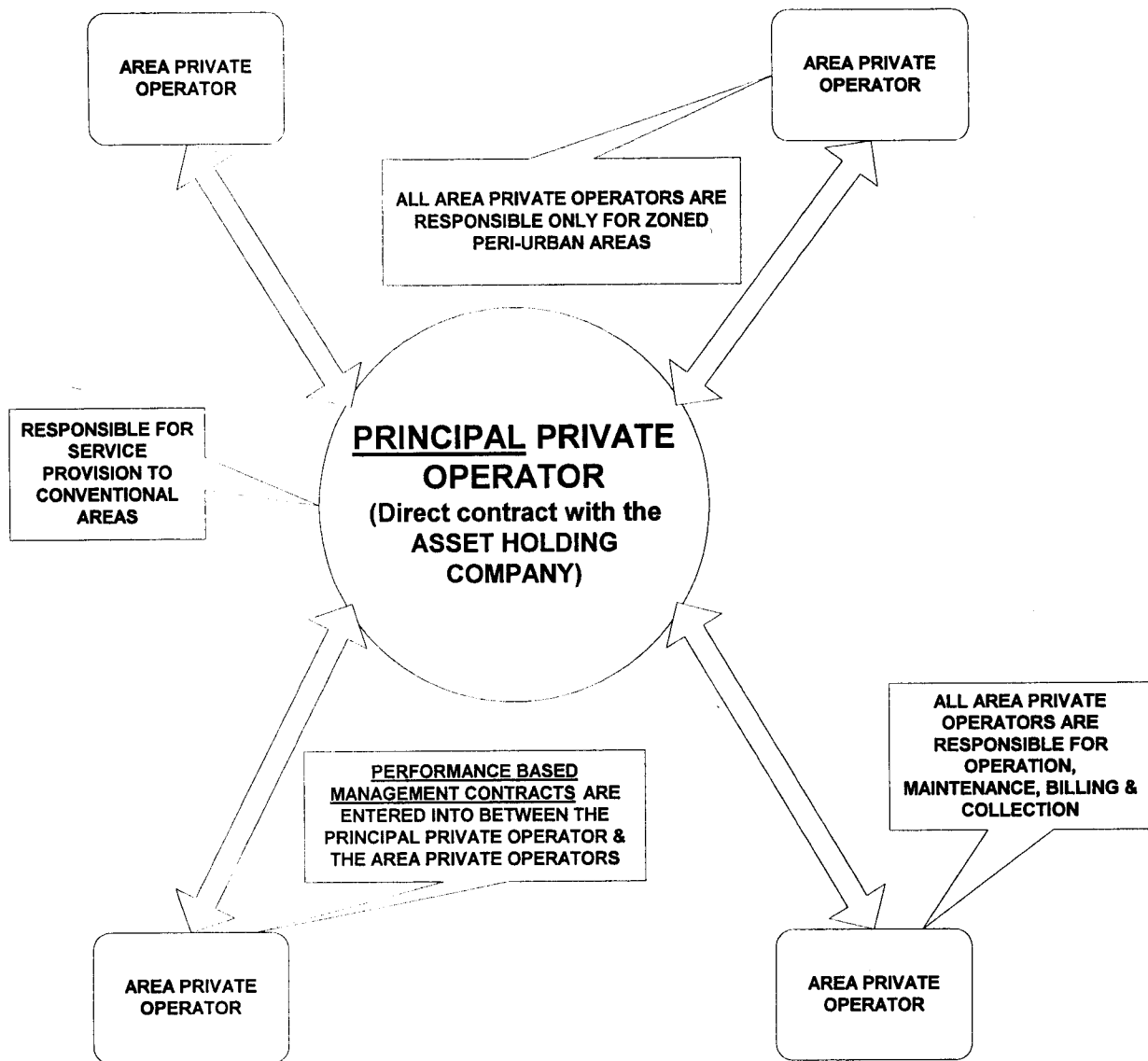
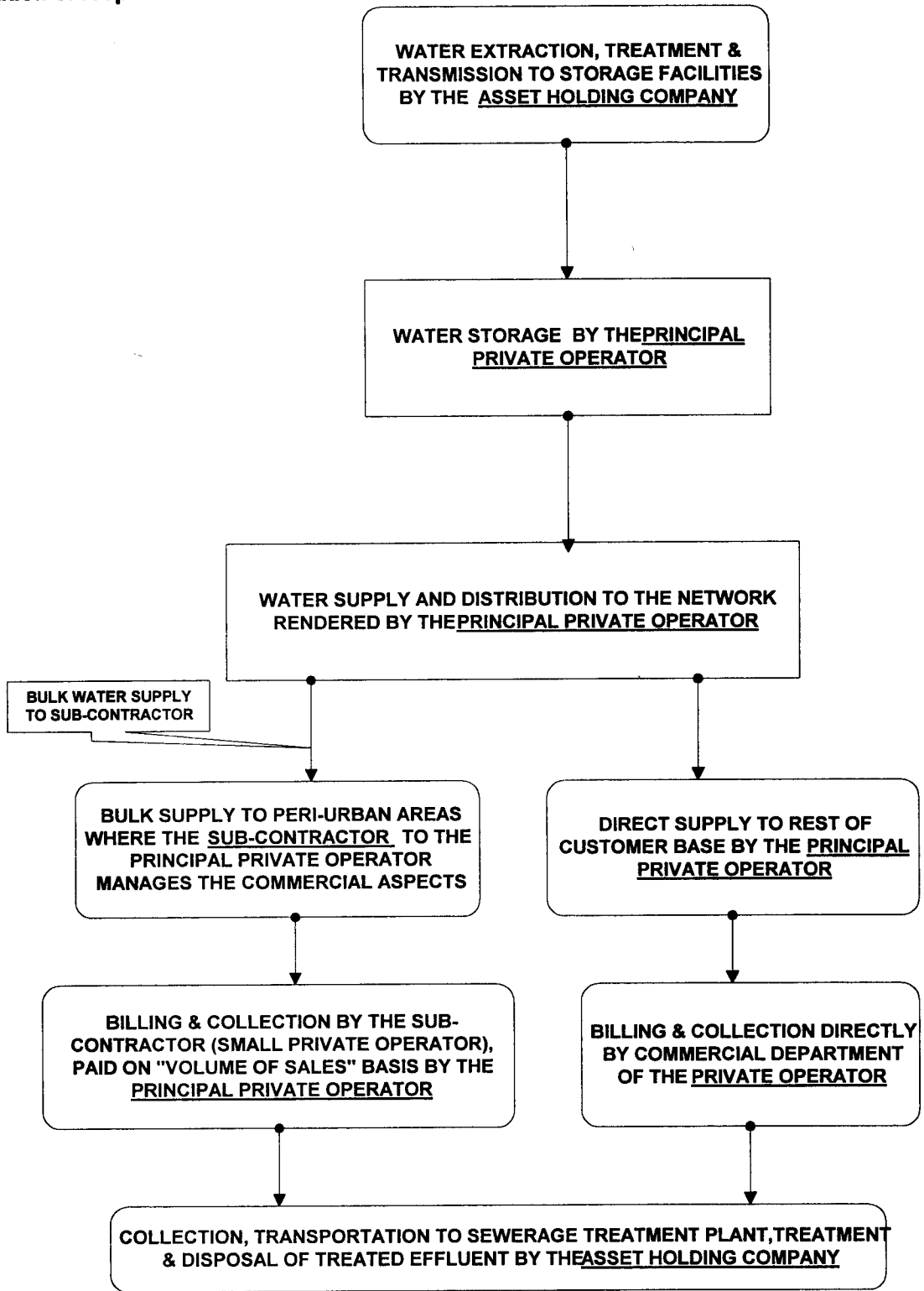


Fig 6.3: Schematic Layout of the PSP arrangement in Fig No. 6.2 showing allocation of responsibilities



CHAPTER SEVEN

7. CONCLUSIONS AND RECOMMENDATIONS

The overall objective of this study was to investigate the appropriateness of Private Sector Participation (PSP) service arrangements in the provision of water and sanitation services in Zambia and to identify the associated opportunities and constraints.

7.1 OPPORTUNITIES

(a) Conditions for PSP in Zambia

- Zambia has since independence in 1964, enjoyed a relatively stable political environment devoid of civil unrest.
- The Zambian Government has shown commitment to PSP through invitation of the private sector to participate in several other sectors of the economy that it previously managed and operated.
- The new policy framework sets the stage for PSP in Zambia's water supply and sanitation sector. It recognizes that investment is required to upgrade water supply and sanitation schemes throughout the country. This demonstrates some level of political will on the part of Government.
- New legal provisions have been enacted as part of the reform process, which provide for the entering into of partnerships with the private sector by the publicly owned service providers (i.e. local authorities). The underlying objective here is that the private sector can facilitate access to investment capital and overall operational expertise.
- The overall regulatory framework has been strengthened and made more autonomous with the establishment of NWASCO, the main regulatory body for water supply and sanitation issues. This has made the overall environment in Zambia much more enabling for PSP.

- There is a large untapped market (e.g. 30% for water supply and 67% for sanitation in the City of Lusaka according to NWASCO, 2003), indicating a potential for growth.
- A reasonably well experienced and qualified workforce is in place requiring a limited level of retraining and capacity building.
- Abundant water resources

(b) Extent to which PSP can address the generally cited problems in Zambia's water utilities

- PSP will facilitate the access to capital required for investment (the experiences of Uganda and Tanzania underscore this assertion) and encourage general investment to the sector, which once accessed will enable the repair, upgrading and expansion of defective segments of the network, ultimately reducing the many technical losses currently prevalent.
- PSP will significantly reduce the influence and interference by the political establishment in the service provision process. The Ugandan and Tanzanian experiences showed that the Government distanced itself from the service providers' day to day operational issues.
- PSP will bring about improvements to the various commercial aspects of service provision due to a desire to attain profits and return on investments.
- PSP will provide a window through which excessive staff can be hived off from the utility's establishment. This was effected through the service contract between the Private Operator and the Asset Holding Company in Uganda whilst in Tanzania it was provided for in newly enacted legislation prior to adoption of the PSP service arrangement.

(c) The ability of PSP to attract external finance

PSP acts as a vehicle through which external capitalisation can be realised. Prior to adoption of PSP in Uganda and Tanzania accessing of external

financing was extremely difficult for the publicly owned and operated service providers. Upon adoption of PSP all the three PSP cases accessed external capital required for refurbishment, maintenance and expansion of the networks. Furthermore, short term financing for items such as equipment and small repairs will be more easily accessible from the local financial institutions due to the confidence that a PSP arrangement brings to the fore.

(d) How PSP addresses the needs of the poor

PSP will address the needs of the poor indirectly rather than directly. When a PSP contract is entered into, external funding is more easily accessible for rehabilitation and expansion works. This means that the repairs that are effected on the infrastructure from the capital received, will improve service levels to all areas (including the pro-poor) that have had erratic or nil supply previously. In the three cases studied all three PSP contracts had specific provisos for effecting improvements to the consumers residing in the peri-urban areas;

(i) In Uganda a project known as the “Water Supply in Informal Settlements” was incepted within the overall PSP contract framework. Funding for this venture was sourced from local and international institutions.

(ii) In Tanzania a project known as the “Community Water Supply and Sanitation Project” was incepted with funding sourced from local and international institutions.

(iii) In Zambia a project known as the Mine Township Services Project (MTSP) was incepted which was primarily to upgrade the infrastructure used to provide water supply and sanitation services amongst the poor households.

In general terms PSP can therefore address the needs of the poor so long as provision for the same is included in the service contract.

7.2 CONSTRAINTS

(a) Conditions for PSP in Zambia

- A low level understanding amongst key stakeholders on what PSP really entails, has led to deep rooted suspicions, doubts and even outright rejection of the concept. This negative perception has been exacerbated by experiences encountered during the last decade when some public to private sector transition processes were very poorly managed by the authorities which resulted in high job losses, non payment of terminal benefits and rampant cannibalisation of existing plant and equipment.
- Despite the prevalence of a reasonable level of political will from the government as evidenced from key milestone events such as, the passing of a new national water policy, new legal provisos and strengthening of the regulatory environment; government still occupies the position of being the largest single defaulter which negatively impacts on the operations of the many service providers throughout Zambia.

(b) Extent to which PSP can address the generally cited problems in Zambia's water utilities

- Vandalism and pilferage of infrastructure can affect the ability of PSP to improve service levels as the private operator cannot afford to continually replace stolen and vanadalised fixtures. This is mostly prevalent in the peri-urban areas of Zambia. Community awareness campaigns and increased security is therefore required to help reduce this scourge.
- The revenue collection process can be negatively affected due to interference from the political establishment who have a tendency to request the operator to excuse some of the defaulters with they have strong connections.

- A high prevalence of ill-trained and poorly work cultured operational staff, inherited from the former service provider (usually the Asset Holding Company), will affect overall performance (especially in the lease and management contracts).

(c) The ability of PSP to attract external finance

- Instability in the foreign exchange rates will affect operations and put pressure on the tariff regime as, most of the equipment and management fees (if it is a foreign owned private operator that is) are paid in convertible currencies. This can affect the ability of the utility to service debts, since the realised revenue collected in Zambian Kwacha would have to be converted into a convertible foreign currency.
- High rates of inflation as experienced in the last decade can affect operations, mostly due to the pressure that will emanate from demands by the workforce for higher wages and also the fluctuations in prices of operational requisites commodities. This will make the operational environment become extremely unstable and will result in unstable tariff rates.

(d) How PSP addresses the needs of the poor

- Ability to afford the services and unwillingness on the part of some of the prospective customers, makes the private sector reluctant to actively pursue and render service provision to the poor.
- Non-recognition of the peri-urban settlements inhibits any capital investment from taking place as funding for unrecognized settlements is extremely difficult to access and the investment risk is very high.
- Improper layout of the housing and commercial units in the peri-urban areas, makes it difficult for effective commercial and technical management which affects billing and collections.

7.3 TESTING OF HYPOTHESIS

The hypotheses outlined in Chapter One section 1.5, were tested as follows;

1. The existing policy, legal, institutional and regulatory frameworks were vastly inadequate prior to the reforms undertaken in the early 1990's. The new framework is adequate for PSP in Zambia though minuscule changes will still be effected as more experiences are encountered with time.
2. PSP in Zambia is not stifled by Government, since already there is a PSP contract in place on the Copperbelt province of Zambia.
3. The private sector will be attracted to enter the Zambian market, because they will have access to private finance for capital investment, which they can use for repairs and refurbishment to the infrastructure, thereby reducing the existing technical and commercial losses which can lead to higher cost recovery rates.
4. Revenue mobilisation can be enhanced through delivery of water and sanitation services to the majority poor only if, issues such as infrastructure upgrading, usage of vandal resistant technological options and usage of more appropriate water vending mechanisms. These measures will also radically enhance the overall sustainability of the network infrastructure.

Adoption of Private Sector Participation for service provision in Zambia is therefore not a solution that can be wholesomely applied to every service area. A thorough case by case approach where the various intricate details and complexities associated with each service area are extensively evaluated is the most suitable way to test and ascertain if Private Sector Participation is appropriate for usage or not.

7.4 RECOMMENDATIONS

It is clear that there is still need for research on other forms of service provision and draw comparisons with the PSP type arrangements to conclusively ascertain its' (PSP) suitability and appropriateness for Zambia. The following are recommended;

1. Further research to investigate the suitability or non suitability of “Area Performance Contracts” in a “Public – Public Partnership” format service type arrangement.
2. Research to determine the causes and effects of unplanned settlements in urban areas on water supply and sanitation service provision.
3. The role and impact of Small Scale Independent Providers on urban water supply and sanitation service provision.

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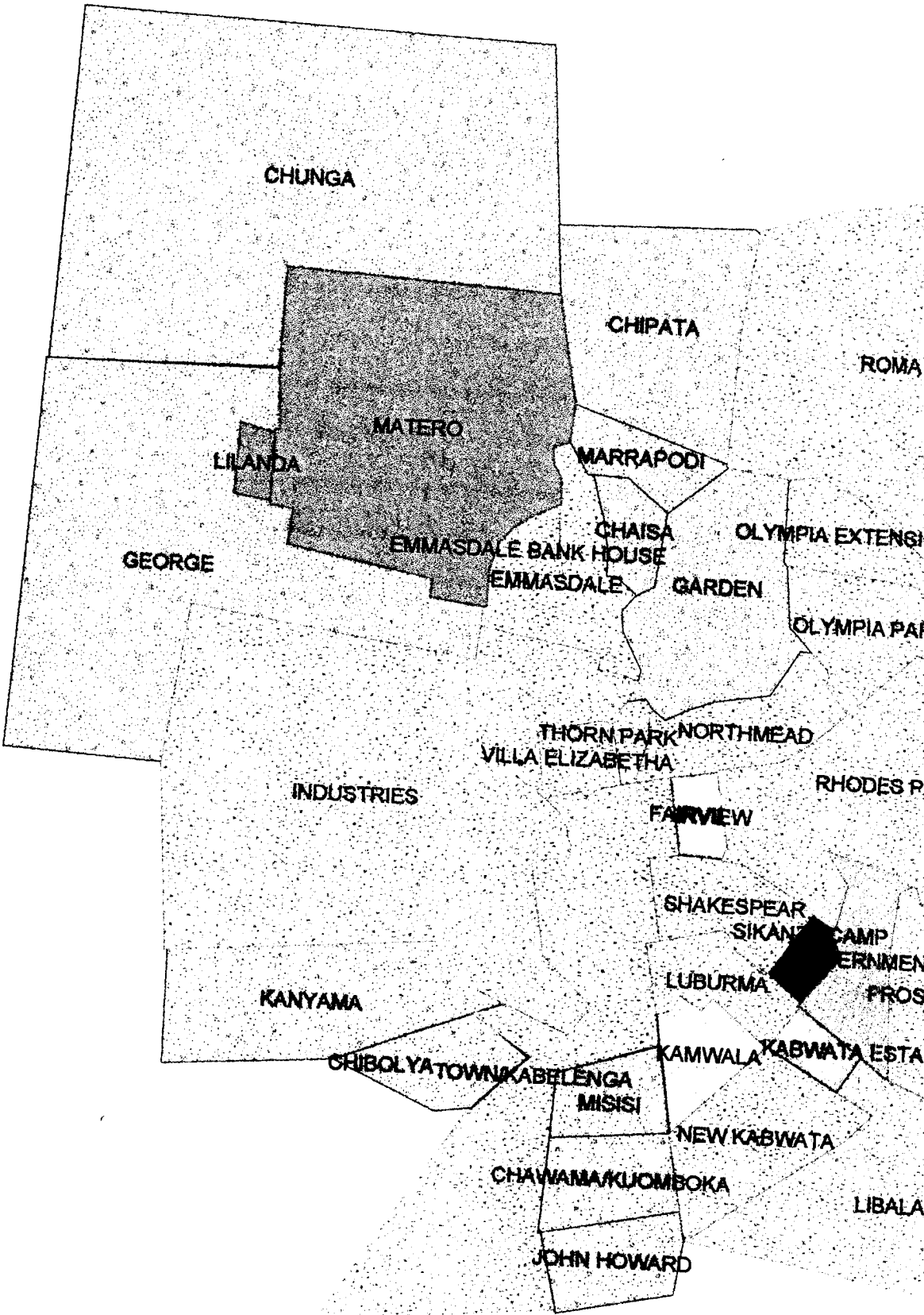
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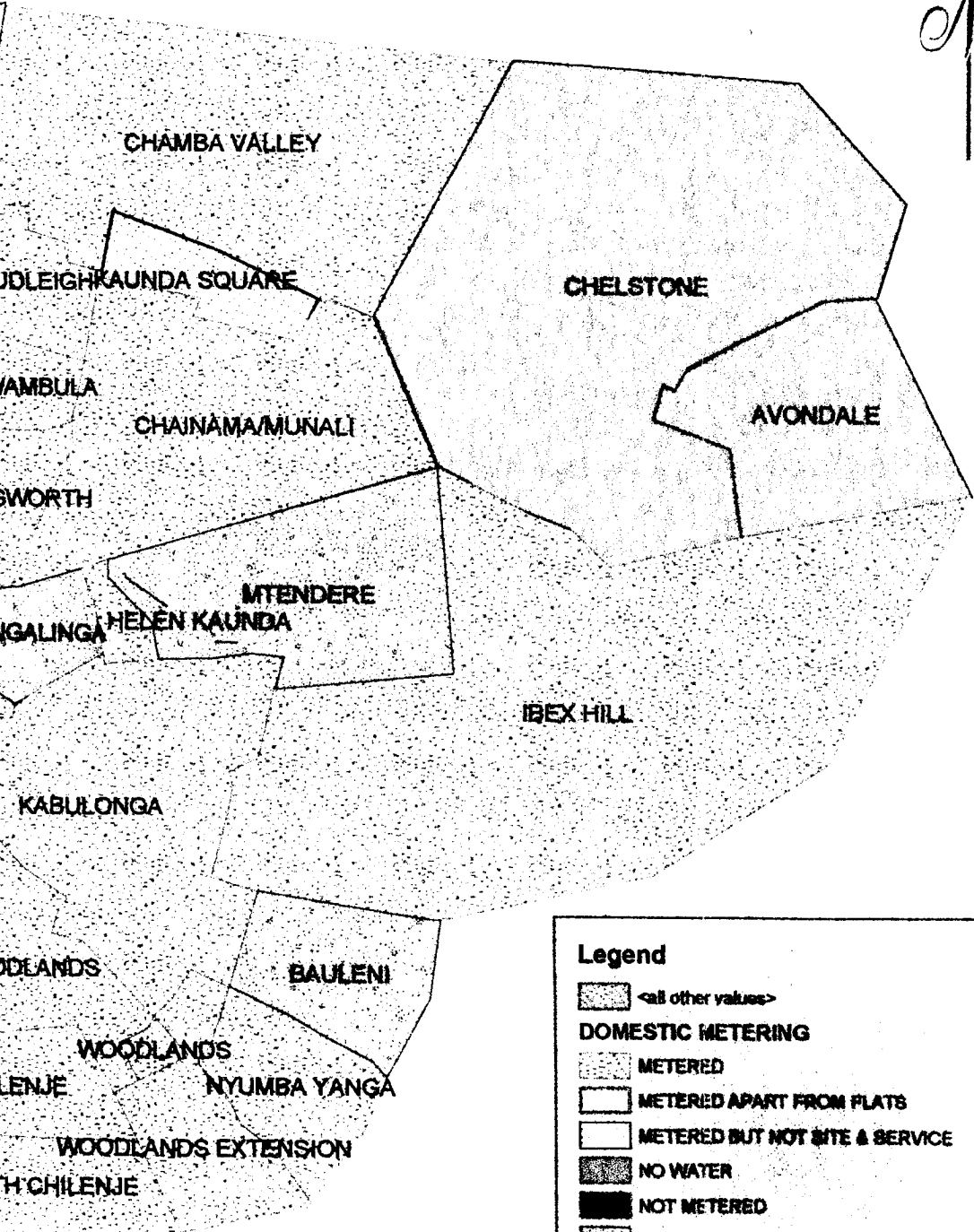
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








APPENDICIES

DOMESTIC METERS





Legend

-  <all other values>
- DOMESTIC METERING**
-  METERED
-  METERED APART FROM FLATS
-  METERED BUT NOT SITE & SERVICE
-  NO WATER
-  NOT METERED
-  PARTLY METERED
-  PER-URBAN
-  STAGE II METERED. STAGE I NOT METERED
-  UNDER PROJECT

**THE PRIVATE SECTOR PARTICIPATION (PSP) MODEL
VALIDATION QUESTIONNAIRE**

Area of expertise:.....

Private Sector Participation (PSP) in the Water and Sanitation Sector in Zambia

Introduction:

This is one of the research instruments that is being used to in order to formulate and design an appropriate PSP model for Lusaka Water and Sewerage Company. Attached herewith are Figure Nos

The questionnaire is divided into two sections.

1. Section 'A' attempts to collect your opinions and basic understanding on PSP.
2. Section 'B' requires you to analyse the schematic diagrams and comment on the viability and practicality of the proposed service delivery formats.

Section 'A'

1. List the 3 most prominent problematic (from most to least) areas that are an obstacle to good quality service delivery?

(i).....

(ii).....

(iii).....

2. Do you think the current institutional arrangement is appropriate for enhanced levels of service delivery?

YES/NO

Comment:.....

.....

3. What are your suggestions to effect changes to the current institutional arrangement to make it more appropriate and responsive?

Comment:.....

4. Do you think the Private Sector's participation can help to improve service delivery levels?

YES/NO

5. (If answer to Question 4 is Yes) What arrangement would you most prefer (ref attached schedule No 1)

Type of Option	Allocation of responsibilities	
	Private Operator (PO)	Asset Holding Company (AHC)
Service Contract	Specific services only	Operation, Maintenance and Investment
Management Contract (M.C.) (PO paid via a fixed monthly fee)	Operation and Minor maintenance	Maintenance(major) and Investment
Performance Based Management Contract. (PO paid a fixed monthly fee plus bonus incentives if pre-agreed targets are attained)	Operation, Minor maintenance and specific performance based activities	Maintenance(major) and Investment
Lease	Operation and maintenance. Pays a rental fee to the AHC.	Investment responsibility
BOOT (Build Operate Own Transfer)	Specific investment in a segment such as water treatment, storage facility, sewage treatment works. Ownership reverts to AHC after agreed period.	Takes over ownership after agreed period. May pay for services provided by the PO e.g treated water from PO's waterworks.
Concession	Full operation, maintenance and investment in the entire network for a specified period.	Ownership of assets and monitoring of the PO.

1st Choice.....

2nd Choice.....

Section 'B'

The diagram showing a proposed service delivery arrangement if the private sector were to be engaged. It proposes that the principal private operator enters into contracts with smaller operators who shall be responsible for peri-urban areas within the city. The responsibilities shall be allotted as follows;

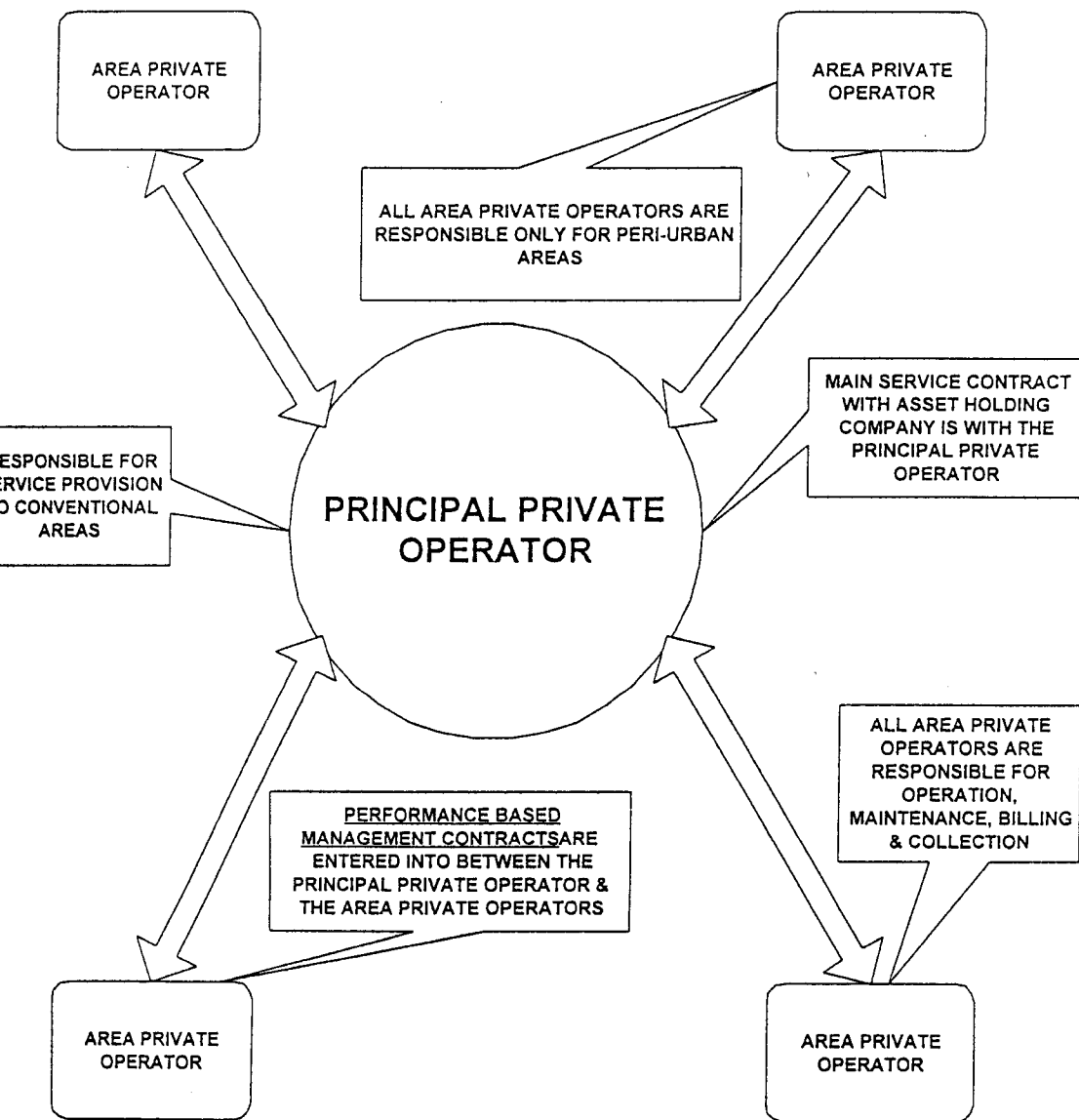
Principal Operator	Private	<ul style="list-style-type: none">• Supplies bulk water to the small operators• Pays monthly fee to small operators• Undertakes major maintenance works• Collects sewage and transports it for treatment and disposal
Small Private Operators		<ul style="list-style-type: none">• Delivers bills• Collects all payments and deposits directly into the Principal Private Operator's account• Monitors illegal connections, leakages in the network, effects disconnections• Repairs minor defects to the network• Undertakes performance based tasks assigned by the Principal PO

Is the proposed service delivery arrangement feasible?

Yes/No

Additional comments :.....
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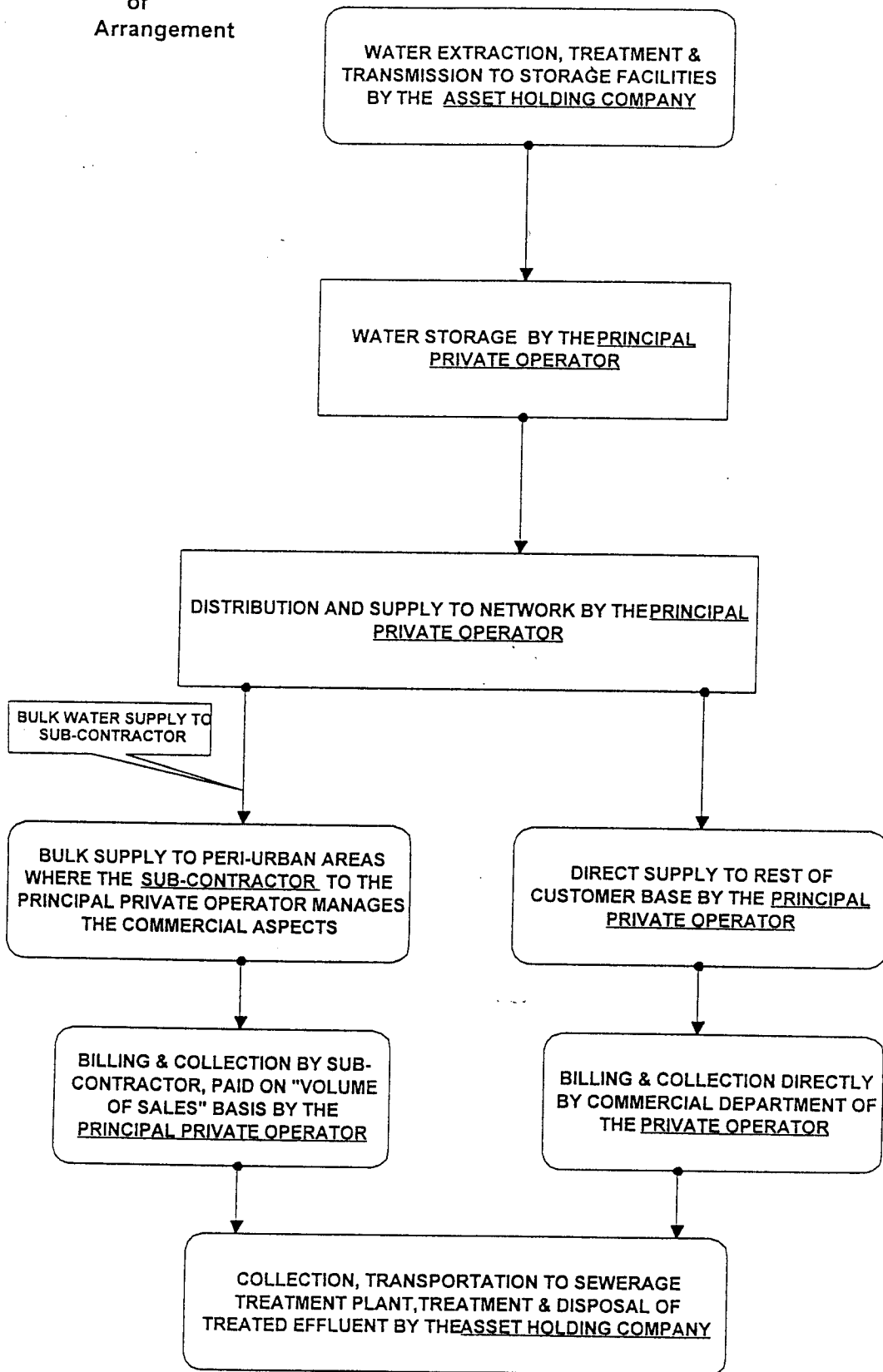
Proposed service delivery arrangement for Lusaka City



APPENDIX

4

:Proposed Schematic Layout
of
Arrangement



GOVERNMENT OF ZAMBIA

ACT

No. 28 of 1997

Date of Assent: 11th November, 1997

An Act to establish the National Water Supply and Sanitation Council and define its functions; to provide for the establishment, by local authorities, of water supply and sanitation utilities; to provide for the efficient and sustainable supply of water and sanitation services under the general regulation of the National Water Supply and Sanitation Council; and to provide for matters connected with or incidental to the foregoing.

[14th November, 1997

ENACTED by the Parliament of Zambia.

Enactment

PART I

PRELIMINARY

1. This Act may be cited as the Water Supply and Sanitation Act, 1997.

Short title

2. In this Act, unless the context otherwise requires—

Interpreta-
tion

“ Chairperson ” means the person elected Chairperson of the Council under paragraph 2 of Part I of the Schedule;

“ consumer ” means a direct beneficiary of water supply or sanitation services;

“ Council ” means the National Water Supply and Sanitation Council established under section *three*;

“ Deputy director ” means the person appointed Deputy Director of the Council under section *seven*;

(4) The Deputy Director shall discharge the functions of the Director whenever there is a vacancy in the office of Director or if the Director is absent for any other cause.

(5) The Director, or in the Director's absence the Deputy Director, shall attend meetings of the Council and may attend meetings of any committee established by the Council, and may address such meetings, but shall not vote on any matter:

Provided that the person presiding at a meeting may, for good cause, require the Director or Deputy Director, as the case may be, to withdraw from the meeting.

(6) The provisions of paragraph 6 of the Schedule shall apply, with the necessary modifications, to the Director and the Deputy Director.

8. (1) There shall be a Secretary to the Council who shall be appointed by the Council on such terms and conditions as the Council shall determine.

(2) The Secretary shall be responsible, under the general supervision of the Director, for the administration of the day-to-day affairs of the Council.

(3) The Council may appoint, on such terms and conditions as the Council may determine, such other staff as it considers necessary for the performance of its functions under this Act.

PART III

WATER SUPPLY AND SANITATION UTILITIES

9. (1) A local authority may resolve to establish a water supply and sanitation utility as a company under the Companies Act as follows:

(a) as a public or private company;

(b) as a joint venture with an individual or with any private or public company;

(c) as a joint venture with another local authority or several other local authorities:

Provided that the majority shares shall be held by the local authority.

(2) The articles of a utility incorporated in accordance with subsection (1) shall state that the utility's primary business is to provide water supply and sanitation services.

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