Chapter 9
Institutions and Laws

CHAPTER 9 INSTITUTIONS AND LAWS

9.1 Introduction

This chapter sets out the proposed arrangements for the institutional and financial reform of SWM in Bucharest. Although the master plan is primarily concerned with arangements in Bucharest, a brief consideration of national SWM issues is given in section 9.3.

The Bucharest Municipality (MB) is institutionally and financially restructuring its municipal solid waste services for which it is ultimately responsible.

9.1.1 Institutional Restructuring

Under the proposed restructuring, the Municipality is required to transform RASUB under GoR Ordnance No 69, 1994 and Government Decision 135, 1994, and intends to split RASUB's disposal and collection activities. MB intends that disposal will be subsumed as an Administration under the Municipality and that RASUB's collection services will be provided by a new commercial enterprise called SALUB.

However, until this happens the Municipality intends to contract with the current service providers RASUB (collection and disposal) and RGR (collection), which will no longer collect tariffs but instead will be remunerated under contracts. RASUB will continue to provide collection, disposal services and also street sweeping, which will be transferred to RASUB from the ADPs.

The key institutional issue is that there is no formal legal or institutional framework between MB and RASUB which delimits the contractual relationship between them, their corresponding rights and obligations, and ensures that performance objectives are met. The lack of a framework greatly weakens MB's ability to oversee and regulate RASUB's activities. This has greatly contributed to service deficiencies.

The proposals presented in this chapter have considered ways to resolve this problem.

9.1.2 Financial Restructuring

The financing of municipal solid waste services in Bucharest, particularly capital investment, has been greatly constrained for a number of years. As a result, the opportunity for the Municipality of Bucharest (MB) and for RASUB, as the major

service provider, to improve the quality of SWM services to the citizens of Bucharest has been limited.

MB is primarily responsible for financing SWM capex but has been unable to invest at the required level because its fiscal and non fiscal revenue base is severely constrained. This is because MB lacks the financial autonomy to set its taxes and fees (with the exception of those set under Law 27, 1994) and to approve its expenditures.

Likewise, RASUB is unable to finance capex from its tariff revenues because its tariffs are set too low. RASUB has not had the opportunity to finance capex from bank credits because of the difficulty of obtaining loans and the high financing costs. The financing of operating expenditures by RASUB has been similarly constrained.

The Municipality has considered how to improve the financing of SWM as part of its restructuring of SWM services and it intends to introduce a waste tax which it is empowered to levy under Law 27, 1994.

MB needs to set and implement the waste tax at levels at which it can properly finance SWM services. It is committed to implementing the tax which will ensure effective, efficient and economic financing of SWM services. It is proposed that the Municipality receive technical assistance from the World Bank to assist it to set and implement the proposed tax. Proposals for the technical assistance are contained in the Chapter 1 in the Report on Studies on Technical Asssistance, Waste Education and Waste Bins Supply.

The financial framework presented in the following proposals considers how each of the servicies is financed.

The proposals for institutional reform presented in this chapter have considered the Municiplaty's plans, and focus on four key areas:

1. The responsibility for solid waste services - collection and haulage, street sweeping and disposal services
2. The optimal contractual arrangements between MB and the service providers
3. The financing responsibilities for opex and capex for each of the service areas
4. The responsibility for monitoring services

The proposals have been developed by considering alternative institutional options and recommending a preferred option or options in each of the four key areas.

Justifications are provided. These proposals will be discussed with our Romanian counterparts and may be subject to modification and should not be considered to be finalised at this stage.

The proposals consider not only the existing arrangements but where appropriate indicate proposals for future arrangements. These are presented as future goals rather than as specific time scheduled events and targets.

Our recommendations have been developed from the detailed evaluation of institutional and legal conditions in Bucharest, carried out in Progress Reports 1 and 2. This evaluation included an assessment of MB's restructuring of SWM in Bucharest as a result of Ordnance 69.

Proposals for internal organisational and management strenghthening of MB and SALUB are not considered here but are presented in Chapter 10.

9.2 Institutional and Financial Framework

9.2.1 Overview of Recommended Institutional Arrangements

Different institutional arrangements or systems have different affects and influences on the efficiency, economy and effectiveness of organisations be they business, industries or government. The provision of solid waste services to the City of Bucharest is no exception.

Therefore it is important to identify and implement the best institutional arrangements which will ensure that SWM services are provided as effectively and responsibly as possible. At the current time the main institutional responsibilities for SWM may be summarised as:

1. Ultimate duty of care and accountability to the public
2. Planning and policy formulation
3. Setting standards and issuing norms and regulations
4. Asset ownership and stewardship
5. Providing services
6. Managing the contracting out of services
7. Financing responsibilities for opex and capex
8. Monitoring of services

4 key institutional areas were identified. These are:

Firstly, the responsibility for the provsion of SWM services
Secondly, the financing responsibility for opex and capex
Thirdly, the responsibility for the monitoring of the service.

Linking and underpinning these areas is the **Fourth** key area, the contractual arrangements between MB and the service providers. The contractual structure takes account of the operational relationship between the provider and the municipality, the financial responsibilities involved and the level at which services are monitored.

These 4 key institutional areas are considered in the following way. Collection and haulage, street sweeping and disposal are separately considered in sections 9.2.3 to 9.2.5 below. And for each one proposals for 1) service responsibility, 2) maintenance, 3) contractual arrangements, 4) financial responsibilities and 5) service monitoring are

presented with underlying justifications. These proposals are then summarised together in the section 4.3.

It is important to note that our proposals have been formulated on the assumption that SALUB is set up and that disposal and collection anad haulage are split up; MB taking responsibility for disposal and SALUB for collection and haulage. RASUB's operating assets are vested in SALUB and MB wholly owns SALUB's share capital.

If SALUB is not set up, RASUB will substitute for SALUB in the proposals presented below for collection and haulage and street sweeping servicies. We do not propose that RASUB remains responsible for disposal. Recommendations for disposal are made in section 9.2.5 below.

A large part of the evaluation considers the role of private sector involvement. It is generally assumed that contracting services to the private sector, which could be RGR, other companies or a privatised SALUB, is the best solution to improving service quality and reducing costs, i.e. private operators tend to be more efficient than government. Empirical evidence from international experience, as well as, RGR's performance in Bucharest, suggest so. We have therefore made this assumption for collection and haulage and street sweeping in developing options for restructuring collection and haulage.

However, the type of private sector involvement has to fit the requirements of Bucharest. A solution with high risks may threaten service continuity or impose onerous implementation costs. A sufficient level of competition is required.

For the purposes of the evaluation, the term "private sector benefits"is defined as:

1. increased cost efficiency;
2. improved quality of service;
3. efficient mobilisation of finance for capital investment;
4. improved management capabilities; and
5. greater responsiveness to citizens' needs.

This assumes that there is an adequate level of competition within the local market. Without competition, private sector companies will have less incentive to be:

1. cost efficient;
2. responsive to citizens needs; and
3. improve service quality.

Before the proposals are presented in sections 9.2.3 to 9.2.5, the responsibilities for the different types of waste will be defined.

9.2.2 Waste Management Responsibilities by Waste Type

As shown in the table 9.2.1 below, the Bucharest Municipality should be responsible for the management of municipal waste, while generators are responsible for the management of non-municipal waste. The definition of municipal and non-municipal waste is also shown in the table below.

Table 9.2-1 Definition of Municipal and Non-Municipal Waste and Management Responsibility by Waste Type

	Type of Waste	Management Responsibility	Remarks
1. Municipal waste	1. Household waste 2. Street waste 3. Market waste 4. Business waste excluding those defined as non-municipal waste	Bucharest Municipality	The municipality should collect bulky waste upon receipt of requests from the citizens by charging special tariff.
2. Non-Municipal waste	1. Industrial waste 2. Demolition waste 3. Hospital or hazardous waste 4. Office waste of large quantity 5. Discarded vehicles	Generators	Generators may use licensed waste management companies. The municipality may accept non-hazardous waste at its landfill sites by charging tipping fees.

Management of Hazardous Waste

It is advisable that the central government should 1) prepare a legal document stipulating definition of hazardous waste, and 2) take an initiative in establishing a central system for treatment of hazardous waste.

9.2.3 Collection and Haulage

1) Service Options

Institutional responsibility for collection and haulage can be summarised into 4 options. These are, in order of increasing "privatisation":

a) Department or administration of MB
b) SALUB and RGR - status quo
c) Full contracting out to the private sector
d) Fully privatised

Based on a evaluation of these options given below, we have selected a number preferred options. Each option is summarisedbelow.

a Department or Administration of MB

This is option is given for illustrative purposes only. Under it collection and haulage is administered within MB itself. There is no private sector involvement at all. This is not a viable option because the benefits of private sector involvement are forfeited, it is not consistent with Government reforms and responsiveness to citizens needs is low.

b SALUB and RGR - status quo

This option concurs with MB's current proposals, i.e.:

1. SALUB and RGR provide collection and haulage services to Bucharest;
2. SALUB does not provide disposal services;
3. MB wholly owns SALUB's share capital; and
4. MB contracts out services to SALUB and RGR under a contract.

MB will monitor service levels. If the quality is poor, MB will have the right to recontract sectors or subsectors to alternative suppliers. This will encourage SALUB or RGR to maintain good levels of service or risk being picked off subsector by subsector by competitors. It will also foster competition within Bucharest and therefore improve service quality and cost efficiencies. Smaller companies will also be encouraged to enter the market because they are able to service the smaller subsector areas. This will spur development of the private sector.

We propose that street sweeping is initially provided by SALUB to resolve the conflict over who collects illegally dumped solid waste, but that the service is contracted out to the private sector as soon as possible. This issue is dealt with in more detail in the street sweeping section below.

The overall evaluation of option b) is that it is low risk, keeps options open, is easy and cheap to implement, encourages competition and private sector involvement and allows MB to develop its contract management skills before it tries something more ambitious. It also gives SALUB the opportunity to improve its financial performance and its service delivery.

c Full contracting out to the private sector

Although option b) offers a workable solution and is a good start, it will take time to improve service levels. At the moment SALUB, the major supplier, is giving a poor service. Reform of SALUB will be a slow process. It will be a considerable time before it delivers good services cost effectively.

Therefore, the only solution to improving Bucharest's SWM is for MB to fully contract the service to the private sector. Experience at RGR cleary demonstrates this.

Under this scenario up to 6 sectors (and possibly subsector areas) would be contracted out and the contracting would be phased in. A sufficient number of companies will need to compete for contracts. Without competition private sector benefits will not be realised.

MB would be responsible for contracting, although in the long term the Sectors themselves could do so, when sufficiently prepared. Disposal would still be separated from collection and haulage, and street sweeping would be independently contracted out. Street sweeping is discussed in mor detail in section 9.2.4 below.

It will take time for the number of private sector providers to enter the market. Currently RGR is the only player and there are a number of constraints to market entry, i.e. the macroeconomic situation, lack of a proper legal framework, lack of a capital market and lack of private sector and contracting expertise.

The transition to option c) will require the development of a SWM market in Bucharest. Joint ventures with foreign companies are a good way to access technology, tap foreign capital markets and develop a stable market.

In the transition we recommend SALUB is fully privatised. This assumes that SALUB becomes commercially viable and is not eclipsed by the competition. We hope that increased competition will incentivise SALUB to become more efficient, economic and effective.

d Full privatisation

Full privatisation is where private sector companies are freely allowed to compete in a free market. MB has no service management responsibilities i.e. no direct service provision or contracting responsibilities. However it would probably have to set up some sort of price regulation and also continue to issue and monitor service regulations and guidelines.

We do not consider full privatisation to be a viable option in either the short or the long term. This is not only because it is too risky, but also because it requires onerous regulatory arrangements which are unjustifiably complicated and costly for SWM at this local level. Contracts between MB and Providers are easier to manage.

On economic grounds alone privatisation appears to be unjustified.

e Preferred Option

Our **preferred option** is that collection and haulage services are fully contracted out. Initially MB will contract with the newly created SALUB and RGR. This concurs with the Municipality's existing proposals.

Although this a a good start, it will not provide an effective solution in the long run. At the moment RASUB is giving a poor service and SALUB will inherit RASUB's deficiencies. Reform of SALUB will be a slow process.

The best solution to improving SWM is for MB to fully contract the service to the private sector. Experience at RGR cleary demonstrates this. Therefore under this scenario, there would be a phased contracting out of the 6 sectors. Details of the contracting are given in Section 3) below. This could be carried out within 1 to 2 years.

The contractor is remunerated through the contract, which MB finances from the proposed waste tax. The contractor will be either SALUB, RGR or a private sector company. In all cases the optimal contract length is 3-5 years.

To enable MB to do this, it is proposed that the Municipality receive technical assistance (TA) from the World Bank to strenghten its contract management and service monitoring capabilities. Details of the TA are given in the Contract Management Study, in Chapter 1 of the Report on Studies on Technical Assistance, Waste Education and Waste Bins Supply.

The transition to full contracting out to the private sector also requires the development of a SWM market in Bucharest. Joint ventures with foreign companies are a good way to access technology, tap foreign capital markets and develop a stable market. In the transition we recommend SALUB is fully privatised assuming that SALUB becomes commercially viable and is not eclipsed by the competition.

Our preferred option is relatively low risk, keeps options open, is easy and cheap to implement, encourages competition and private sector involvement.

MB will monitor service levels. If the quality is poor, MB will have the right to recontract sectors or subsectors to alternative suppliers. This will foster competition, improve service quality, increase cost efficiencies and spur development of the private sector.

We also propose that street sweeping is initially provided by SALUB to resolve the conflict over who collects illegally dumped solid waste, but that it is contracted to the private sector as soon as possible.

We have also considered the possibility of subcontracting out components of SALUB's activities, e.g. billing. However at the current time it would be premature to consider this, with the exception of maintenance. Options for maintenance are considered in section 2) "Options for Maintenance" below.

f Transition Path

It is not possible to accurately project an optimal transition path because of the uncertainties involved. How quickly cosrt efficiencies and quality gains are frealised depends on what happens to SALUB, how many providers enter the market and how good MB is at monitoring and enforcing standards and contracts.

2) Options for Maintenance

Private sector collection and haulage contractors will be responsible for providing their own maintenance arrangements.

However, for SALUB are 5 ways in which maintenance can be provided to SALUB (and other providers). 3 options use existing facilities, the remaining two options use alternative facilities. It is clear from our assessment of SALUB's maintenance facilities that they need replacing or radically upgrading. Therefore, a key factor influencing the selection will be how investment in new facilities can be effectively and economically provided.

The options are:

a) Using SALUB's existing facilities maintenance is provided by:

1. SALUB itself as part of the collection and haulage service;
2. a private sector provider using SALUB's facilities, i.e. separate from collection and haulage; and
3. SALUB's maintenance facilities are sold to a private sector provider which contracts with SALUB;

b) Using alternative facilities provided by:

4. a private sector company with whom SALUB contrtacts; or
5. MB which finances new facilities under a Concession with a private sector provider.

Option 1, is the status quo. The Municipality is responsible for investment and SALUB carries out its own maintenance under the collection and haulage contract with MB. In practice this means that little investment will be made since MB is financially constrained into the forseeable future. Therefore, we do not recommend this option.

Under Option 2, the objective is to utilise the private sector to invest in, as well as operate, SALUB's existing facilities. MB, as owner of the assets, would let a Concession under which the existing facilities would be upgraded and also operated. The Concession could be either a under a BOT or a BOO and would stipulate that SALUB was the service beneficiary.

Under Option 3, MB sells SALUB's facilities to a private sector provider which will upgrade and operate them. SALUB would contract directly with the provider. MB would have no investment responsibilities.

Under Option 4, SALUB's existing facilities would cease to be used. SALUB would contract with a private sector provider which would supply maintenance services with its own facilities. Again MB would have no investment reponsibilities and the old facilites could either be sold or if possible used for garaging. This is the method that RGR uses.

Under Option 5, SALUB's existing facilities would cease to be used. MB would take responsibility for investment and let a Concession to a private sector company to build and operate new facilities under either a BOO or BOT. SALUB would be the service beneficiary.

Under Options 2 and 5 the investment responsibility is MB's, since it owns the assets, and the service beneficiary is SALUB. It is possible that other collection and haulage companies could use these facilities with MB 's permission.

Under Options 3 and 4 maintenance is fully privatised and SALUB would contract with a private sector provider by Contracting Out.

We have evaluated these options by considering the economic costs to SALUB, MB and the maintenance provider, the affect on SALUB's efficiency, the viability of upgrading SALUB's existing facilities and how effectively capital investment is mobilised.

In making the evaluation we have taken account of RGR's experience in subcontracting out its maintenance service. Table 9.2-2 summarises the results.

The existing facilities are very old and obsolete and effective maintenance services cannot be provided. The facilities need replacing either by complete rebuilding on the present sites or by securing new facilities. This excludes options 1 to 3.

The least cost solution for MB and SALUB is to use private sector facilities, i.e. option 4. Under this option MB avoids the high cost of building new facilities under Concessions since the private sector bears the investment burden and is more efficient at mobilising capital than MB. And SALUB can secure lower maintenance costs and

higher efficiency by taking advantage of private sector cost efficiencies and competition. This excludes options 1, 2, 3 and 5.

From the foregoing we **recommend that maintenance is provided under option 4.**

There is a sufficient supply of maintenance facilities in Bucharest that can be immediately employed. RGR uses this method and has excellent maintenance services.

Table 9.2-2 Evaluation of Maintenance Options

Options	*MB's Benefit*	*SALUB's Benefit*		*Other Factors*		
	Investment burden	Cost of maintenance services	Affect on Operational Efficiency	Efficiency of mobilising capital	Viabilty of facilities	Total score
Option 1	X	X	X	X	X	-5
Option 2	-	-	3	3	X	1
Option 3	3	3	3	3	X	3
Option 4	3	3	3	3	3	5
Option 5	-	-	3	3	3	3

Key - benefit

3 high (+1)
- average (0)
X poor/low (-1)

3) Contractual Arrangements between MB and the Provider

Contractual arrangements cover different alternatives in which the responsibility and the financial commitment of Municipality may be more or less prominent, and vice versa for the Provider.

Different types of contracts also imply different organisational responsibilities and structures. It is therefore necessary to identify and to define the type of contractual relationship between MB and the Provider so that their respective organisational and financial requirements can be defined.

Our objective is to select the option which produces services of the highest net benefit at least cost. And which corresponds to the preferred institutioanl options we have proposed in section 1) above.

Based on our evaluation of contracting options, we have identified an optimal contracting solution for current and future needs.

It is recommended that collection and haulage is contracted out. The Provider is remunerated under a contract which MB finances through the proposed waste tax. The provider will be either SALUB or a private sector contractor. Contractual arragements will be different in both cases.

In the case of the private sector contractor, the contract would cover the provision of agreed services and require the contractor to provide all the equipment and other capital investment necessary. The contract remuneration would be sufficient for the contractor to recover his opex and capex expenditures.

In SALUB's case, the contract would additionally cover the operation of assets that MB owns but SALUB operates, e.g. trucks, maintenance and garaging facilities. In this sense the contract is like an operating contract under which the provider operates third party's assets. Operating assets would include not only existing assets but any future assets which MB might procure and let SALUB operate.

In both cases the optimal contract length is 2-5 years.

It is also recommended that the maintenance function is separately contracted out to a private sector provider. The private sector contractor is free to decide how to source its maintenance. In SALUB's case maintenance, is

contracted out. MB would have no investment role, instead the private sector would provide the facilities and future capital investment.

We selected these contracting options from a range of all possible contracting options to demonstrate the range of private sector involvement.

Clearly concessions and franchising are not appropriate for short term contracting of collection services where captial investment in facilities is small.

The results of the evaluation showed that the Contracting Out is the least risky, promotes competition and cost minimisation, is the easiest to implement, is responsive to citizens needs and secures improvements to service quality. It is also in line with MB's current proposals.

Under Contracting Out, the Provider finances the equipment costs, e.g. collection trucks. Amortisation and financing costs can be factored into the contract remuneration.

A brief justification of these recommendations is given below.

a Range of Options

The range of contracting possibilities for MB is categorised into the 5 options given below. One of these is a non contracting scenario, i.e. MB provides all SWM in house. This is included for comparative purposes only. Concessions and franchise options are also given. In practice these options are rarely used for collection and haulage but they are given because there is need for facilities investment in garaging and maintenance and to show all possible situtations.

1. no contract scenario;
2. Contracting Out;
3. a leasehold or "affermage" contract;
4. concessions; and
5. franchising.

We assessed each of these options in terms of the main obligations and financial commitments which MB can choose to carry out itself or contract them out in whole or in part to the private sector. These obligations can be summarised as:

1. capital investment (capex) financing and construction;
2. operation and maintenance;
3. setting and approval of tariffs or waste tax; and
4. obtaining payment from citizens.

Table 9.2-3 below compares each of the contracting options in terms of these responsibilities and other features. The table shows how the Provider's financial risks and responsibilities increase from the Contracting Out to the Franchising options. These risks and financial responsibilities were considered when evaluating the options.

b Selection Criteria

The evaluation used a number of criteria to select the preferred option which are divided into three groups. The first group concerns service quality and involves responsiveness to citizens. The second group concerns the efficiency of operations, investment decision making, and financing mechanisms.

The third group concerns implementation and transition issues. Some of these are specific to Romania's history and the current political and economic transition, and are concerned with achieving worthwhile reform without overburdening MB or the Provider. Table 9.2-4 below details the criteria used.

Table:9.2-3 Comparison of Contracting Options

Contracting Options	No change scenario	Contracting Out	Lease or "Affermage"	Concession	Franchise
	Increasing privatisation	⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒			
Who finances capex ?	MB	Contractor (MB may for SALUB)	Provider (MB may for SALUB)	Provider (eg mainrtenance and garaging facilities)	Provider (eg mainrtenance and garaging facilities)
Citizen pays	MB	Waste tax (fee) to MB (1)	Tariff to Provider	Tariff to Provider *or waste tax to MB (1)*	Tariff to Provider
Who sets waste tax/tariffs ?	MB	MB (2)	MB sets tariffs according to contract	MB sets tariffs according to contract	Provider sets tariffs under Franchise agreement
Contract/tariff basis	-	opex cost recovery	opex cost recovery + amortisation	opex cost recovery + amortisation	full cost recovery
Citizens (contractual) liabilty to	MB (3)	MB (3)	Provider	Provider	Provider
Provider remuneration	-	Disbursements from MB as set in contract	via tariffs	via tariffs *or through contract*	via tariffs
MB's costs recovered from	waste tax	waste tax (4)	surcharge on tariff (4)	surcharge on tariff (5)	not applicable
Duration of the contract	-	2 - 5 year	2 - 5 years	3 - 10years	5 - 15 years
Responsibility of the provider	-	average	high	higher	very high
Financial commitment of the provider	-	average	high	very high	very high

Note:

(1) Source can also be general taxation
(2) MB collects through a waste tax. No contract between MB and citizens
(3) No contract
(4) Costs include contract administration costs & amortisation of fixed assets
(5) Costs include contract administration costs only

Table 9.2-4 Evaluation Criteria

1 Giving people what they want:

- Σ responsive to consumer needs
- Σ deals with externalities efficiently (e.g. effects on environment and public health)

2 Doing it efficiently:

- Σ operates at least cost
- Σ makes least cost investments
- Σ finances opex efficiently
- Σ finances capex efficiently

3 Feasible transition:

- Σ low implementation costs
- Σ consistent with other reforms
- Σ builds on existing strengths: only makes changes where necessary
- Σ feasible given current institutional capabilities
- Σ timing: a fast, practical implementation path
- Σ flexible: keeps options open

4 Capital Investment:

- Σ provides effective capital investment opportunities

c Evaluation of Options

The 5 options were evaluated using the criteria and the results are summarised in Table 9.2-5 below.

(1) Giving People What They Want

Providers responsiveness to citizens will be greatly increased if there is real competition combined with good contract monitoring.

Currently provision of SWM in Bucharest is virtually the monopoly of RASUB which serves 87% of Bucharest's citizens. As such its incentive to be responsive to the citizens it serves is greatly diminished, since the citizens cannot use an alternative service.

The Contracting Out and Affermage options are the most responsive to citizens' needs because the frequency of tendering these services is relatively higher than the Concession and Franchising options. If service levels are poor Providers will lose their contracts. This assumes that there is a sufficient number of providers to provide real competition.

Under the Concession and Franchise options there is less incentive to respond to citizens needs since the competitive cycle is longer. Typically contracts are awarded over long periods.

Table 9.2-5 Evaluation of the Contracting Options

Criteria	MB	Contracting Out	Affermage	Concession	Franchise
1. Giving people what they want					
responsive to consumer needs	X	3	3	3	-
deals with externalities (e.g. effects on environment or public health) efficiently	X	3	3	3	-
Summary:	X	3	3	3	-
2. Doing it efficiently					
operates at least cost	X	3	3	3	-
makes least cost investments	X	-	-	3	3
finances opex efficiently	X	3	3	3	3
finances investments efficiently	X	-	-	3	3
Summary:	X	3	3	3	3
3. Feasible transition					
low implementation costs	3	3	3	3	-
consistent with other reforms	X	3	3	3	3
builds on existing strengths only makes changes where necessary	3	3	3	-	X
feasible given current institutional capabilities	3	3	3	-	X
timing: a fast, practical Implementation path	3	3	-	-	X
flexible: keeps options open	3	3	3	-	X
Summary:	3	3	3	-	X
4. Capital investment					
provides effective capital investment opportunities	X	X	X	3	3
Summary:	X	X	X	3	3

Key
3 contributes to objective
- neutral
X detracts from objective

(2) Efficiency

Private sector providers have a direct incentive to reduce both operational (opex) and capital costs (capex), in order to maximize profits. This incentive is lacking in the MB option, indeed there may be an incentive to increase costs to obtain larger budget funds.

However, healthy competition is also required, because it provides a benchmark against which owners and workers can compare their companies' performance. It also gives workers and managers a greater incentive to reduce costs, since if they do not, they may lose the contract, and thus their jobs.

Opex cost efficiencies and competition are more likely where the Provider must periodically compete for the contract i.e. in the Contracting Out and Affermage options.

But capex cost efficiencies will be much higher under the Concession or Franchise options than if MB has sole responsibility.

(3) Feasible Transition

Because the MB option involves the least change, it scores highly because it places the least demands on institutional and reform capabilities. It also has lowest implementation costs. However, it is not consistent with the government's strategy of privatization and decentralization.

At the other end Franchising has much higher implementation costs, and requires a high level of management and technical expertise both from MB and the provider. It therefore has the highest risk for both of them. Therefore we would not recommend that Franchising is adopted.

The Contracting Out and "Affermage" options are consistent with reforms, allow for a more flexible transition path and keep options open.

The Concession option is also feasible, although it will require MB and the provider to develop better contract management skills.

(4) Conclusion

i Contracting Out Operations

The results show that the Contracting Out and "Affermage" options are the most acceptable options. They are the least risky, promote competition and therefore cost minimisation, are the easiest to implement, are responsive to citizens needs and secure improvements to service quality.

The Affermage is more risky than Contracting Out because of the Provider's responsibility for revenue collection. In the current economic situation this risk is higher. We therefore recommend that the provider is remunerated through Contracting Out rather than the "Affermage". This is usual practice for contracting SWM collection services. It is also in line with MB's current proposals.

Under Contracting Out, the Provider finances not only opex costs but also equipment costs, e.g. collection trucks. Amortisation and financing costs are factored into the contract remuneration. It is usual for contractors to provide their own collection and haulage equipment rather than operating the existing municipal equipment.

Under this option the operation of maintenance services can be provided under the same collection and haulage contract or provided separately under either Contracting Out or under a Concession. These alternatives are discussed in the Maintenance Options section 9.2.3, 2) above and also in the section (ii) below.

ii Contracting for Capital Investment in Maintenance Facilities

The Contracting Out option does not cover the financing of larger capital investments, e.g. the construction or upgradation of maintenance facilities. If maintenance is provided by Contracting Out then the Municipality would be responsible for new investment. In practice this means that little investment will be made since MB is severely financially constrained into the forseeable future.

Investment in maintenance facilities can be provided much more efficiently by the private sector. Four options were considered in Section 9.2.3, 2). These are:

1. MB lets a Concession to build and operate new facilities under either a BOO or BOT;
2. MB lets a Concession to upgrade and operate SALUB's existing facilities (which MB owns) under a BOT;
3. MB sells SALUB's facilities to the private sector which will upgrade and operate them; or
4. SALUB contracts with the private sector which provides a maintenance service with its own facilities.

Athough the Concession options offer MB more control over the investment process. However it has a number of disadvantages.

Firstly, it is less flexible. A Concession works best where there is a long term commitment, i.e. where SALUB is permanently owned by MB or is a department of MB. If SALUB is privatised there is the risk that it will no longer want to use MB's facilities. The investment could therefore be wasted;

Secondly, it is more costly; and

Thirdly, options 3 and 4 are much less onerous for MB and easier to implement since the private sector is fully responsible for the investment process.

Franchising has not been considered because it has the highest risk and the lowest responsiveness to citizens needs.

These conclusions concur with our recommendation in 9.2.3, 2) that option 4 is the most suitable, i.e. investment responsibility is the private sectors.

The Matrix provided in Table 9.2-6 below summarises the contracting options for collection and haulage and maintenance.

Table 9.2-6 Proposed Collection and Haulage and Maintenance Contracting Options for SALUB

SERVICE	Service Provider	Asset Ownership	Investment Responsibility	Contract type
Collection and Haulage	• SALUB	1. existing assets MB 2. new assets MB and/or SALUB	For equipment MB and/or SALUB	Contracting Out
	• Private sector provider	Contractor	Contractor	Contracting Out
Maintenance	private sector	private sector	private sector	Contracting Out

4) Financial Responsibilities

Financial responsibilities are defined by the contracting and institutional responsibilities. It is proposed that both collection and haulage and maintenance services are provided by Contracting Out. This means that the Provider (SALUB, RGR or other private sector providers) is remunerated from the contract price and that MB finances the cost of the contract (including its administration costs) from its reveneue base.

In simple terms the financial responsibilities can be defined as who spends it? and who finances it?

a Financing Responsibilities

MB is ultimately responsible for SWM and must finance the service.. MB's revenue base is the the primary financing source. MB can source this from either general taxation and/or a waste tax revenues. Since MB is unable to raise its general taxation base, which the Ministry of Finance controls, it has no choice but to levy a waste tax.

The issues of financing SWM are dealt with in more detail in the Waste Tax Study, Chapter 1 of the Report on Studies on Technical Assistance, Waste Education and Waste Bins Supply, and in Chapter 12 of this report.

b Collection Procedures

Under the current procedures for collection of Municipal finances in Romania, MB is not allowed to collect its revenues. This is the Local Administration of Ministry of Finance's responsibility.

c Expenditure Responsibilities

Expenditure responsibilities for opex and capex are considered separately.

i Opex

All opex is expenditure is made by the service provider. MB does not make operating expenditures or subsidise the proivder's operating costs in any way.

An assumption of full cost recovery has been made. This means that the total costs of providing the service have to be financed by the provider out of the contract remuneration. The total operating costs include direct and indirect operating costs, the amortisation costs of equipment purchases (not capital works) and capital financing costs. Unammortised capital costs should not be included.

ii Capex

Private sector contractors will be fully responsible for their capex. For SALUB capex responsibilities are considered in two ways. Firstly, procurement of equipment, and secondly, capital investment in garaging and maintenance facilities.

<u>Procurement of Equipment</u>

There are 3 options for SALUB. These are summarised in the matrix in Table 9.2-7 below which shows responsibilities.

Table 9.2-7 Financing of Equipment for Collection and Haulage, and Street Sweeping for SALUB

Options	Procurement responsibility	Asset ownership	Service Provider	Primary financing source	Cost to Provider	Provider recovers capex costs through
Option 1	MB	MB	SALUB	MB's own revenue base (waste charge /general taxation), and/or Bank loan, and /or Donor financing	MB applies lease or rental charges	Lease and rental costs recovered by SALUB through contract remuneration
Option 2	MB	MB	SALUB	As above	None - MB bears all the capex costs and SALUB operates the assets under a management contract	No capex costs to recover
Option 3	SALUB	SALUB	SALUB	SALUB finances from: Own cash resources, and/or Bank loan, and /or Donor financing(viaMB)	Full purchase cost which is recovered through the contract remuneration	SALUB's depreciation and financing costs recovered through contract remuneration

Under Option 1, MB purchases equipment on SALUB's behalf and recovers its costs through charging SALUB with rental or lease charges. The provider in turn recovers these costs through the contract remuneration. The extent to which costs are recovered will depend on the provider's skill at negotiating the contract. This arrangement fosters the providers financial discipline even thought MB is ultimately making a contribution to the costs.

Under Option 2, MB purchases equipment for SALUB but does not recover its costs from SALUB. The equipment is used under the terms of the management contratct. Under options 1 and 2 MB can finance the expenditure from three sources:

1. its own revenue base;
2. bank loans; or
3. donor financing from international agencies.

Under Option 3, the SALUB procures its own equipment. The provider recovers its costs through the contract. These costs are depreciation and any financing costs associated with the procurement, e.g. loan interest.

MB is reluctant to continue with its policy to date of procuring equipment for RASUB and recovering its amortisation costs. This is due in part to MB's poor financial situation. It is now unable to purchase equipment for RASUB.

MB's preferred option on equipment procurement is for the private sector or SALUB to be responsible for procurement and to remunerate them through the contract, i.e. option 3.

Option 3 provides the most cost effective solution for MB. Providers will seek to minimise their capital costs and use equipment efficiently. This will reduce MB's SWM costs. MB must ensure that providers are sufficiently remunerated through their contracts to be able to purchase their equipment and other capex needs. If they are not, then service levels may suffer and the benefits of competition and private sector involvement will be lost.

MB is also prepared to consider ways in which it might provide or facilitate financing for private sector companies which are unable to finance equipment. A detailed formula has not been developed yet.

Capital Investment in Garaging and Maintenance Facilities

Garaging Facilities

SALUB needs new garaging facilities. There are 2 options available:

1. MB is directly responsible for construction; or
2. SALUB is responsible for construction but MB finances it.

In either case MB is responsible since it owns the existing assets. If SALUB is responsible for the construction then it will have to be financed by MB.

However, given SALUB's lack of management capacities and experience in managing a large construction contract it is advisable that MB takes full responsibility for the investment. **We therefore recommend option 1.**

It should be noted that the need for such investment may be minimal if SALUB loses its services to private sector competitors, as contracting is phased in.

Maintenance Facilities

The proposed arrangements for mainteneance is that it is contracted out by Contracting Out to the private sector. Therefore the responsibilitity for investment is entirely the prviate sectors.

5) Monitoring and Regulation of the Service

It is proposed that the arrangements for monitoring services are split between the Public Services Department (PSD) and the 6 Sectors' Salubrity Administration Sections. PSD has ultimate responsibility for the quality and level of services, and for ensuring that the provider(s) of collection and haulage services complies with the terms and conditions of the contract.

To do this it needs to implement monitoring arrangements which accurately and efficiently measure service levels and provide appropriate and timely information to monitor contracts. A contract monitoring capability must be developed to effectively assess contractors performance against agreed standards and the terms and conditions of the contract.

The 6 Sectors are responsible to carry out monitoring activities and provide accurate and timely information to the PSD.

The responsibilities and a very brief outline of organisational requirements for monitoring services are presented.

The arrangements for contract monitoring are also addressed in the contract management Technical Assistance (TA) that the World Bank is intending to supply to the Municipality. Details of the TA are given in the Contract Management Study, in Chapter 1 of the Report on Studies on Technical Assistance, Waste Education and Waste Bins Supply,

a Responsibilities

We recommend the following division of responsibilities between the PSD and the 6 Sectors:

(1) PSD

1. to develop a monitoring plan for each sector based on the provider's collection and haulage plan and the terms and conditions of the contract.
2. to periodically receive monitoring data from the 6 Sectors for analysis.
3. to develop and maintain an efficient data analysis system by which contracts can be checked for compliance.
4. to promptly follow up serious deficiences in service levels with the provider and when appropriate to apply sanctions to providers who are in breach of their contracts.
5. to carry out spot checks on illegal dumping and hazardous wastes.
6. to monitor the activities of the 6 Sectors Salubrity Administrations Sections.
7. to prepare aggregate quantity and quality data for planning and forecasting.

(2) Sector Salubrity Administrations

The overall responsibility of each Sector Salubrity Administrations (SSA's) is to implement its monitoring plan by:

1. carrying out inspections of the collection and haulage and street sweeping services to ensure that service levels are acceptable, i.e. in accordance with the Sanitation Norm and contract conditions.
2. providing timely and accurate monitoring data and analyses of performance indicators to the PSD.
3. recording complaints from the public.
4. carrying out spot checks for illegal dumping including hazardous wastes.

b Organisation

(1) PSD

The organsational structure does not need to be fundamentally changed at the PSD. PSD's monitoring responsibilities should continue to be carried out by the Sanitary Service Section within the Sanitation Division and under the supervision of the Division's Director.

The monitoring capability needs to be developed by implementing monitoring and contract management procedures, developing appropriate information systems and by employing suitable skills. Currently the section has 4 employees. They will need skills in planning and forecasting, data analysis and contract monitoring.

We have recommended that TA is provided to the PSD to assist it to implement contract management and service monitoring procedures.

Procedures should be set up to periodically receive and assess monitoring reports and data sent by the Sectors. It is vital that the links between the Sectors and the PSD are clearly established and that the right information is received in a timely fashion.

These procedures will require routine data handling and analytic skills. We think that once data outputs are defined and systems are set up, the Section will be able to carry out the necessary tasks.

Procedures will need to ensure that:

1. contractors are complying with agreed performance standards and the terms and conditions of then contract;
2. documentary evidence is maintained and prepared should conditions be breached;
3. senior managers in the PSD and in other Department s at MB are kept informed of contractors performance managers as appropriate.

In addition to training existing staff, recruiting a person with contract management experience shouldconsidered.

A certain amount of legal expertise is required to be able to assess the implications of breaches of contract. In Chapter 11, Organisation and Management, we recommended that a legal expert should be employed in the PSD. We recommend that this person should be responsible, in collaboration with MB's Legal Department, to take action over serious breaches in contracts.

The Section will need appropriate computing systems to produce the required monitoring outputs. Information System requirements will be assessed in more detail during the Feasability Study of stage.

(2) Sectors

The Sectors will need to establish sections to carry out their monitoring activities and responsibilities outlined above.

Staffing levels will depend on the level of monitoring that is planned. The PSD should first establish these levels with each sector when develop monitoring plans with them. Monitoring procedures and reporting outputs for both internal use and for the PSD will also have to be formulated and defined in the planning stage.

Monitoring staff will need to have data handling skills and to prepare periodic reports to the PSD. They will also need appropriate computing resources to support them.

The PSD must be provided with appropriate data on a timely basis and implement efficient and accurate procedures to analyse data to identify the level and significance of non compliance. The linkage between monitoring activities and contract management is crucially important.

The 6 Sectors main responsibilities is to provide accurate and timely information to enable PSD to carry out its responsibilities.

9.2.4 Street Sweeping

1) Institutional Options for Service Provision

The options for institutional responsibility of street sweeping are in the order of increasing privatisation:

a) Department or administration of MB
b) Sector Administration level.
c) SALUB provides together with collection and haulage under a service contract
d) Fully contracted out to the private sector
e) Full privatisation

Based on an evaluation of these options given below, we have selected a preferred option. Our **preferred option** is similar to that recommeded for collection and haulage.

It is proposed that street sweeping is initially provided by SALUB to resolve the conflict over who collects illegally dumped solid waste, but that the service is fully contracted out to the private sector when conditions are appropriate. There are a number of reasons for this:

Firstly, it is easy to contract out street sweeping. The risk is low and contracting periods are short;

Secondly, it increases competition. Capital costs are not a barrier to market entry. As a result there are likely to be more entrants to the market; and

Thirdly, it is common practice in many countries.

Under this scenario, each of the 6 sectors would be contracted out and street sweeping would be provided independently of collecition and haulage. MB would be responsible for contracting, although in the long term the Sectors themselves could do so, when sufficiently prepared.

We also recommend that maintenance is separately contracted from street sweeping. The preferred option is given in section 9.2.3, 2) Options for Maintenance above.

A brief evaluation of the options is given below.

a & b Department or Administration of MB

This is option is given for illustrative purposes only. Under it street sweeping haulage is administered within MB itself. There is no private sector involvement at all.

This is not a viable option because the benefits of private sector involvement are forfeited, it is not consistent with Government reforms and responsiveness to citizens needs is low.

c SALUB Provides with Collection and Haulage - status quo

This option represents the status quo and in the concurs with MB's current position.

MB will monitor service levels. If the quality is poor MB will have the right to recontract sectors or subsectors to alternative suppliers. This will encourage SALUB to maintain good levels of service or risk being picked off by competitors. It will also foster competition within Bucharest and therefore improve service quality and cost efficiencies. Smaller companies will also be encouraged to enter the market because they are able to service the smaller cantons. This will spur development of the private sector.

The overall evaluation of option c) is that it is low risk, keeps options open, is easy and cheap to implement, encourages competition and private sector involvement and allows MB to develop its contract management skills before it tries something more ambitious. It also gives SALUB the opportunity to improve its financial performance and its service delivery.

However private sector benefits are not immediately realisable and it will take time to improve service levels.

d Full contracting out to the private sector

Although option c) offers a workable solution, it does not provide an effective solution. At the moment the Sectors are giving a reasonable service. It is not considred that SALUB will improve on this, given its current inefficiencies. Reform of SALUB will be a slow process.

Therefore the only solution to improving Bucharest's SWM is for MB to fully contract the service to the private sector. Under this scenario, each of the 6 sectors would be contracted out and street sweeping would be provided independently of collecition and haulage.

MB would be responsible for contracting, although in the long term the Sectors themselves could do so, when sufficiently prepared.

It will take time for the number of private sector providers to enter the market. The transition to option d) will require the development of a SWM market in Bucharest. Joint ventures with foreign companies are a good way to access technology, tap foreign capital markets and develop a stable market.

e Full privatisation

We do not consider full privatisation to be a viable option in either the short or the long term. This is not only because it is too risky, but also because it requires onerous regulatory arrangements which are unjustifiably complicated and costly for SWM. at the local level. Contracts between MB and Providers are easier to manage.

On economic grounds alone privatisation appears to be unjustified.

2) Maintenance Options

We recommend that maintenance is contracted out by SALUB to the private sector. This is the same recommendation as proposed for collection and haulage. See section 9.2.3, 2) above.

3) Contractual Arrangements between MB and the Provider

We propose that the same contractual arrangements as those recommended for collection and haulage services in section 9.2.3, 3) above are implemeneted.

It is recommended that street sweeping is contracted out by Contracting Out. The Provider does not levy tariffs and is remunerated under a contract. MB finances the contract through the proposed waste tax.

It is also recommended that the maintenance function is separately contracted out to the private sector. We recommend that this is provided under the same contract as the maintenance for collection and haulage services. In this way contract administration costs are reduced.

MB would have no investment role, instead the private sector would provide the facilities and future capital investment.

4) Financial Responsibility

We propose that the same financial responsibilites for financing and expenditure as those recommended for collection and haulage services in section 9.2.3, 4) above are implemeneted.

a Financing Responsibilities

MB is ultimately responsible for financing SWM. MB should source this from the proposed waste tax.

b Collection Procedures

Under the current procedures for collection of Municipal finances in Romania, MB is not allowed to collect its revenues. This is the Local Administration of Ministry of Finance's responsibility.

c Expenditure Responsibilities

Expenditure responsibilities for opex and capex are considered separately.

i Opex

All opex is expenditure is made by the service provider. MB does not incur operating expenditures or subsidise the provider's operating costs in any way. There is an assumption of full cost recovery made on the same basis as for collection and haulage. See section 9.2-4 above.

ii Capex

Private sector contractors will be fully responsible for their capex. For SALUB capex responsibilities are considered in two ways. Firstly, procurement of equipment, and secondly, capital investment in garaging and maintenance facilities.

Procurement of Equipment

Like collection and haulage 3 options are available for SALUB. These are:

Option 1, MB purchases equipment on SALUB's behalf and recovers its costs through charging SALUB with rental or lease charges. The provider in turn recovers these costs through the contract remuneration.

Option 2, MB purchases equipment for SALUB but does not recover its costs from SALUB. The equipment is used under the terms of the Contracting Out option.

Under options 1 and 2 MB can finance the expenditure from three sources, its own revenue base ie the waste tax, bank loans; and/or donor financing from international agencies.

Option 3, the SALUB procures its own equipment and recovers its costs through the contract.

Capital Investment in Garaging and Maintenance Facilities

Garaging Facilities

SALUB needs new garaging facilities. There are 2 options available:

1. MB is directly responsible for construction; or
2. SALUB is responsible for construction but MB finances it.

In either case MB is responsible since it owns the existing assets. If SALUB is responsible for the construction then it will have to be financed by MB.

However, given SALUB's lack of management capacities and experience in managing a large construction contract it is advisable that MB takes full responsibility for the investment. **We therefore recommend option 1.**

It should be noted that the need for such investment may be minimal if SALUB loses its services to private sector competitors, as contracting is phased in.

Maintenance Facilities

The proposed arrangements for mainteneance is that it is contracted out by Contracting Out to the private sector. Therefore the responsibilitity for investment is entirely the prviate sectors.

5) Monitoring and Regulation of the Service

We propose that the same arrangements as collection and haulage are implemented at MB and the 6 sectors. See section 9.2.3, 5).

9.2.5 Disposal

What is the most appropriate way of providing disposal services? The disposal service can be provided in 6 ways:

1. a Municipal Waste Disposal Administration (MWDA), subsumed under the Municipality;
2. SALUB (a commercial enterprise);
3. a joint venture with a foreign company (FJVC);
4. contracting out;
5. concession; or
6. franchise.

Option 2 assumes that RASUB is transformed into SALUB. If it is not transformed then option 2 would be RASUB.

By contracting out is meant the contracting of the operation and maintenance of the disposal service, ie the operation of the landfill site, to a private sector contractor. The contractor has no capital investment responsibilities except for plant and equipment. MB continues to collect revenues from the waste tax and the contractor is remunerated under a contract in two ways:

Firstly, according to physical parameters such as quantity of waste disposed, the number of customers, or a combination of them; or

Secondly, a lump sum based on full costings, with a price formula to absorb uncontrollable cost increases for, e.g. utilities and collective pay increases.

It is usual for the contractor to levy and collect tipping fees from generators of non municipal waste, eg demolition for waste. Under this arrangement the financial risks and the administrative costs of collection are passed to the contractor. The contract price takes account of the tipping revenues which the contractor earns.

By concession is meant that MB not only contracts out operation and maintenance but also the financing and construction of the landfill site to the private sector. The "concessionaire" finances, constructs, or sub-contracts the construction of, and operates at its own risk, the landfill site. The concession would cover the lifetime of the site and also after care. At the end of the concession, the facilities and the site would be returned to MB.

The Concessionaire also levies and collects the tariffs, and bears the revenue collection risk. The responsibility for setting the tariff could remain with MB after negotiation with the Provider and is set in the contract.

By franchise is meant the awarding of monopoly rights to provide the disposal service to a designated area, eg all or part of Bucharest. The Franchiser assumes full operational and financial responsibility for the service. Its responsibilities include and go beyond those of the Concessionaire as it freely sets its own tariffs and has title to the site and fixed assets.

MB's role is reduced to exercising control through the franchise agreement which might include some form of tariff regulation. Site land assets and service responsibility are not usually transferred back to government.

The overriding objective for MB is to ensure that waste is safely disposed of so that public health and the environment are protected. This is the key consideration for selecting the appropriate institutional option. Secondary factors to consider are the feasibility of implementing the institutional option, and its efficiency and effectiveness. The preferred option should ensure that the service operates productively and economically, and that investments are made at least cost.

Based on these criteria, we recommend that MB form a joint venture with a foreign company. The joint venture company would initially manage Glina site and later Balaceanca and Cretuleasca sites. Ownership of the landfill sites and faicilities would remain with the Muncipality or the relevant beneficiary. However, the foreign partner could be offered the right of purchase or lease of the site after its closure, for commercal development. This is might be a good way to attract a foreign partner.

If a foreign partner cannot be found, then we recommend that MB set up a Municipal Waste Disposal Administration (MWDA), subsumed under it, which would manage the disposal services at Glina site. We also recommend that, Balaceanca and Cretuleasca sites are independently managed under operational contracts, or by a foreign joint venture company, since it is assumed that the Municipality will have sufficient contracting capabilities by the time these sites become operational. Similarly, Glina could be eventually be contracted out rather than managed under the MWDA.

We also recommend that the maintenance service is contracted out by the FJVC or the MWDA.

These options are recommended because:

Firstly, at the present time, disposal is too **risky** to contract out to the private sector (options 4 to 6) because the private sector has little experience of managing landfill sites and is largely motivated by market forces, ie it has a direct incentive to reduce costs in order to maximise profits. These motives are not necessarily compatible with public or environmental values for which local government is responsible.

Furthermore, MB is not yet able to effectively manage and control a private sector contractor. Private sector provision of disposal might become viable when the Municipality has:

1. gained considerable knowledge and understanding of how to manage the disposal service; **and**
2. a strong contract management capability.

At the present time MB has neither of these and, therefore, the private sector options are rejected on the grounds of the possible risk to public health and environmental protection. When the above conditions are met, it would make sense for MB to gain the benefits of private sector involvement, ie improved efficiency, cost effective investment, etc.

Secondly, a joint venture with a foreign company is a secure way of benefiting from private sector involvement and it gives MB:

1. access to foreign expertise, experience and efficiency which local contractors lack at the present time; and
2. more involvement and control because it co-owns the joint venture company.

Likewise, the MWDA option is less risky than contracting out, since MB is directly responsible for managing the service. However, this option lacks the benefits of efficiency and expertise which a foreign company would provide.

Thirdly, the SALUB option, is rejected for a number of reasons:

1. the new SALUB would inherit a workforce, operational practices and an organisation structure similar to RASUB's, which has been unable to properly manage Glina landfill site;
2. it is MB's intention to contract out more of Bucharest's collection and haulage services and therefore the future of SALUB is uncertain; and
3. one of the objectives of setting up SALUB is to eventually privatise it.

Organisational arrangements for both options are now considered.

2) Organisational Arrangements for the Foreign Joint Venture Company

The foreign joint venture company (FJVC) would be set up by a Local Government Decision and should be established with the following institutional arrangements.

The Municipality would agree a performance contract with the FJVC for operating the disposal services. The performance contract would be monitored by a waste administration set up within the Municipality specifically for this purpose.

The organisational structure of the company is given in Figure 9.2-2 below. This is indicative only and may be subject to amendment.

The FJVC has a Board of Directors with representation from both the Municipality and the foreign partner. It is headed by a director who reports to the Board.

The structure includes a technical section, a small personnel section and financial accounting and purchasing sections. Operations are organised by site teams. Team composition is described in section 4) below.

The technical section would have responsibility for operational planning, environmental monitoring, equipment maintenance, preparing an equipment purchase plan and data management and reporting.

The purchasing section would be responsible for making all purchases, as well as, eg contracting out the equipment maintenance. The section head will need to have efficient purchasing authority delegated to him to enable him to purchase on a timely basis.

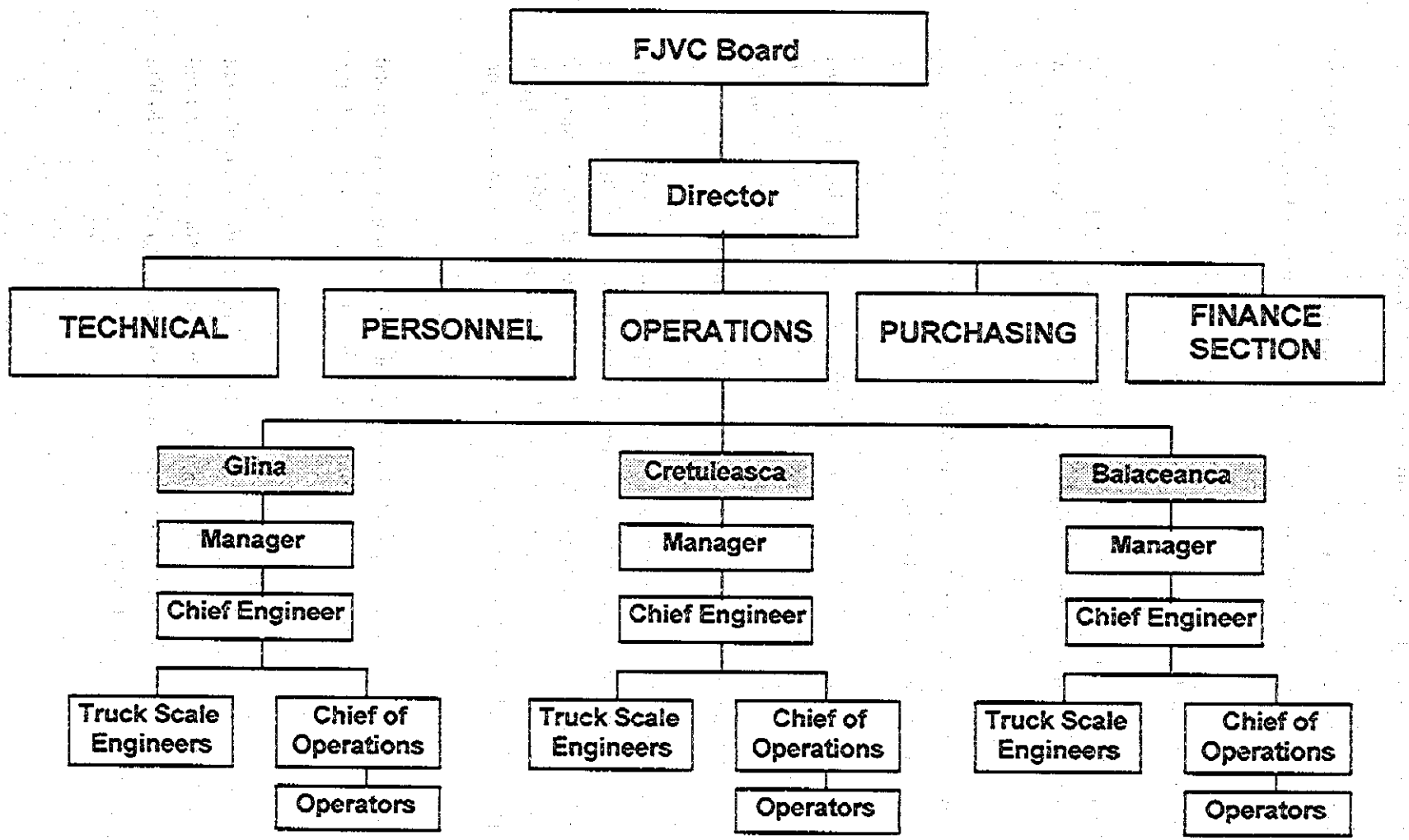


Fig. 9.2-2 Proposed Organisational Structure of the Foreign Joint Venture Company

3) Organisational Arrangements for Municipal Waste Disposal

The MWDA is set up by the Local Government Decision which transforms RASUB into the commercial enterprise SALUB. The following organisational arrangements should be established:

1. Organisational structure

The MWDA is structured in the same way as the FJVC. Figure 9.2-3 below gives the proposed organisation structure for the MWDA. This is an indicative structure and may be subject to amendment.

The MWDA is headed by a director who reports to the Vice Mayor who is in charge of this activity and the Public Services Department.

Operations are organised by site teams. The organisation structure only includes Glina since Balaceanca and Cretuleasca sites are to be independently contracted out. Contracts will be monitored by the "Purchasing and Contracts" section shown in the chart. Team composition for each of the sites is described in section 4) below.

Like the FJVC, the MWDA's organisation also includes a technical section, a small personnel section, a financial accounting function and a purchasing section. These sections are required since MB's central departments, eg personnel and economics, have insufficient capacity to support the MWDA. Similarly, MB's other 9 Administrations which are all subsumed under the PSD, have their own support sections.

The technical section would have responsibility for operational planning, environmental monitoring, equipment maintenance, preparing an equipment purchase plan and data management and reporting.

The purchasing section would be responsible for making all purchases, contracting out the equipment maintenance and monitoring the operational contracts for Balaceanca and Cretuleasca. The section head will need to have purchasing authority delegated to him to enable him to purchase on a timely basis.

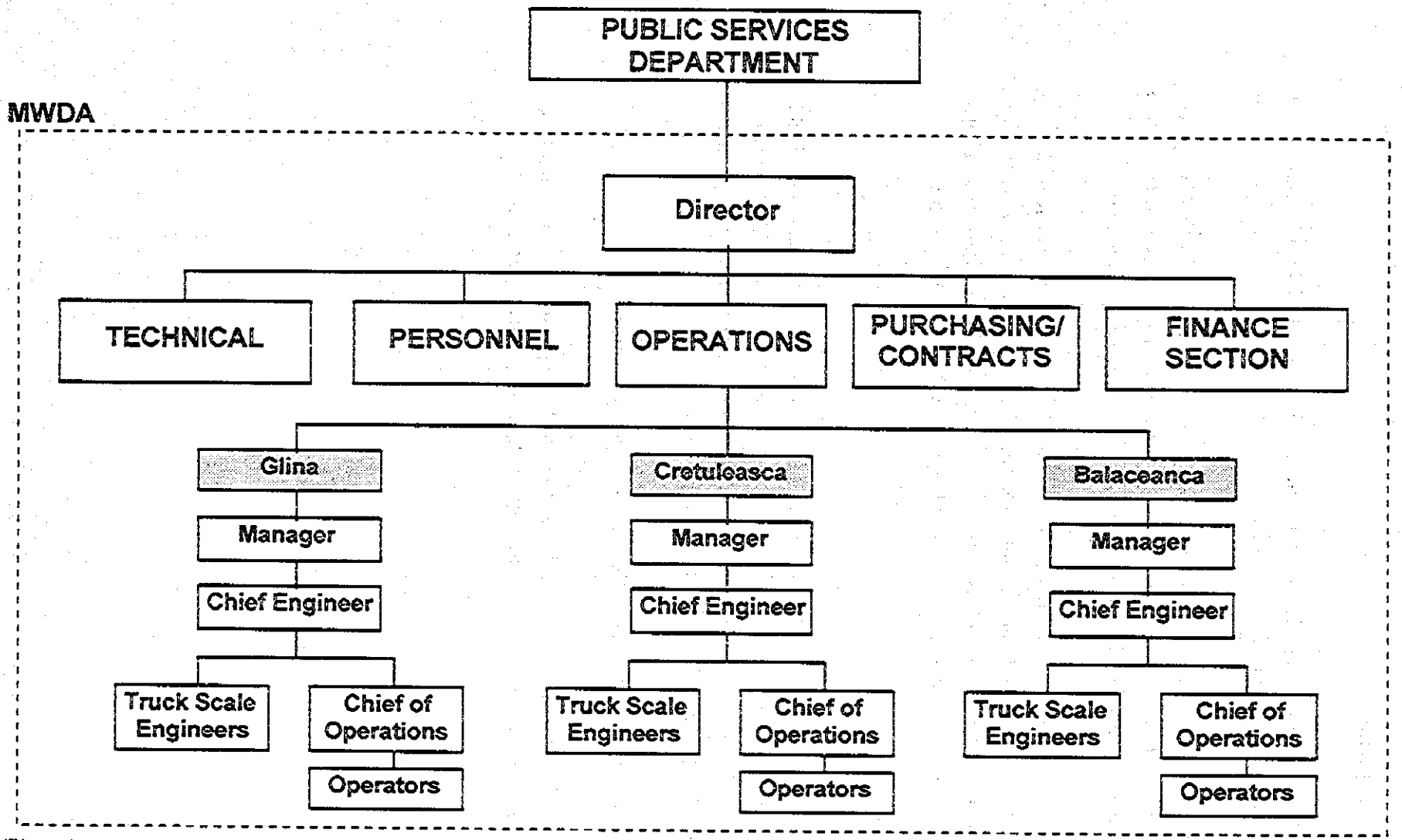


Fig. 9.2-3 Proposed Organisational Structure of the Municipal Waste Disposal Administration (MWDA)

2. Financing

The MWDA must be properly financed. In particular the Municipality needs to set a policy on how disposal investment will be financed.

Under the Municipality's proposed financing arrangements the MWDA's operating costs will be recovered through the waste tax. Investment expenditure could be financed from either the Municipal budget, the State budget or the waste tax.

Any investment from the waste tax needs to take account of budgetary regulations, eg the need to create an investment fund from the tax before it can be used for capital expenditure. These financing issues will be dealt with in the waste tax Technical Assistance which the World Bank is intending to provide to the Municipality.

3. Staffing

Staffing up the MWDA may be difficult because salaries in the administration would be considerably lower than those in RASUB. A bonus scheme or an agreement with the Ministry of Labour and Social Protection and the Ministry of Finance to pay salaries at the same level as those in RASUB, will be required.

4) Operational Organisation at the Landfill Sites

Table 9.2-8 below shows the detailed staffing and composition of the teams of each landfill site. These are appropriate for both the MWDA and the FJVC option.

Table 9.2-8 Site Team Composition

Site	Staffing	Total numbers of site staff
Glina	-Site Manager (1) -Secretary (1) -Chief of engineering section (1) -Truck scale engineer (2) -Chief operator (1) -Operator (10)	16
Cretuleasca	-Site Manager (1) -Secretary (1) -Chief of engineering section (1) -Truck scale engineer (2) -Chief operator (1) -Operator (6)	12
Balaceanca	-Site Manager (1) -Secretary (1) -Chief of engineering section (1) -Truck scale engineer (2) -Chief operator (1) -Operator (11)	17

Note

1. Number of operator is included one shift person.
2. Security guard should be contracted out.

The defined responsibilities of the landfill site team are:

Site Manager: all the responsibility of handling the site, and contact and reporting to the MWDA's Director.

Secretary: controls and regulates the schedule of Director, registers income and outlay of daily management;

Chief of engineering section: responsible for all engineering matters, planning and conduct suitable landfill operation method;

Truck scale engineer: operates truck scale to measure the waste quantity and quality; and directs trucks to designated landfill area;

Chief operator: controls daily operator's work and directs trucks to the designated landfill area in site; and

Operator: landfills the waste.

9.3 SWM Arrangements at National Level

9.3.1. Institutional Deficiencies

The following deficiencies in institutional arrangements and laws at the national level.

1) Policy and Planning

Formulation of SWM policy and planning is weak and fragmented at national and local level. No single government body is responsible to develop SWM policy, to carry out strategic planning and to issue SWM guidelines for municipal government. Ministries pursue their own initiatives but do not coordinate.

2) Setting SWM Standards and Formulating SWM Regulations

There is fragmentation of setting SWM standards and regulations amongst MLPAT, MoE, MoH (Min of Health), MoI and MB. These activities should be coordinated and rationalised at national level by one Ministry. However, we note that the Interministerial Technical Committee for Setting Standards for Urban Salubrity is in the process of issuing the first municipal waste standards. The committee aims to set about 3 SWM standards per year.

3) Issuing Permits and Licenses

There is a lack of coordination in issuing permits/licenses for SWM activities. These activities should be coordinated within a national policy and plan.

4) Linkages between Institutions

There are few linkages between institutions involved in SWM. There are no reporting lines between MB and central government for SWM. Likewise, there are no reporting line responsibilities between RASUB and central government. As a result, the coordination of policy, planning, legislation and service provision is virtually non-existent.

9.3.2 Legal Deficiencies

There is no national law on SWM yet. However, the MoE is formulating a new waste law with assistance from the Secretariat of the Basel Convention and the Ministry of Industry (MoI) has recently issued Ordnance 33 concerning Material Recycling. Ordnance 33 was prepared by the MoI's National Commission for Materials Recycling (NCMR).

9.3.3 Recommendations for the Government of Romania

It is recommended that the the Government of Romania:

1. prepare a national strategy and plan for solid waste management. This would include;
    - identifying the number of municipal disposal sites which need to be constructed including an estimate of the investment cost;
    - setting quantitative targets for SWM and preparing guidelines for achieving targets;

    Output from the plan would include the preparation of guidelines for local government strengthening of SWM organizations.

2. establish a monitoring and reporting under system which local governments report municipal SWM information to the MLPAT including, (1) service coverage, (2) costs, (3) waste tax or other revenues billed and collected, (4) types and quantity of equipment used, and (5) disposal methods used.

    The information reported to MLPAT will be used to evaluate municipal SWM conditions, and to issue guidelines to locasl governments; and

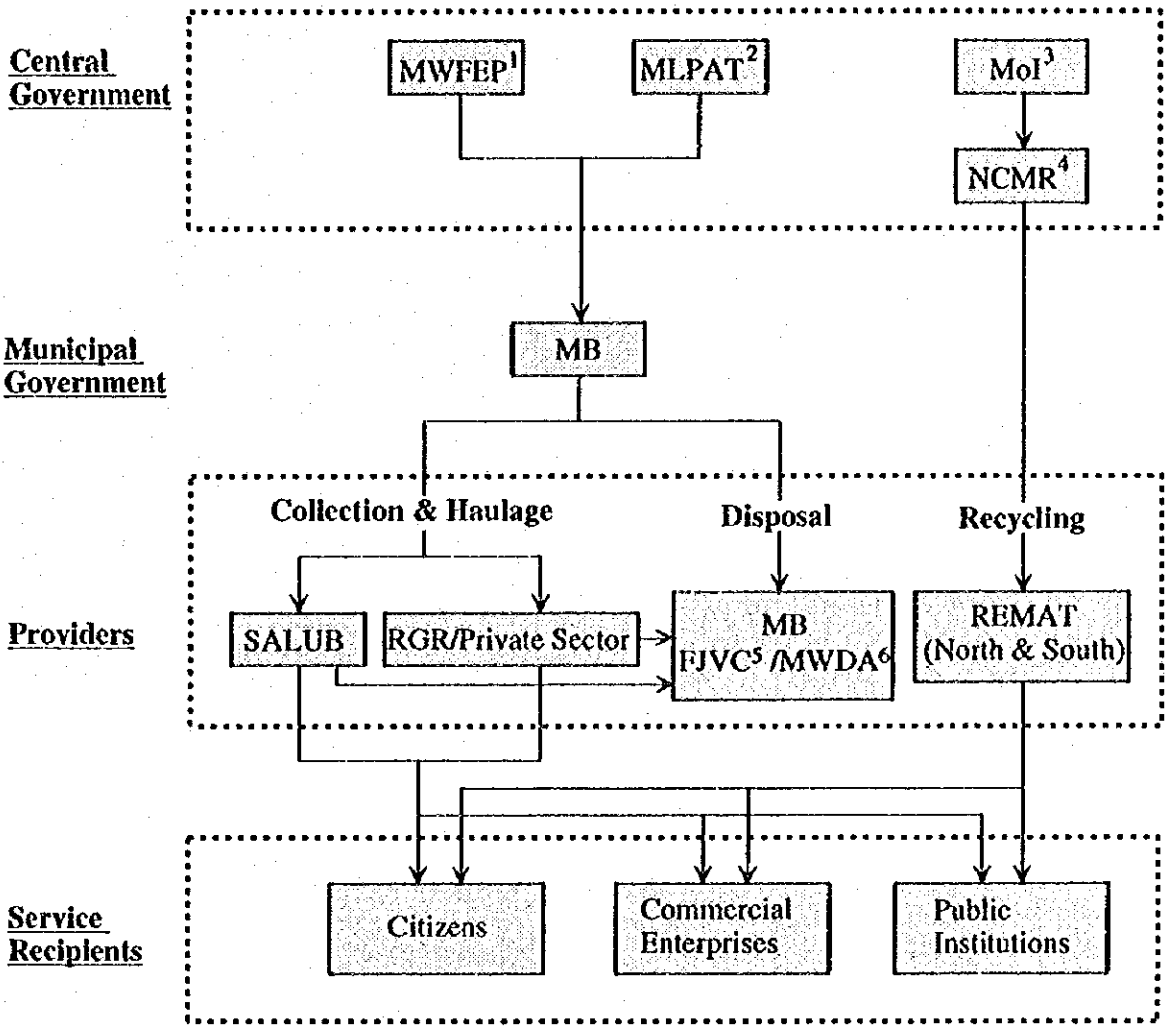
9.4 Summary of Proposed Institutional and Financial Arrangements

Table 9.4-1 below gives an overview of the proposed assignment of institutional and financial responsibilities amongst MB, the Sector Administrations, SALUB, RGR and the private sector. The time frame is over the medium term i.e. 2 -3 years.

The chart in **Figure 9.4-1** goes on to show the linkages between the main institutions.

Table 9.4-1 Proposed Institutional and Financial Responsibilities for Solid Waste Management in Bucharest

Institutional responsibilities	MB	Sector Administrations	SALUB	Private Sector/RGR
Primary Duty of Care	Bucharest Municipal Council			
Policy and planning	MB's Council responsible for: approving policy and major planning issues Public Services Department(PSD) and other Departments responsible for: 1. policy formulation 2. strategic planning		Operational Planning	Operational Planning
Legislation, setting standards & formulating regulations/norms	1. Local Council Decisions 2. Regulations and sanitary norms			
Asset ownership	MB owns all of RASUB's/SALUB's operating assets, i.e.: - collection and haulage - street sweeping, and - disposal		SALUB employs RASUB's personnel but does not own its operating assets.	
Contract Management and Service Monitoring - procurement of servcies - monitoring and enforcement	1. PSD, Legal and Economic Depts are jointly responsible for procurement 2. PSD monitors and enforces			
Provision of services - collection and haulage - street sweeping - treatment and disposal	Disposal to be provided by MB through a Disposal Administration or a Foreign Joint Venture		1. Collection and haulage 2. Street sweeping	1. Collection and haulage only 2. Street sweeping 3. Maintenance
Financing - capital investment - operating expenditure	1. If MB responsible for disposal capex, financing sources are: - municipal revenues - bank loans - donor financing 2. **Disposal opex.** no subsidisation. Full cost recovery from waste tax.		1. If SALUB responsible for disposal capex financing, sources are: - bank loans - own cash resources Cost recovery through contract remuneration 2. **Collection and Haulage** and Street Sweeping opex recovered through contract remuneration	
Monitoring of services	PSD centrally monitors: 1. collection and haulage 2. street sweeping 3. disposal	At local level each sector monitor 1. collection and haulage 2. street sweeping		



Note: 1. Ministry of Water, Forests, and Environmental Protection
2. Ministry of Public Works
3. Ministry of Industry
4. National Commission for Materials Recycling
5. Foreign Joint Venture Company
6. Municipal Waste Disposal Administration

Fig. 9.4-1 Institutions Responsible for Solid Waste Management (including Recycling) for Bucharest

Chapter 10
Organization and Management

CHAPTER 10 ORGANISATION AND MANAGEMENT

10.1 Introduction

Our recommendations for strenghthening the institutional capacity of MB and RASUB are presented below. These proposals and a detailed evaluation are presented in the Appendix 10 to the the Draft Master Plan.

If RASUB is transformed into SALUB the recommendations will still remain valid for SALUB because it will have a very similar organisational and management structures as the old RASUB.

MB and RASUB are now considered separately.

10.2 Evaluation of Bucharest Municipality's Current SWM Organisational and Management

Our proposals and evaluation primarily focus on the activities of the Public Services Department (PSD).

Although we have identified a number of deficiencies these are not intended to be critical and should be considered in the light of the difficulties municipal government has faced in establishing itself. It is not surprising that MB lacks organisational capabilities when it is so financially constrained and lacks autonomy from central government.

10.2.1 Organisational Issues

1) Introduction

An efficient organisational structure has clear reporting lines, rational departmentation, reasonable spans of control and number of levels of managers and supervisors, and an appropriate senior management structure.

The organisational charts of MB and the PSD are given below in Figures 10.2-1, and 10.2-2 respectively. We have not recommended any changes to the existing structures. This is, in part, because they are set by legislation and bureacratic convention and are therefore unalterable.

2) Spans of Control and Vertical Structure

An analysis of the organisational structure of the PSD shows that the basic vertical and horizontal structures appear sufficient for current needs.

3) Functional Departmentation

The existing functions within the PSD appear to be adequately organised and rational for its current requirements.

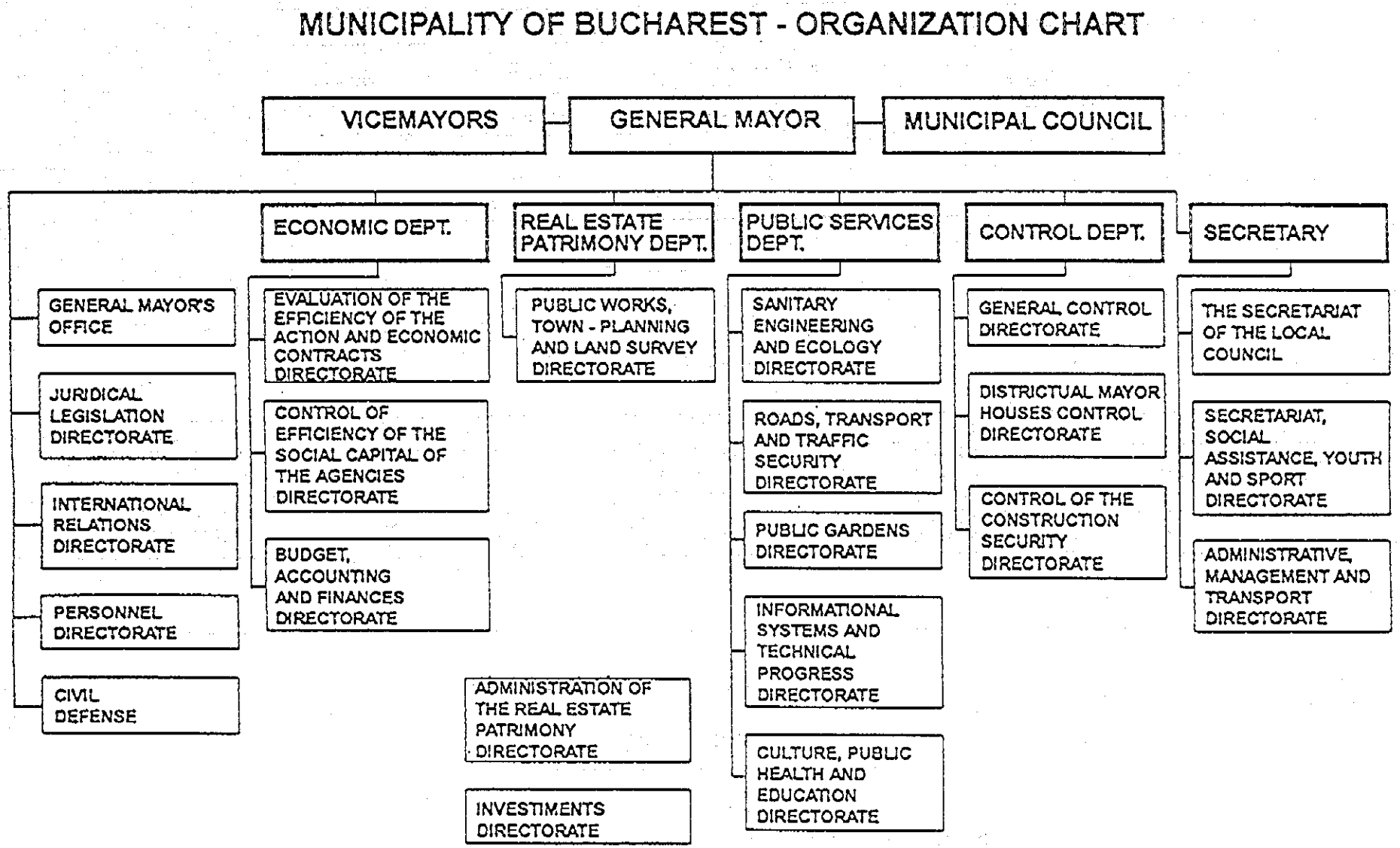


Figure 10.2-1 Municipality of Bucharest - Organization Chart

DEPARTMENT OF PUBLIC SERVICES

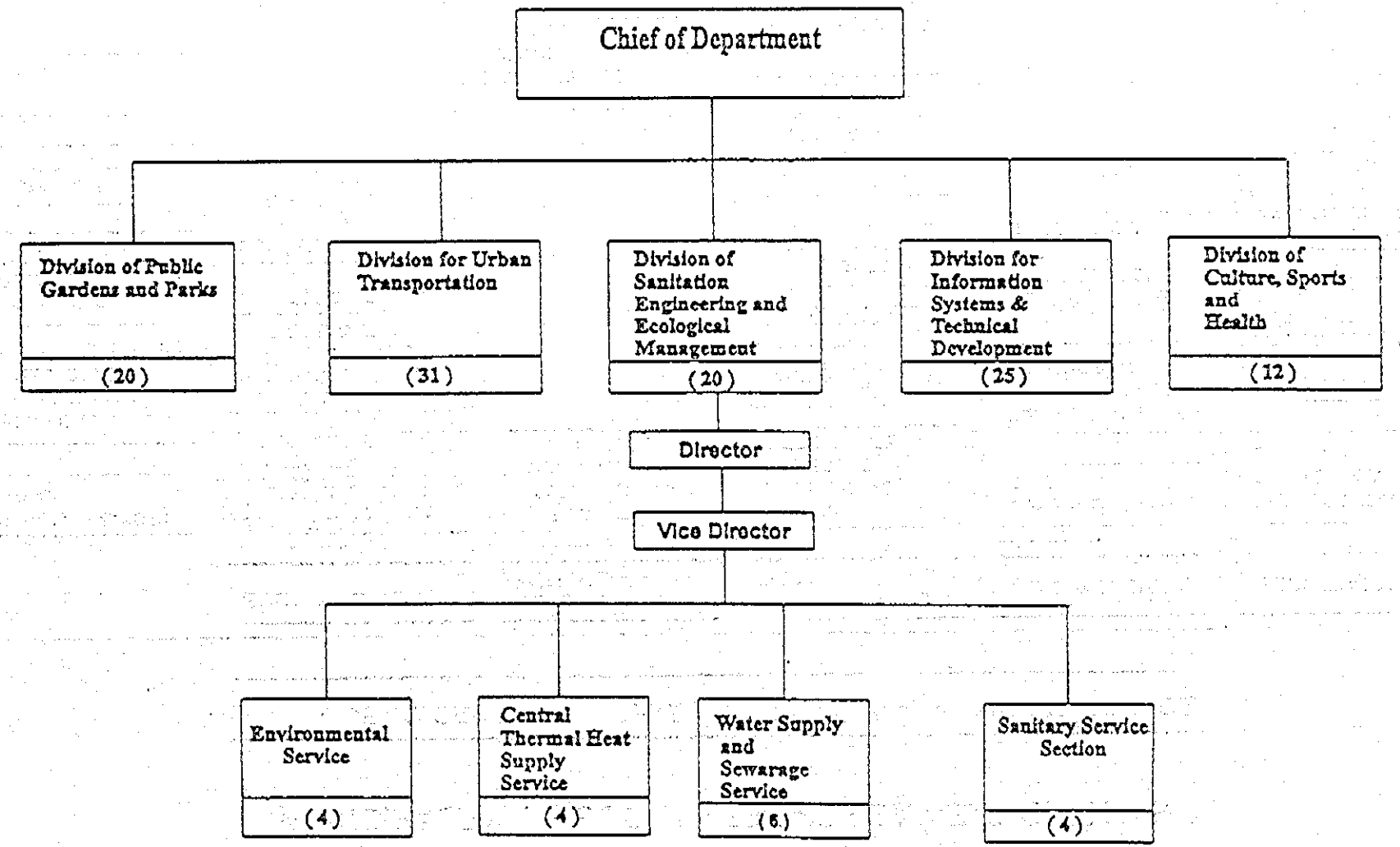


Figure 10.2-2 Department of Public Services

However contract management capabilities are weak. We recommend that a contract management capability is set up. This could be in the PSD or provided as a separate department or section within MB.

As a start it would be appropriate to employ a legal expert to strengthen the PSD's legal and contracting capabilites. The legal expert would report to the Chief of the PSD to provide him with legal support.

Substantial development will be required including expertise in contract design, improved negotiation skills and monitoring capacities.

4) Delegation and Assignment of Responsibilities

Although job descriptions are prepared for individual staff members there is a lack of accountability for individual performance and some staff are carrying out duties beyond the scope of their job descriptions.

Tasks are set but there are no formal procedures to monitor individual performance. There is a lack of an "accountability" culture. This is due to a number of reasons. Firstly; MB lacks a human resource management capabiltiy. There is no statute of employee rights in MB. Secondly, staff motivation is low. Thirdly, there are no formal procedures to monitor and assess staff performance.

However, we note that PSD is making very good efforts to improve staff efficiencies and staff accountabiltiy. The PSD has implemented two new software applications; Agenda and, recently, Dox. Both applications facilitate task and document management.

Accountability can be improved by setting tasks for subordinates and monitoring results, periodic monitoring of individual performance against agreed performance objectives/targets and giving more responsibility to staff. Over supervision stifles enterprise and initiative.

10.2.2 Policy and Planning Capacity:

1) Planning and Policy Processes/Procedures

Effective planning and policy formulation should include preparation of medium/long term strategic plans as well as annual operational plans.

In MB there is no formalised periodic planning capability by which annual, medium and long term SWM plans are prepared and periodically assessed by the PSD. We do however understand that the financial uncertainties facing MB act as a disincentive to preparing plans.

MB prepared its first annual plan in 1994 to which PSD contributed its public service plan. This is a very welcome step and reflects the new initiatives that MB is taking. Although this is very promising, planning capabilities still need to be developed.

The planning scope should include a mission statement, objectives, policy statements, performance targets, action plans with indicative scheduling for: operational, technical, human resources and financial planning components. It should also contain a resourcing plan including a financing plan. The financial forecasts will contain operating revenues and costs as well as investment forecasts.

2) Investment Planning

The investment planning process is reasonably well defined and bureaucratic. However, MB seriously lacks the autonomy to appraise, approve and competitively procure its investments. Procedures are very bureaucratic for approving and tendering civil works and equipment procurement. The MoF controls the approval of feasibility studies and tendering large civil works. Procedures for equipment procurement are similarly processed.

3) Objective Setting and Performance Measurement

There are no procedures to set and monitor objectives from the strategic level down to middle managers and supervisors. There should be a periodic assessment of managers performance against agreed performance targets and objectives.

10.2.3 Management Decision Making Capacity

Management decision making capacities are constrained by bureaucratic procedures. This means that management decisions cannot be made by the PSD but are diffused through MB, e.g. the approval of Bucharest Sanitation Norm requires joint approval by the PSD, other Departments, the Mayor and the Council.

This lack of focus impedes management effectiveness. However it is unavoidable and as a result we cannot make recommendations.

10.2.4 Systems and MIS

Management needs appropriate information systems to provide relevant and regular information to enable them to make effective decisions and to efficiently carry out their responsibilities.

However, the MIS capability at MB is weak and is aggravated by the reluctance of departments within MB to share information with each other. An information culture is lacking. Monitoring of RASUB is weak because of a lack of appropriate data.

However, we note that PSD is making very good efforts to improve its MIS needs. It has implemented two new software applications; Agenda and, recently, Dox. Both applications facilitate task and document management and were developed by MB's computing resources.

This is a very welcome step and indicate that MB is taking preliminary steps to develop an "information culture". PSD anticipate further MIS developments.

The main requirement is to provide information to monitor RASUB's and other provider's services. We recommend that the following data is prepared:

1. Service frequency (by zone/streets) where service frequencies were not achieved
2. Coverage rate
3. Collection quantity by zone
4. Collection quantity by workshop
5. Collection quantity by types of waste
6. Unit costs of waste collected & hauled by sector / zone and truck type
7. Rate of vehicle utilisation
8. Average number of trips made by vehicle groups, sector & zone
9. Number of complaints by sector & zone
10. Results of environmental monitoring e.g. leachate quality

10.2.5 Human Resource Capabilities

There is a formal manpower establishment for the PSD. The establishment of 5 people for the Sanitary Service section is wholly inappropriate to carry out its responsibilities of monitoring RASUB, the ADPs (street cleansing), RGR and 3DB (vermin control). This is recognised by the PSD which is proposing new monitoring arrangements.

Many of the staff are qualified as engineers and lack management or financial skills. Contract management expertise is totally deficient and it will be necessary to train at least one manager and a subordinate in these skills. Employing one lawyer will help to strengthen capacity. Skills include tendering, negotiation and monitoring.

10.2.6 Contract Management Capabilities

Procedures to competitively tender collection and street cleansing services and to monitor contracts are bureacratic and are formally laid down in legislation.

Currently RGR and 3D are the only service contracts which MB has let. Both of these are joint venture arrangements which terms and conditions are given in the joint venture agreements to set up the companies.

The responsibility for preselection and procurement is split amongst the PSD, The Economics Department and the Legal Directorate.

The Economics Department has responsibility for managing the tendering process according to strict procedures laid down by MB and the law. Therefore the opportunity to develop and change the tendering process is limited for the procurement of both civil works and equipment.

The Tendering section in the Economics Department is responsible to draft the pretendering documentation, the tenders and the contract. A tendering commission is set up to select the contract. The Mayor and the Council must also approve the final selection.

The area where MB has room to develop its capability is in the design of the contract rather than the tendering process which is basically fixed.

There is little expertise at MB in contract design, formulation of performance measures, and managing the procurement process, i.e. preparing the Specification tendering documents, bid evaluation and selection and the contract. Skills and practical knowledge in these areas must be developed.

Responsibility for monitoring and enforcement is also the PSD's, but again the Sanitary Services Section lacks staff numbers and the expertise to do this. We have outlined several recommendations in sections 4 and 5 above.

10.3 Evaluation of RASUB's Current Organisational and Management Capacity

The evaluation has taken into account RASUB's proposed transformation into RASUB. Whatever new entity is created out of the old RASUB, the evaluation and the proposals made below will still remain valid for it.

10.3.1 Organisation

1) Introduction

An efficient organisational structure should have clear reporting lines, rational departmentation, reasonable spans of control, an appropriate number of staffing levels, and an appropriate senior management structure. Our evaluation of RASUB's organisational structure is based on these broad criteria.

Although a number of deficiencies are identified these are not intended to be critical and should be considered in the light of the many difficulties RASUB faces. In particular it is severely financially constrained. RASUB's also inherited an organisational structure and procedures which reflect a command and control culture and are not suitable for efficient management. This structure is almost identical to other Romanian public service or industrial enterprises.

RASUB's Organisation Chart, given in Figure 10.3-1 below, shows a well defined structure comprising a Technical Department, a Production Department and an Economic Department. Staff functions (support) are provided by "compartments" and line (operational) by "sections".

The senior management comprises the Council of Administration and a Directors Board, headed by the General Manager, which is subordinate to the Council.

2) Structure

a. Spans of Control and Vertical Structure

Generally the basic vertical and horizontal structures appear sufficient for current needs.

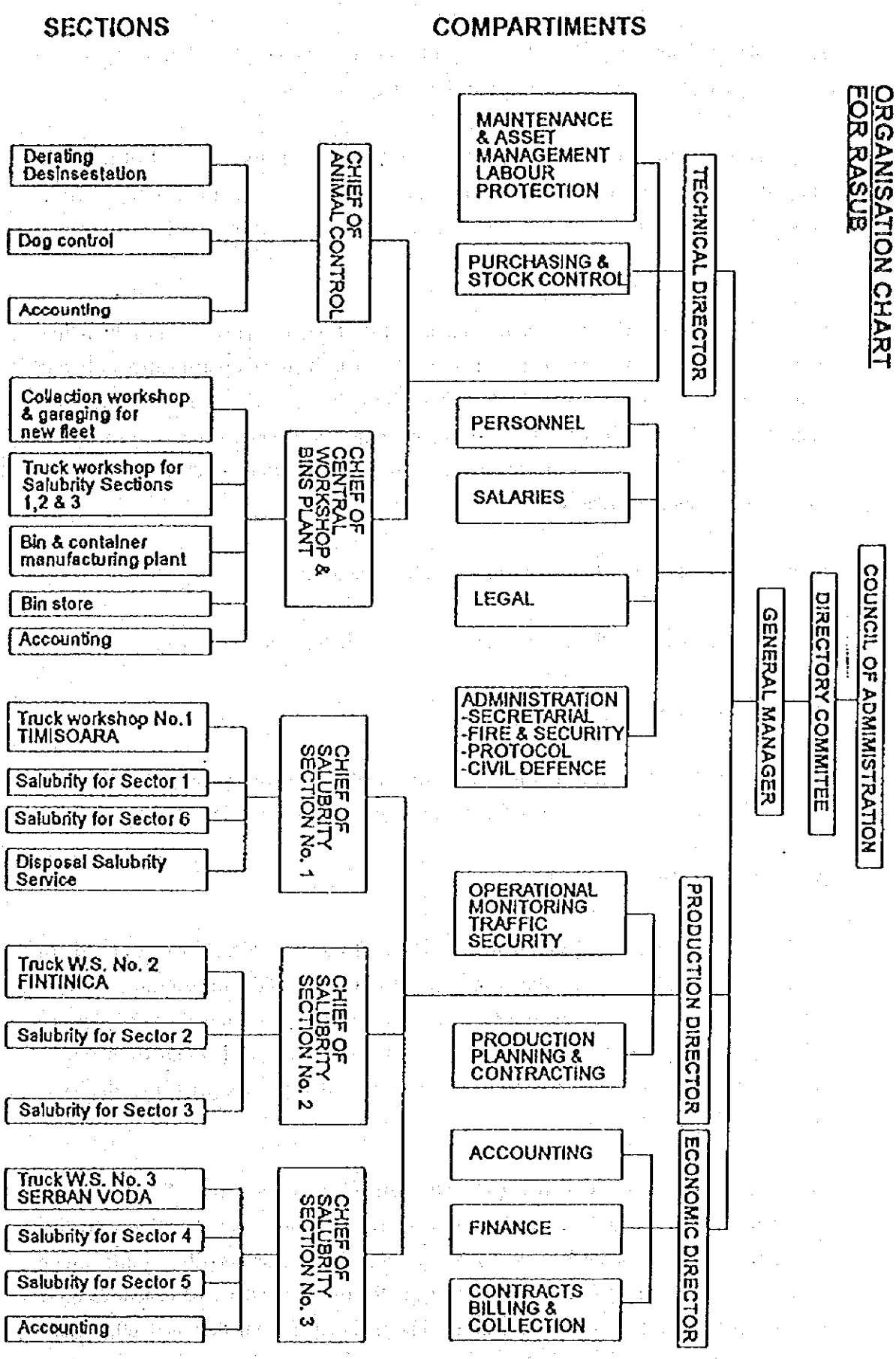


Figure 10.3-1 Existing Organization Chart for RASUB

As a rule of thumb the span of control (the number of people subordinate to one manager or supervisor) should not exceed 5 or 6 subordinates.

The span of control for the Managing Director is 7. This is too wide. 4 of these are support compartments i.e. personnel, salaries, legal and general administration. These should be reduced in number. This is discussed in the section on departmentation below.

Generally, the spans of control are reasonable for staff functions except in a) the billing and collection and b) the maintenance and asset management compartments. In billing and collection one chief manages about 55 cash collectors who are all at the same responsibility level. Likewise the maintenance and asset management compartment is managed by a chief who supervises about 25 maintenance workers at the same level. These spans should be reduced.

Spans of control for line functions are generally reasonable.

The vertical structure of the support staff and line staff appears reasonable.

b. Staff and Line Balance

The total number of support staff is 214 out of a total of 1659 (actual in post at 8/9/94). The ratio of line to support staff is about 1 to 7. This is a reasonable balance.

3) Senior Management

Senior management is bureaucratic and ineffective. RASUB's Council of Administration did not resolve the major issues facing it, nor did it implement a strategic planning framework or develop practical policies. Its main concern was to carry out its minimal statutory responsibilities rather than to manage and improve services. RASUB will have a similar management structure and it is anticipated that the same problems will continue.

One reason given for senior managements ineffectiveness was that the Unions are powerful and prevented the Council from exercising control. Another reason is that RASUB'S Council members lacked management expertise and skills. Furthermore they did not delegate management tasks down to the Board which as the executive body is responsible for the greater part of planning, policy formulation and other main management tasks.

Unfortunately, the executive board could not act like a management board because it had too few powers; under Law 15, 1990 it was assigned the day to day management of RASUB only.

4) Functional Departmentation

The main functions were evaluated to ascertain whether the departmentation was rational, relevant and whether any functions were missing.

Many of the issues identified involved a fragmentation of responsibilities across the organisation. There were also some functional omissions. We recognise that this is primarily due to the way in which state enterprises were organised under the centrally planned economy and does not reflect on senior management's capabilities in any way.

A number of revisions to the organisation are proposed which are shown in a **revised organisation chart, in Figure 10.3-2.** We must state that this is a preliminary recommendation only and may be subject to change.

a. Management of Collection, Haulage and Disposal

Management of both maintenance and collection services is fragmented across the organisation. Currently the collection service, excluding that provided by the new truck fleet, and the routine maintenance functions are jointly managed in three RASUBrity sections which are under the Production Director. One of these sections also manages the disposal function.

This arrangement makes it difficult for each of the three RASUBrity section's chiefs to divide their management time and responsibilities between maintenance and service provision. This impacts on service efficiency and quality.

In addition the collection service provided by the new truck fleet and the major capital repairs (maintenance) function are similarly organised in one central workshop under the Technical Director. The workshop is also used for bin and container manufacturing. Again management time and responsibilities are divided across collection, maintenance and manufacturing activities with impact on service quality.

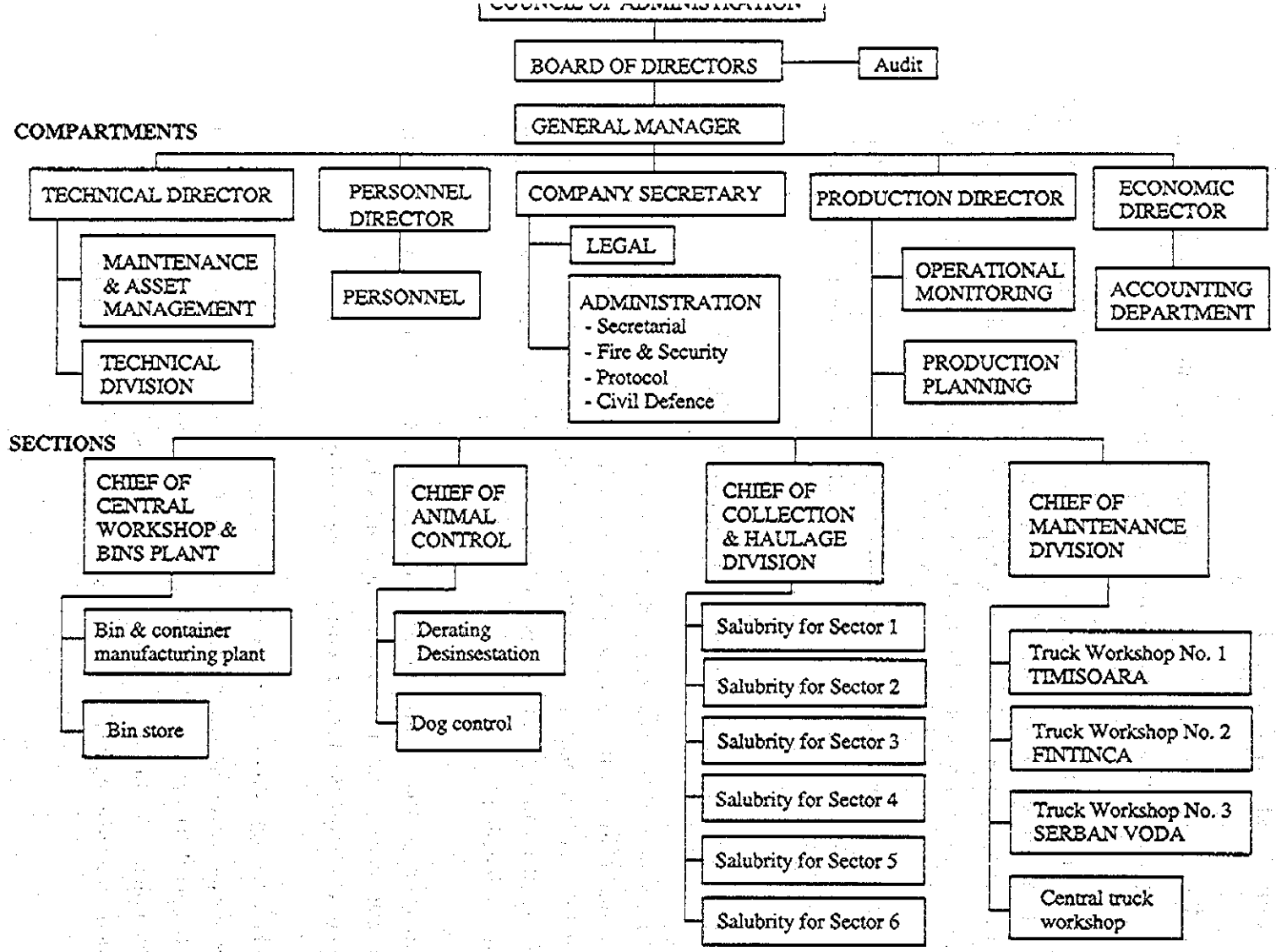


Figure 10.3-2 Proposed Organization Chart for RASUB

We recommend that the maintenance and collection services which are currently provided under the three RASUBrity sections are split up and separately managed. A new collection division and a new maintenance division should be set up. In addition we also recommend that the maintenance function is contracted out. The new maintenance division would be responsible for managing the contracting process and monitoring for service compliance.

The capital maintenance activities at the central workshop should also be transferred to the new maintenace division. The manufacturing actitvities at the central workshop should continue to be independently managed under Technical Director.

The new collection division, headed by one chief and under Production, would also be responsible for the new truck fleet which would be subsumed as a separate section.

The new maintenance division would also be under the Production Director.

Detailed rationalisation of these activities requires a more detailed project and is beyond the scope of this study. We propose that this could be the subject of a technical assistance program for institutional stregthening.

b. Financial Accounting

The accounting function is fragmented across a number of compartments and sections. Outside the Economics "Department" accounting functions are carried out by the Salaries compartment and by 3 accounting sections, one in Animal Control and one under the Chief of the Central Workshop (both are subordinate to the Technical Director) and the third under the Chief of RASUBrity Section No. 3 (subordinate to the Production Director).

This contributes to organisational inefficiency.

We recommend that the accounting function is organised in one accounting department, organised by main accounting operations and tasks and managed by the Economics Director.

c. Personnel

Responsibilities for personnel are fragmented between the Personnel Section, Salaries Section and the Operational Monitoring Section under the Production Director.

Personnel's responsibilities are limited to maintaining personnel records, negotiating collective annual salary increases and carrying out limited training and manpower planning. There is no human resources training and development program.

Salaries has a minor role as it is also involved in the collective salary negotiations and checks pay increases comply with legal requirements.

The Operational Monitoring Section prepares job descriptions.

We recommend that a separate Personnel Department is established and a Personnel Director is appointed. The departments responsibilities should be developed. A human resource development plan and an annual staff assessment procedures should be implemented. Under these arrangements each member of staff will have an annual assessment.

d. Audit

An internal audit function is carried out by the Legal compartment which comprises one legal officer only. This is insufficient for an organisation of this size. The audit resource should be increased to ensure that the companies financial and non financial assets are properly recorded and physically safe.

To provide an effective internal audit service, two auditors should be recruited to set up a separate audit compartment which will report direct to the Directors Board. An annual internal audit plan should be prepared which covers the main accounting and asset controls.

Audit reports should be produced for each task and results reported directly to the Board.

5) Delegation and Assignment of Responsibilities.

Job descriptions are prepared for each member of staff setting out their responsibilities. But in practice there is little accountability for individual performance. Increased accountability contributes to better decision making and organisational efficiency.

Responsibilities should be clearly assigned and delegated to managers and supervisors. Accountability can be improved by setting tasks for subordinates and monitoring results, periodic monitoring of individual performance against agreed performance objectives/targets and giving more responsibility to staff. Over supervision stifles enterprise and initiative.

10.3.2 Policy and Planning Capacity

1) Planning Procedures

Effective planning and policy formulation should include preparation of medium/long term strategic plans as well as annual operational plans.

There is virtually no formalised planning capability in RASUB by which annual, medium and long term plans are prepared and implemented. Only a simple annual investment plan and a rudimentary budget are produced.

This is primarily due to the absence of a strategic planning culture in state enterprises which were subordinated to a centrally planned economy. Additionally the directors board is not assigned any planning responsibilities and is constrained by its limited obligations as defined under the law.

As a result there is a limited planning and policy capability in RASUB. Furthermore there is no budgetary planning and control system for either recurrent or capital expenditure which is vital to underpin the planning process.

At a minimum the planning scope should include a mission statement, objectives, policy statements, performance targets, action plans and scheduling, for operational, technical, human resources and financial components. It should also contain a resourcing plan including a financing plan.

Furthermore a budgetary planning and control system should be implemented to underpin the annual planning process. This is considered further in the financial management section below.

2) Investment Planning

Each year RASUB will submit its investment plan to MB after it is approved by its Council of Administration. The annual investment planning process is very bureaucratic and the appraisal methods are basic.

c. Objective Setting and Performance Measurement

There are no procedures to set and monitor objectives from the strategic level down to middle managers and supervisors. Managers must have a clear understanding of their objectives. There should be a periodic assessment of managers performance against agreed performance targets and objectives.

10.3.3 Management Decision Making Capacity

Management decision making capacities are constrained by bureaucratic procedures and organisational deficiencies. The Board of Directors is constrained under existing laws in its capacity to make management decisions and will have to defer to the Council of Administration. The Council is too removed from the day to day management to be effective and has not yet assigned responsibilities to the Board.

Effective decision making can only come with the assignment of full responsibilities to the Directors Board and to middle managers and supervisors. Senior management also needs to be supported by a good MIS to enable them to make decisions based on accurate and timely information.

10.3.4 Financial Management and Systems

1) Introduction

Effective financial management requires several objectives to be met. These are to:

1. accurately and promptly record the assets and liabilities, revenues and expenditures and to periodically report financial information;
2. safeguard the assets;
3. provide accurate and relevant financial information to assist managers in the day to day management of the business;
4. develop a financial planning capability to assist management in the preparation and implementation of annual, medium and long term plans;
5. measure financial performance of departments and individuals to assess whether financial objectives are met; and
6. ascertain whether financial assets are being efficiently, effectively and economically used in the business.

To achieve these objectives financial planning must be integrated into the strategic planning process and budgetary planning and control, appropriate accounting systems and audit arrangements should be implemented.

2) Financial Planning

There is virtually no formalised financial planning capability by which annual or medium term financial planning is carried out. This is due to the lack of a strategic planning framework which is discussed above. Only a simple revenue and expenditure budget was prepared for 1994 and investment planning procedures are fairly elementary.

Financial planning supports the annual and strategic planning process and involves the estimation of financial costs and revenues required to achieve planned objectives. Financial targets will be identified and set over different periods and compared against outcome. This will enable planning control to be exercised by senior management. None of these is carried out.

Proper financial planning should be introduced.

Medium term planning for both recurrent and capital spend should be carried out. This will enable RASUB's managers to assess the affects of their current decisions on the medium term, e.g. to model and forecast RASUB's external financing needs based on different investment profiles.

If least cost financial planning is used managers can also make more rational choices between alternative spending plans and optimise the use of financial resources.

We do not, however, recommend that RASUB introduce long term planning at this time. This is too ambitious and would not be of much use.

Financial plans should be modelled using PC applications. This will improve the quality and efficiency of the planning. Planning expertise also needs to be developed by on the job training supplemented by teaching seminars.

3) Budgetary Planning and Control

There is no budgetary planning and control system for either recurrent or non recurrent expenditure. This is vitally necessary to foster financial discipline and cost efficiencies, and to support the implementation of the annual and medium term financial plans.

We recommend that a budgetary planning and control system is introduced under which recurrent and capital budgets are established and:

1. budget responsibilities are defined and assigned to individual managers;
2. periodic reporting and monitoring of budgets is carried out where actual results are compared with budgeted amounts; and
3. action is taken where material variances between actual and budget occur.

Budgets should also be subject to regular review to accommodate any revision in plans. The system should be computerised and integrate with the accounting systems proposed below.

4) Accounting Systems

The accounting systems are largely uncomputerised except for the billing and collection system which is partially computerised. Internal controls are reaonable and in part compensates for the low quality of external audit. The systems and internal controls are

documented in cumbersome accounting regulations rather than in a properly documented Accounts Manual.

Financial reports are regularly produced, e.g. quarterly financial statements, cashflow reports, aged debtors listings. And regular financial reconciliation's of different accounts e.g. cash book to bank statements or sales ledger to debtors ledger, are carried out..

A new format of financial statements, concepts and principles, based on the French accounting system, is being introduced this year.

The manual accounting systems are cumbersome. We recommend that a new computerised accounting system is introduced. This should be adapted as necessary to the new French systems. It should include new accounting formats, controls and procedures. The implementation must include the restructuring of the economics department.

An Accounts Manual should also be prepared which should clearly sets out the systems and internal controls in narrative and flow charts.

Since the audit of the RASUB's financial statements is not carried out at a high standard it is important that RASUB develops a robust internal audit capability.

5) Working Capital Management (stock, cash, debtors and creditors)

Working capital management appears to be adequate for cash and stock. Billing & collection is onerous. This responsiblity will disappear when the proposed waste tax is introduced.

Physical stock is controlled at 6 main stock holding centres. The stock system is manually recorded. Stock checks are carried out by the Legal officer who prepares an annual stock check program. Stock takes are also regularly carried out by each stock holder. The year end stock take is carried out by the inventory commission.

Cash management appears adequate. Bank reconciliations are regularly produced and cashflow forecasts are prepared quarterly.

6) Cost Accounting Capabilities

There is a limited cost accounting capability and a lack of understanding of basic costing concepts and cost structures. As a result there is currently no cost accounting system to cost up services an investments. E.g. unit costs are not regularly produced and compared to standard costs, and standard costs and charges are not produced.

10.3.5 MIS

Currently RASUB has no MIS capability under which information is periodically reported to managers to enable them to make effective decision and efficiently carry out their responsibilities. Daily activity data is produced for the PSD at MB, but it appears that this is not used for RASUB's own purposes. Simple performance measures like labour productivity are not produced.

We recommend that at a minimum the following data are produced:

1. Service frequency, by sector and zone, identifying streets where plaaned service frequencies were not achieved
2. Coverage rate
3. Collection quantity by zone
4. Collection quantity by workshop
5. Collection quantity by types of waste
6. Unit costs of waste collected & hauled by sector / zone and truck type
7. Rate of vehicle utilisation
8. Average number of trips made by vehicle groups, sector and zone
9. Number of complaints by sector & zone
10. Results of environmental monitoring e.g. leachate quality

10.3.6 Human Resources Capabilities:

1) Establishment

There is a formal manpower establishment for RASUB of 1,785 (at September 1994). Actual numbers in place at 8/9/94 were 1,659.

2) Productivity

It appears from a preliminary assessment that RASUB`s productivity is low when compared to RGR. Unit cost comparisons between RGR and RASUB are given in Section 5.4.

3) Skills and Expertise

Most of the managers are qualified as engineers and lack management or financial skills. Contract management expertise is totally deficient and it will be necessary to train at least one manager and a subordinate in the these skills.

Management expertise and skills should be developed through a management training program aimed at senior and middle managers. Development of financial management skills is a priority.

4) Training

Lastly there is no human resources development program or training provided to staff except for basic skills. A human resources development program should be prepared for the whole staff by the new personnel department. This should identify training needs and set up annual staff assessment procedures.

Chapter 11
Finance

CHAPTER 11 FINANCE

11.1 Introduction

The financing of SWM in Bucharest has been greatly constrained for a number of years. As a result the opportunity to improve the quality of SWM services to the citizens of Bucharest has been limited. An exception to this is RGR which is providing greatly improved collection and haulage services to Sector 6 and is much more cost efficient than RASUB.

We recommend that policy on collection and haulage and street sweeping are contracted to the private sector. Involvement of the private sector should greatly improve service quality and spur cost efficiencies.

However, MB must ensure that contractors are appropriately remunerated so that they can finance their operations and, in particular, their capital investment. In addition to this, there is a considerable amount of capital investment in disposal as well as opertaional expenditure which MB will have to finance.

MB's current revenue base is insufficient to meet these needs and MB will need to develop a financing strategy for SWM.

The purpose of this Chapter is to provide a framework for developing a financing strategy and plan for SWM.

This Chapter presents a:

1. brief analysis of SWM operational (opex) and capex expenditures from 1992 to 1994, and of RASUB's revenues and operating expenditures;
2. comparison of SWM expenditures with Municipal expenditures and public service expenditures of Bucharest as a whole;
3. forecast SWM expenditures from 1996 to 2010, including proposed project investments;
4. assessment of the affordability of the forecast SWM expenditures;
5. possible future financing options and selection of a preferred option; and
6. recommended financing policy

11.2. Current SWM Revenues and Expenditures

The brief financial analysis of SWM revenues and expenditures presented below shows how the levels of actual SWM revenues, opex and capex expenditures have changed between 1992 and 1994. The analysis is presented in two ways:

Firstly, total SWM opex and capex expenditures; and
Secondly, RASUB's revenues and opex.

Total SWM opex and capex expenditures are defined as the total costs of collection and haulage, disposal and street sweeping in Bucharest which are incurred by RASUB and the Sectors respectively.

Financial data were obtained from MB's financial statements (budgetary statements) for 1992, 1993 and 1994, supplied to us by MB's Economics Department.

Financial data on RASUB were obtained from RASUB's 1992 and 1993 financial statements. RASUB's revenue and opex data for 1994 were estimated by uplifting the amounts contained in the financial accounts for the 9 months ended September 1994.

At present the analyses do not include expenditure data for RGR. Where possible we have tried to assess the likely impact on costs of including RGR. We hope financial data on RGR will be available for the Final Report so that total SWM costs for Bucharest can be calculated.

All amounts are stated in US$ and in price base 1992, i.e. in real 1992 prices. 1993 and 1994 amounts are deflated to 1992 prices using deflators which are based on average annual consumer price inflation. For this purpose the Romanian Consumer Price Index was used. Source: the Romanian National Commission for Statistics.

The deflator for 1994 had to be estimated because consumer price index information was only available for January and February 1994. During the feasibility stage we will obtain the outstanding indices and update our analyses as appropriate in our Final Report.

Capital and interest repayments on the loan could be financed from the proposed waste tax. An assessment of the impact of loan repayments on the waste tax will be made at the Final Report.

All amounts were converted from Romanian Lei to US$ at the average 1992 Lei/US$ exchange rate of 319 Lei/US$. This rate was calculated from the monthly 1992 National Bank of Romania Lei/US$ exchange rates.

11.2.1 Total SWM Operating Expenditures

Table 11.2-1 below gives the total operating expenditures of SWM in Bucharest split between RASUB and the Sector ADPs. Expenditures include annualised depreciation costs.

Table 11.2-1 Total SWM Operating Expenditures

	1992	1993	1994
	US $'000	US $'000	US $'000
RASUB	3,942	4,318	2,779
Sector ADPs' - Street Sweeping	2,260	1,948	2,087
Total SWM Opex	6,203	6,266	4,867

Source:

1. RASUB's costs were derived from its 1992, 1993 and September 1994 Profit and Loss Accounts
2. Sector ADPs' costs were obtained form MB budgetary information

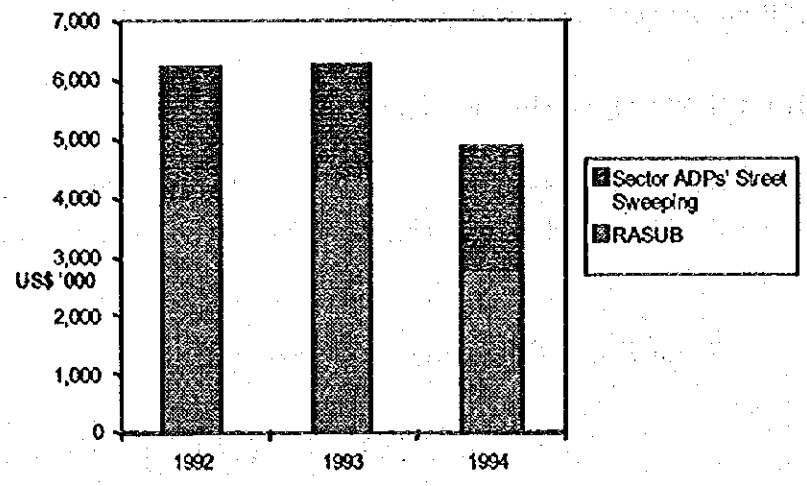
Overall real expenditures are almost the same in 1992 and 1993 but then sharply decrease by 36% in 1994. This is primarily due to the decrease in RASUB's level of expenditures. The Sectors' expenditure on street sweeping remain reasonably uniform across the period.

The decrease in RASUB's expenditures is partially explained because it is no longer providing services to the greater part of Sector 6; therefore its costs have decreased.

However, the drop is much greater than we would expect from losing Sector 6. It may also be reflecting RASUB's inability to finance its functions because its revenue base is shrinking in real terms. An analysis of RASUB's revenues in 11.2.3. seems to support this.

Figure 11.2-1 illustrates the movement in total SWM expenditures analysed between RASUB and the Sectors, and shows the magnitude of the 1994 drop. If RGR's costs were included in 1994, then total costs would increase. However, we estimate that they would still be significantly below 1992 and 1993 levels.

Figure 11.2-1 Total SWM Costs



11.2.2 Total SWM Capex

Table 11.2-2 below gives capital investment in SWM made by MB, RASUB and the Sectors between 1992 and 1994.

Table 11.2-2 SWM Capital Investment 1992 - 1994

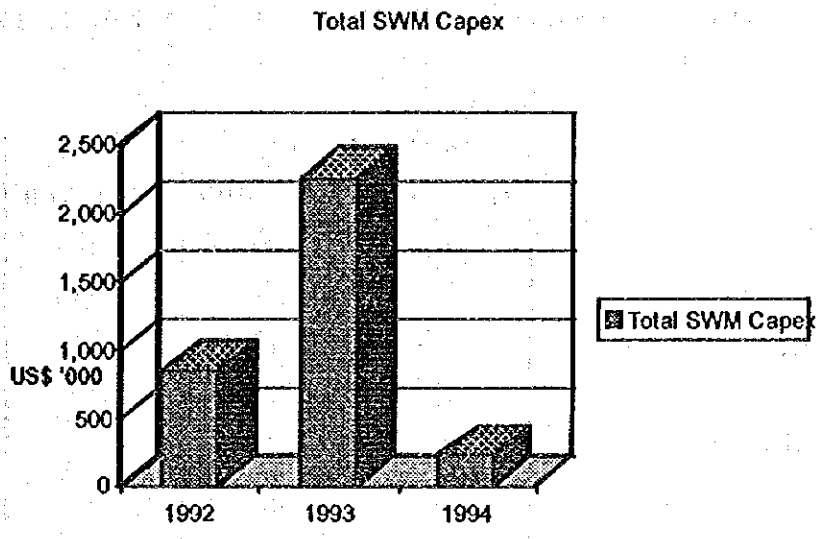
	1992	1993	1994
	US $'000	US $'000	US $'000
RASUB - own capex	402	22	1
- MB financed capex	386	1,973	178
Total RASUB	787	1,995	179
Sector ADPs' Street Sweeping capex	55	259	28
Total SWM Capex	842	2,254	207

Figure 11.2-2, below, illustrates the changing levels of capex over the three years. Total investment increases by 168% in 1993 and then sharply decreases by 91% in 1994.

These large fluctuations are due primarily to changes in the amounts of capex that MB is financing from its local budget. In 1994 MB's financing of RASUB's capex dropped by 91% to $178,000 and its financing of the Sectors ADP's street sweeping capex dropped by 89%.

RASUB's financing of its own capex also steadily declined from $402,000 in 1992 to a mere $1,000 in 1994. This reflects RASUB's inability to finance its functions because of its shrinking revenue base. This is considered in more detail in Section 11.2.3, (subsection 1), below.

Figure 11.2-2 Total SWM Capital Investments 1992 to 1994



MB's financing of RASUB's capex in 1993 was spent on purchasing containers, forklift trucks and on loan repayments for the purchase of "Fawn" street sweepers. MB purchased the "Fawn" trucks for RASUB but did not transfer ownership to RASUB. In 1994 all of MB's financing of RASUB's capex was spent on loan repayments on the "Fawn" trucks.

11.2.3 Analysis of RASUB's Revenues and Expenditures

Table 11.2-3 below gives a summary of RASUB's Profit and Loss Accounts for 1992 to 1994. The finalised 1994 P&L Accounts were not available and the amounts for 1994 were estimated by uplifting the P&L Accounts for the 9 months to September 1994.

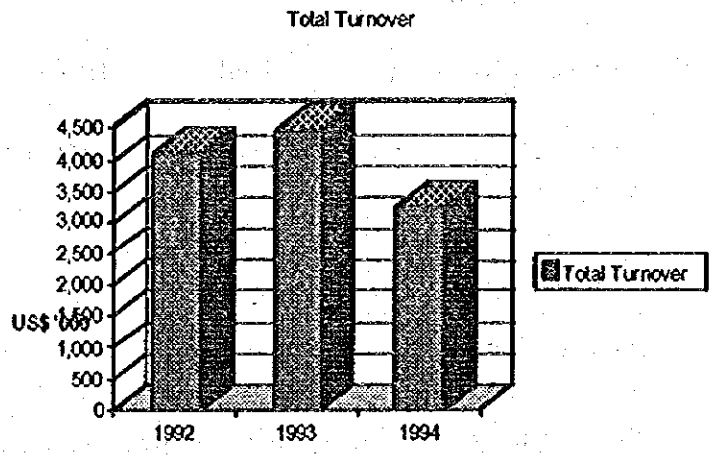
Table 11.2-3 RASUB's Summarised Profit and Loss Accounts 1992 to 1994

	1992	1993	1994
	US $'000	US $'000	US $'000
Total Turnover	4,073	4,416	3,196
Total Operating Costs	3,933	4,309	2,756
Operating Profit	140	107	440
Net Interest	3	0	-20
Net Exceptional Items	0	0	1
Profit before Tax (PBT)	143	107	421
Tax on Profit	64	60	137
Profit after Tax (PAT)	79	47	284

1) RASUB's Current Revenues

Figure 11.2-3 below gives RASUB's turnover for 1992 to 1994. Revenues increase by 8% in 1993, but sharply decrease by 28% in 1994. This decrease is out of all proportion to the expected loss of revenues as a result of RASUB's losing Sector 6. We would estimate the loss to very approximately be about 15%.

Figure 11.2-3 RASUB's Total Revenues 1992 to 1994

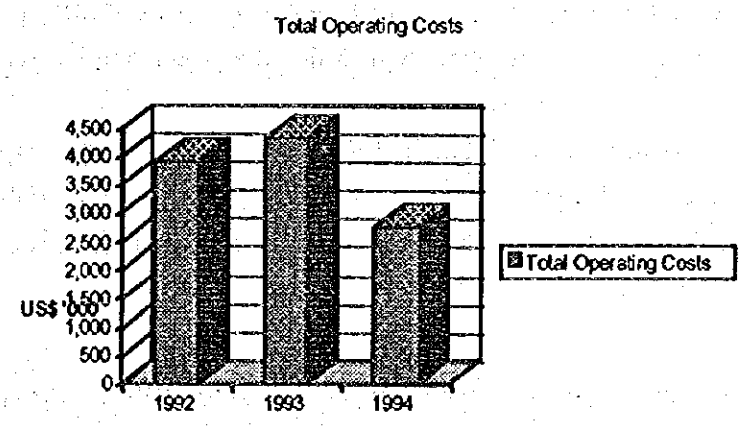


Therefore, it appears that RASUB's revenues are shrinking in real terms. This is due to RASUB's inability to raise its tariffs quickly enough to cover hyperinflation. It may also be due an increase in the level of bad debts in 1994 which we understand rose in 1994.

2) RASUB's Current Operating Expenditure

Figure 11.2-4 below shows the change in RASUB's operating expenditures since 1992.

Figure 11.2-4 RASUB's Operating Expenditures 1992 to 1994



Expenditures increased by 10% in 1993, but sharply decreased by 36% in 1994. Like the pattern in revenues, discussed above, this decrease is out of all proportion to

the effect of losing Sector 6. It suggests that in 1994 RASUB is unable to finance its functions at the 1993 level because its revenue base is shrinking in real terms.

11.3 Comparison of SWM Expenditures to Municipal Expenditures

The purpose of this section is to compare the size of SWM expenditures (both opex and capex) between 1992 and 1994, to:

1. the level of MB's Expenditures; and also to
2. the level of "Total Bucharest Municipal Expenditures".

MB's expenditures are defined as those amounts spent on its own services, its own administration and include all the Sectors' expenditures . MB's largest service expenditures are health, culture, social assistance, parks and streets. The Sectors' largest expenditures include administrations, street sweeping, parks and streets.

MB's expenditures **do not include** state budget transfers for capex subventions and price subsidies that are passed through to the Regie Autonomes. These transfers are used by the Regie Autonomes to finance their own, not MB's, expenditures. Nor does it include any amounts that it spends from its own revenues on the Regies. This is because this information cannot be disaggregated from the existing financial data. This will be updated at the Final Report if data is available.

"Total Bucharest Municipal Expenditures" are defined as the total opex and capex expenditures of MB and Bucharest's 5 Regie Autonomes. This will include RADET's and RATB's operating expenditures, which are financed by GoR's price subsidies, and the state budget capex subventions which the Regies and MB receive.

This represents the total amount spent on Municipal public services in Bucharest, as these services are defined in Romania, i.e. Solid Waste Management, Public Transportation, Heating, Water and Sewerage as well as other Municipal services e.g. street, parks, etc....

Table 11.3-1 below gives total opex and capex expenditures for SWM, MB and Bucharest as a whole for 1992, 1993 and 1994. Figures 11.3-1 to 11.3-3, which are based on the amounts given in Table 11.3-1, show the comparisons of SWM expenditures to MB and to Bucharest as a whole. All amounts are stated in US$ and in price base 1992, i.e. in real 1992 prices.

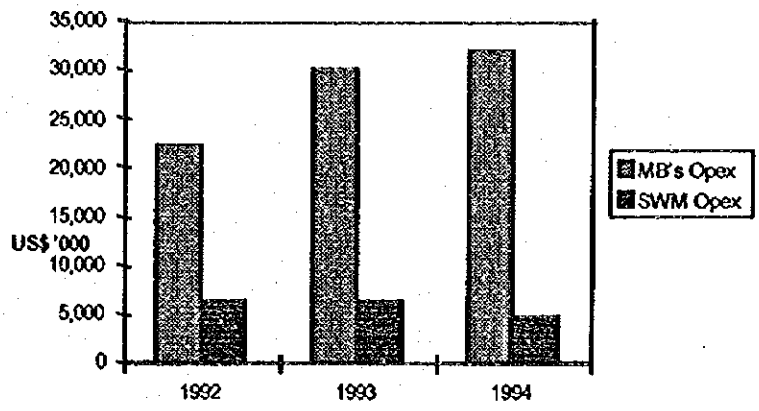
Table 11.3-1 Comparison of SWM, MB and Total Bucharest Municipal Expenditures

	1992	1993	1994
	US $'000	US $'000	US $'000
SWM Opex	6,203	6,266	4,867
SWM Capex	843	2,254	207
Total SWM Opex and Capex	7,045	8,520	5,074
MB's Opex	22,211	30,137	31,826
MB's Capex	4,558	18,132	20,039
Total MB's Opex and Capex	26,769	48,269	51,866
Total Bucharest's Opex	182,459	282,580	133,128
Total Bucharest's Capex	15,439	59,758	61,122
Total Bucharest's Opex and Capex	197,898	342,338	194,250

11.3.1 Comparison of SWM Opex to MB's Opex

Figure 11.3-1, below, compares SWM opex to MB's opex and shows how SWM's opex declines from 28% of MB's opex in 1992, to 21% in 1993 and 15% in 1994.

Figure 11.3-1 Comparison of SWM opex to MB's opex 1992 to 1994

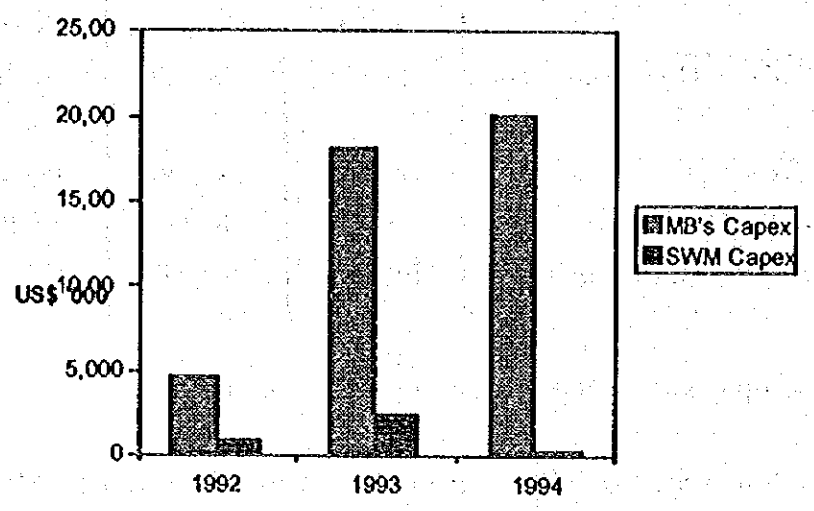


Since MB is not responsible to finance any of RASUB's opex, which are 100% recovered from RASUB's tariffs, there is no direct linkage between SWM and MB's expenditures.

11.3.2 Comparison of SWM capex to MB's capex

Figure 11.3-2, below, compares SWM capex to MB's capex. In this case there is a linkage between SWM and MB's capex expenditures since MB sometimes finances a large part of RASUB's capex from its own local budget. As a result we might expect some correlation between MB's total capex spend and the level of SWM capex spend.

Figure 11.3-2 Comparison of SWM capex to MB's capex 1992 to 1994



However, Figure 11.3-2 shows that there is no correlation at all. SMW's capex declines from 18% of MB's capex in 1992, to 12% in 1993 and to only 1% in 1994. This clearly demonstrates that MB is giving a decreasing priority to SWM relative to its other services.

11.3.3 Comparison of SWM opex and capex to MB's opex and capex

Figure 11.3-3, below, compares SWM opex plus capex to MB's opex plus capex, and shows how total SWM expenditures decline from 26% of MB's total expenditures in 1992, to 18% in 1993 and 10% in 1994.

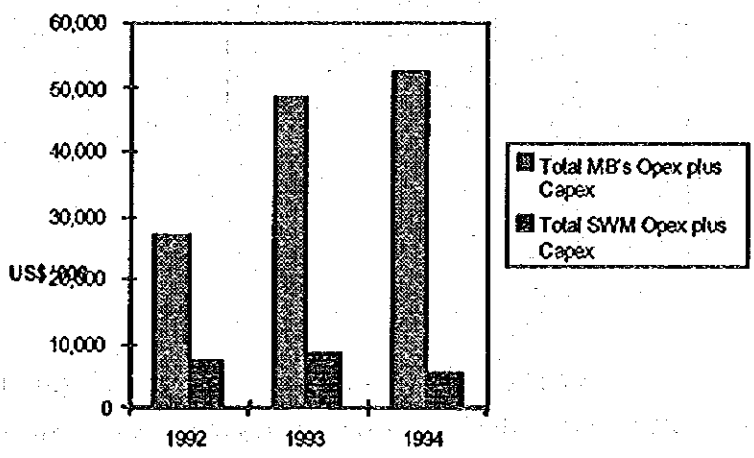
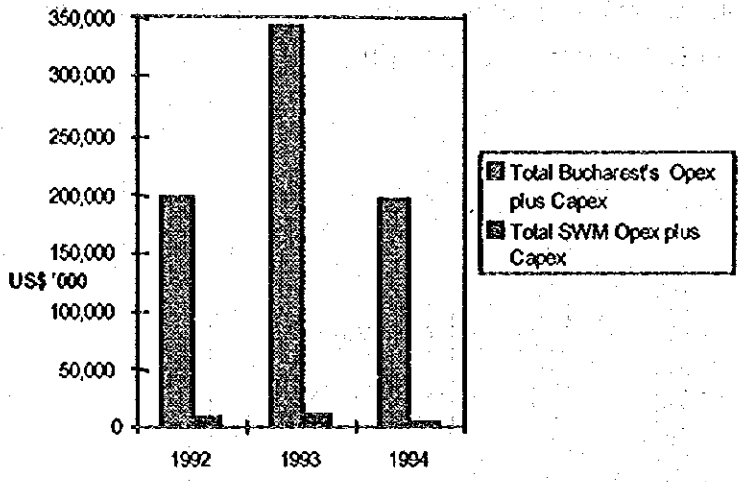


Figure 11.3-3 Comparison of SWM opex and capex to MB's opex and capex 1992 to 1994

11.3.4 Comparison of Total SWM to Total Bucharest Municipal Expenditures

A comparison of total SWM expenditures (opex plus capex) to Total Bucharest Municipal expenditures (opex plus capex) is given in Figure 11.3-4 below. This gives a broader comparison of the relative size of SWM costs to total public services in Bucharest.

Figure 11.3-4 Comparison of Total SWM Expenditures to Total Bucharest Municipal Expenditures



Although the absolute amount of SWM expenditures fluctuates noticeably across the 3 years, the relative size of SWM to total Bucharest expenditures remains very similar at 3.5%, 2.5% and 2.6% for 1992, 1993 and 1994 respectively. This is in contrast to the comparison with MB's costs.

However if only capex expenditures are considered then there is a constant decline in the levels of SWM capex relative to total Bucharest capex expenditures. The relative sizes are 5%, 4% and 0.3% in 1992, 1993 and 1994 respectively.

11.4 Forecast SWM Expenditures

Table 11.4-1 below gives forecasts of total solid waste management expenditures for Bucharest for the period 1996 to 2010. Total SWM expenditures have three main cost components: disposal, collection and haulage and street sweeping.

Disposal costs comprise forecast operating expenditures and landfill investment costs. Forecast collection and haulage and street sweeping costs are based on estimated contract costs and include the amortisation costs of equipment.

All forecasts are given for the 15 year period from 1996 to 2010, ie covering the Master Planning period. Expenditures are defined as incurred on a cash and not an accruals basis and are given in US$. All amounts are stated in the 1995 price base and are projected in real terms, i.e. without accounting for inflation. MB's costs of administering SWM are not included.

The estimates do not include the costs of collecting and hauling non municipal wastes, which the generators have to meet themselves, nor are they net of tipping fees which are levied on generators of non municipal waste. It is assumed that future disposal costs associated with non municipal generators will be fully recovered from tipping fees. Based on current and projected quantities, it is estimated that 20% of total waste disposed is from non municipal generators.

The cost forecasts are based on a number of operating assumptions including projected waste quantities, which are given in Chapter 2, and recommended collection and transportation systems and equipment. System assumptions and more detailed costs are given in Chapter 5 and 6.

Table 11.4-1 Forecast Total Expenditures for Solid Waste Management in Bucharest 1996 to 2010

unit: US$'000

Year (1)	Total Disposal Cost (2)	Payment to Contractors for Collection and Haulage (3)	Payment to Contractors for Street Sweeping (4)	Total Solid Waste Management Cost = (2)+(3)+(4) (5)	Total SWM Costs apportioned to households	Total SWM Costs apportioned to businesses	Total SWM Costs apportioned to non municipal waste generators
1996	310	4,485	1,314	6,109	4,899	1,148	62
1997	1,336	4,251	1,216	6,803	5,297	1,239	267
1998	16,605	4,067	1,223	21,895	15,045	3,529	3,321
1999	6,317	3,877	1,058	11,252	8,091	1,898	1,263
2000	1,125	4,113	962	6,200	4,842	1,133	225
2001	1,023	4,224	955	6,202	4,860	1,137	205
2002	420	4,342	947	5,709	4,557	1,068	84
2003	426	4,464	938	5,828	4,653	1,090	85
2004	4,854	4,589	929	10,372	7,625	1,777	971
2005	9,192	4,717	921	14,830	10,542	2,450	1,838
2006	4,602	4,849	926	10,377	7,669	1,788	920
2007	463	4,985	901	6,349	5,069	1,188	93
2008	476	5,125	893	6,494	5,184	1,215	95
2009	489	5,268	883	6,640	5,300	1,242	98
2010	503	5,416	887	6,806	5,432	1,273	101
Total	47,802	68,772	14,953	131,527	99,064	23,175	9,627
Ave	3,187	4,585	997	8,768	6,604	1,545	642

Forecast expenditures are then apportioned between households, businesses and non municipal waste generators on the basis of the forecast quantities collected for each category.

The apportionment is shown to illustrate the differences in cost burden on the three categories.

The table shows that the costs of SWM total $132m over the 15 year period, averaging $8.8 m per annum. In real terms total costs in 2010, $6.8m, are 11% higher than total costs in 1996 of $6.1m. Between these years costs fluctuate quite significantly with a high of $21.9m in 1998 and a low of $5.7m in 2002.

Figure 11.4-1 below illustrates how total forecast SWM expenditures move over the 15 year period. The expenditures are analysed between households, businesses and generators of non municipal waste, for illustrative purposes only. As the figure illustrates the proportion of household costs averages about 75% of the total SWM costs over the 15 year period.

The peak between 1997 and 1999 shows the impact of project investment on total costs which peak at US$16.6m in 1998. In the project period disposal costs reach 76% (1998) and 56% (1999) of total SWM costs.

The peak between 2004 and 2006 shows the large post project investment costs of constructing additional embankments for Balaceanca and Cretuleasca sites and three new disposal sites at Berceni, Afumati and Jilava.

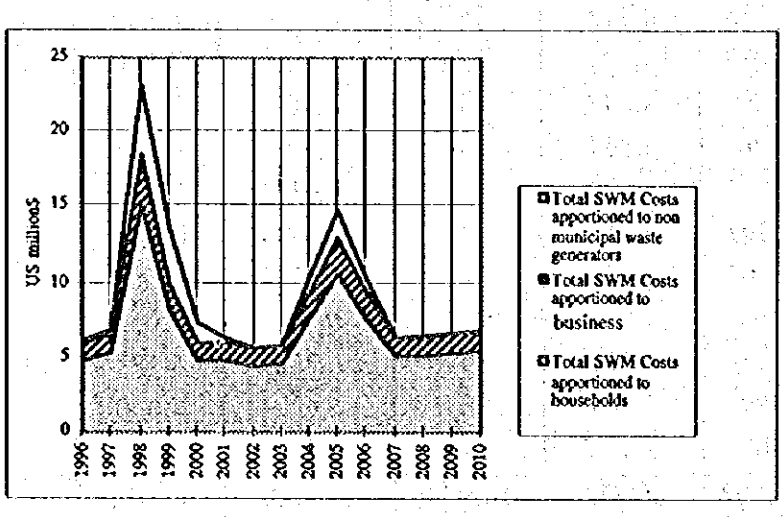


Figure 11.4-1 Forecast Total Expenditures for Solid Waste Management in Bucharest 1996 to 2010

If the project and post project investment expenditures are excluded from the forecasts, then total SWM expenditures increase reasonably smoothly over the period, in line with population and economic growth.

Obviously the Municipality will find it very difficult to finance the project expenditure solely from the waste tax in 1998 and 1999 since this would require an increase in the waste tax of approximately 230% for households, to ensure full cost recovery of SWM expenditures. This is clearly too large to implement.

Either GoR finances it through capex subventions, MB takes an external loan from donor agencies or a Romanian bank, or MB finances it from general taxation, or a combination.

11.5 The Affordability of the Project by the Bucharest Municipality

Before financing options are considered a brief evaluation of the affordability of the forecast SWM expenditures by the Municipality and by citizens is presented.

11.5.1 Comparison of Total SWM Costs to Total Municipal Expenditures

Table 11.5.-1 gives the comparison of total SWM costs with total Bucharest municipal expenditures over the Master Planning period. All expenditures include operational and capital costs. Total municipal expenditures are defined as the total expenditures of MB and the 5 Regii Autonomes. They also include RADET's and RATB's operating expenditures which are financed by GoR's price subsidies, and state budget capex subventions which the Regii and MB receive.

Total municipal expenditures, therefore, represent the total amount spent on municipal public services in Bucharest, as they are defined in Romania, i.e. SWM, public transportation, heating, water and sewerage, as well as Municipal Administration services, e.g. streets, parks, etc.

The table shows that SWM costs total $131m over the 15 year period and are 1.21% of total Municipal Expenditures of $10,828m for the period, peaking at 3.67% in 1998. These percentages are low when compared to other cities in developing countries.

Table 11.5-1 Comparison of Total SWM Costs to Total Municipal Expenditures 1996 to 2006

US$million

Year (1)	Total Solid Waste Management Costs (2)	Total Municpal Expenditures (3)	Total Solid Waste Management Costs as a % of Total Municipal Expenditures (2)/(3)=(4)
1996	6	546	1.10%
1997	7	561	1.25%
1998	22	600	3.67%
1999	11	613	1.79%
2000	6	630	0.95%
2001	6	655	0.92%
2002	6	681	0.88%
2003	6	708	0.85%
2004	10	741	1.35%
2005	15	775	1.94%
2006	10	801	1.25%
2007	6	828	0.77%
2008	6	862	0.75%
2009	7	896	0.74%
2010	7	932	0.75%
Total	131	10,828	1.21%
Ave	8.7	984	1.21%

Note: Forecast municipal expenditures are based on 1995 expenditures projected at World Bank GDP growth rates.

Some comparators are given in Table 11.5-2 below. Comparisons with these cities should be made very broadly, since there are considerable variations between the types of public services each city provides.

Table 11.5-2 Total SWM Cost as a Percentage of Total Municipal Expenditures SWM

City/Country	Total SWM Cost as a Percentage of Total Municipal Expenditures SWM
All Japan	3.1%
Tokyo	3.1%
Bangkok, Thailand	15.3%
Surabaya, Indonesia	10%
Penang, Malaysia	24.7%
Sebrang Prai, Malaysia	24.9%

Figure 11.5-1 below gives the comparison of total SWM costs to total Bucharest municipal expenditures over the project period. The figure illustrates that SWM costs are small compared to total municipal spend.

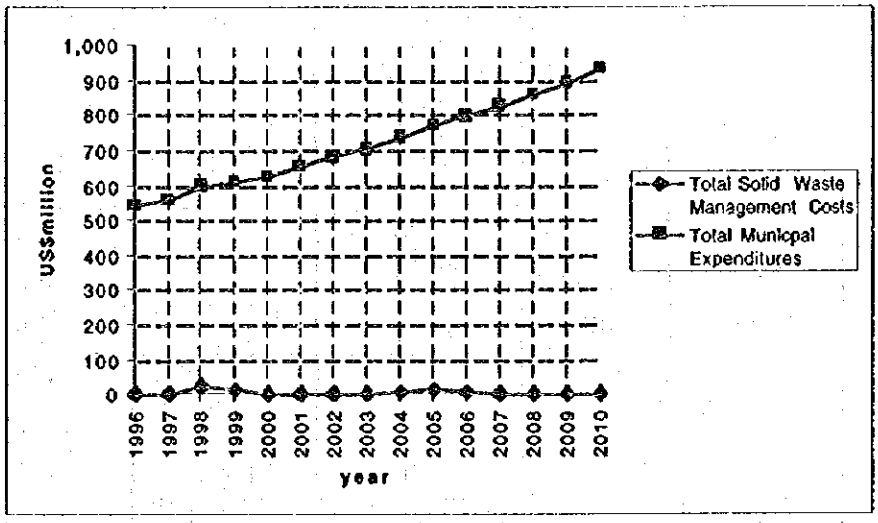


Figure 11.5-1 Comparison of Total SWM Costs to Total Municipal Expenditures 1996 to 2006

The results indicate that in general terms total SWM expenditures, including the project costs, are affordable by the Municipality when they are compared to total municipal expenditures.

11.5.2 Citizens' Affordability: Comparison of Total SWM Costs to per Capita GDP

To assess whether the proposed project is affordable by citizens, the per capita SWM costs over the project period are calculated as a percentage of per capita GDP and compared with international indicators. Table 11.5-3 below shows the calculated percentages. The average percentage for Bucharest over the project period is 0.31%; peaking at 0.94% in 1998.

For general comparative purposes it might be assumed that SWM costs as a percentage of per capita GDP or income are:

- 0.5% to 2.2% - for low income developing countries;
- 0.5% to 1.2% - for middle income developing countries; and
- 0.3% to 0.5% - for high income industrial countries

Table 11.5-3 Comparison of Total SWM Costs to per Capita GDP

US$'000

Year	Total Solid Waste Management Costs US$'000	Population '000	Total Solid Waste Management Costs Per Capita Per Annum US$	Per Capita GDP US$	Per Capita SWM Costs as a % of Per Capita GDP
(1)	(2)	(3)	(4)	(5)	(4)/(5)=(6)
1996	6,109	2,065	2.96	1,060	0.28%
1997	6,803	2,080	3.27	1,079	0.30%
1998	21,895	2,095	10.45	1,114	0.94%
1999	11,252	2,110	5.33	1,150	0.46%
2000	6,200	2,125	2.92	1,187	0.25%
2001	6,202	2,141	2.90	1,226	0.24%
2002	5,709	2,156	2.65	1,266	0.21%
2003	5,828	2,172	2.68	1,307	0.21%
2004	10,372	2,188	4.74	1,350	0.35%
2005	14,830	2,203	6.73	1,394	0.48%
2006	10,377	2,219	4.68	1,439	0.32%
2007	6,349	2,235	2.84	1,486	0.19%
2008	6,494	2,251	2.88	1,534	0.19%
2009	6,640	2,268	2.93	1,584	0.18%
2010	6,806	2,284	2.98	1,636	0.18%
Total	131,866		4.08	1,321	0.31%

Notes
1. Per Capita GDP basedon 1993 per capita GDP inflated by World Bank estimates of growth in GDP

Particular country and city examples are:

- Japan - 0.31%
- Tokyo - 0.38%
- Penang City, Malaysia - 0.67%
- Bangkok, Thailand - 0.62%
- Surabaya, Indonesia - 0.5%

Bucharest's average percentage of 0.31% compares favourably with these comparators, and although the peak of 0.94% in 1998 is much higher than the average, the results indicate that the project is affordable by citizens.

However, if the project is affordable, are citizens willing to pay?

A survey of Bucharest's citizens carried out by MB in 1995 clearly indicates that citizens are willing to pay higher tariffs for solid waste services but only after the quality of collection and street sweeping services have improved.

In addition to this government at both MB and central levels have expressed reluctance to impose a waste tax much higher than current tariff levels.

Given citizens' unwillingness to pay and government's reservations, it may be difficult to set a waste tax at a higher level which enables capital investment in disposal landfill sites to be financed. It would be unacceptable to citizens and MB to raise the tax 230% in 1998 to enable the project to be financed.

11.5.3 Conclusion

The analysis demonstrates that in general terms project and total SWM expenditures appear to be at reasonable levels when measured against total municipal expenditures. But it would be difficult for MB to finance the project solely from the proposed waste tax because the increase in the waste tax would be too great.

The project costs are either financed through GoR capex subventions, or MB takes an external loan from donor agencies or a Romanian bank, or MB finances it from general taxation, or a combination. Financing options are now considered.