Division 44
Environment and Infrastructure

Private Sector Involvement in Solid Waste Management

Avoiding Problems and Building on Successes

Deutsche Gesellschaft für
Technische Zusammenarbeit (GTZ) GmbH

commissioned by:

Federal Ministry
for Economic Cooperation
and Development

Published by:
Deutsche Gesellschaft für
Technische Zusammenarbeit (GTZ) GmbH
Postfach 5180, 65726 Eschborn
Internet: http://www.gtz.de

Division 44 Environment and Infrastructure
Project on Private Sector Participation in Infrastructure

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Print:
Druckerei Chmielorz GmbH, Wiesbaden

Eschborn 2005

Summary

Some people suggest that private sector participation is the only way to provide solid waste management services. Others argue that corruption is inevitable if the private sector provides public services and that essential public services should not be a source of financial gain for individuals, particularly individuals coming from outside the area being served. Many cities in industrialised countries seem satisfied with the services being provided by private enterprise, but the reports coming from low-income countries are more diverse. Since there have been many attempts to involve the private sector in developing countries, it is useful to review the experience to decide if private sector provision of solid waste services is a sustainable and preferable alternative to the conventional dependence on local government.

This publication presents a picture of the current state of private sector provision of solid waste management services, mainly in low- and middle-income countries, by drawing on case studies and reports of experience from many diverse situations in four continents. Part I is a review of the experience, drawing on over 40 contributions. Part II comprises summaries of twenty three case studies, which together with references to published material, provide information about practical experiences of private sector participation. These case studies cover a wide range of activities and actors, and include commercialised utilities and the informal sector. The emphasis is on practical information that can be applied to enable future partnerships between the public and private sectors to avoid problems, whether political, institutional, financial, social or technical. The information in this document is relevant to both sectors (public and private); no attempt has been made to segregate the material according to the two sectors because both should be aware of all the issues.

Part I begins with the reasons that motivate authorities to consider involving the private sector, since it is believed that these reasons, and the associated expectations and concerns, have an important influence on the way in which private enterprise should be invited to participate.

The review continues with a discussion of what experience tells us regarding the preparations for the start of private sector involvement. The investigative and preparatory work that is necessary before any official documents are prepared takes up many pages because it is so important in developing an appropriate strategy for private sector participation. Several case studies indicate that this important stage is often given very little attention and too little time. An appendix provides a checklist with many questions that should be asked during the preparation process.

Experience teaches us that the support and co-operation of the general public play a vital role in ensuring the success of any programme of private sector participation, yet often very little attention is given to generating this support. The involvement of the public should be seen as central to any strategy for introducing private sector participation, and so this topic is located at the centre of this book. Some stories point to the unfortunate consequences of a lack of an effective public relations policy.

The next chapters raise some points about the preparation of tender documents, the bidding process and contract documents. The information presented here is not a complete guide to preparing these documents, but it includes many practical and important points that can be learned from the case studies.

There are clear advantages in starting a new approach of private sector participation in a gradual way, building up stepwise the involvement of the private sector and the size and scope of the operation. Such a phased start may not be acceptable to local politicians and some support agencies, but it is worthwhile to endeavour to persuade them of the benefits. At any stage, it is also useful to introduce private sector service in a step-by-step way.

There have, unfortunately, been many unsatisfactory experiences with regard to the monitoring of the performance of contractors and the administration of penalty payments. The situation is exacerbated by a casual attitude towards contracts and other formal agreements. This is an area that needs urgent attention and significant improvements. The potential of community supervision has often been ignored.

Part I ends with general conclusions that have been drawn from the study. Most of the lessons that can be learned from the experiences reviewed here relate to shortcomings in the approach and execution of the local government side. These shortcomings may originate in the belief that private sector participation relieves local government of the responsibility for solid waste management (which it does not), and they may be aggravated by the authoritarian style that is characteristic of local government management in many countries. Another cause is clearly the lack of experience, and it is hoped that this book can go some way towards compensating for this lack.

It is a constant challenge to find ways of disseminating information of this kind to those who need it and would be interested to read it. In an attempt to meet this challenge, a condensed booklet has been prepared to present a summary of the findings. A CD with a wide range of back-up information is included with this book. This material will also be made available on the Internet. In the end, the most effective means of communication is face-to-face, by word of mouth, so you, the reader, are asked to mention this study and its main conclusions to others whenever the subject of private sector participation in solid waste management is raised.

Foreword

Part I – GTZ

Towards the end of the twentieth century there was an enthusiastic rush towards involving the private sector in the supply of public services. The telephone, electricity and water supply sectors led the way and there were notable successes, and new hope for the millions still without satisfactory services, many even in major urban areas. Solid waste management services have been provided by private enterprise for decades in the more prosperous nations, and failures of municipal administrations to keep up with the demands of rapidly growing cities in the South have encouraged the extension of various forms of private sector participation into low-income cities. However, these attempts have not all been as successful as was hoped, so it is time to stand back for a moment and look at what has been achieved, in an effort to identify the best approaches and the conditions that favour sustainable solutions. That is what this book seeks to do. Rather than base the investigation on the opinion of one person, this study has invited inputs from contributors in four continents, and seeks to draw lessons from this wide base of experience.

The Millennium Development Goals provide a framework for assessing the relevance and importance of private sector participation in solid waste management in our efforts to improve the lives of urban dwellers. The impacts of private sector participation in solid waste management on these goals cannot be ignored. In particular:

Goal 1 *Eradicate extreme poverty* – Many of the poorest in our cities survive by collecting materials discarded by others, or by sorting or processing them in very labour-intensive ways. Others provide cleaning services on an informal basis. In some situations, formal private sector services are in conflict with such people, but there are powerful examples, notably from Latin America, of how the incomes and working conditions of informal waste workers have been upgraded. Conventional waste management services are often unable to serve low-income housing areas, but small, community-based enterprises have demonstrated their ability to provide waste collection services that even the poor can afford.

Goal 3 *Promote gender equality and empower women* – Women are universally concerned with the living conditions in which their children are growing up. Women have shown their ability in leadership and commercial endeavour through the setting up and management of small but successful waste management enterprises, which not only improve their immediate environments – contributing to a reduction in child mortality (Goal 4) and other hygiene-related diseases (Goal 6) – but also generate local employment. Women also play a vital role in monitoring the performance of contractors, assisting to improve living conditions in this way also.

Goal 7 *Ensure environmental sustainability* – Burning waste causes serious air pollution, and improperly dumped waste pollutes both surface and underground water sources. Careless dumping degrades land resources. Solid waste management is part of good sanitation (which is included under this Goal in Indicator 30). Private sector participation has reduced pollution by injecting specialist expertise and providing an improved mechanism for local and regional government to require better practices.

Good governance can also be promoted through private sector participation in solid waste management. The introduction of service charges makes local administrations more accountable, and community action to improve local environmental conditions has formed the basis for ongoing participation in community affairs by a wider cross-section of residents. However much needs to be done to improve transparency with regard to contracts and tendering processes. The involvement of international contractors may help to increase the role played by the judiciary in upholding contract rights and obligations.

The case studies show that there are many problems and difficulties, but together they also indicate ways to overcome these challenges. There is a clear need to focus more attention on preparation of the frameworks for private sector involvement, and to put a higher priority on achieving a greater degree of partnership between the public and private sectors.

Stefan Helming
GTZ, Director General
Planning and Development Department

Foreword

Part II – A practitioner's viewpoint

The improvement of solid waste services and infrastructure needs to be a well-planned and transparent process. The information and case studies provided in this book can be used for the development of a new solid waste management system that will effectively serve local governments. The solid waste tendering process described includes the initial planning and development stages, tendering, contract implementation, and performance monitoring.

The case studies provide a detailed evaluation of what worked and what did not work in several tendering processes. It is important to note that the most appropriate approaches to solid waste management are very different between different government authorities, as illustrated in the case studies. As local governments begin preparations on solid waste system restructuring plans or tendering, they should evaluate the current system and identify the specific activities (i.e., collection, recycling, composting, disposal) that will be needed to improve the existing system.

Community participation is often overlooked when making changes to existing municipal service systems and this important component was largely absent in most of the case studies. It is especially important when addressing changes to the solid waste system as it is most likely perceived to be free of cost to the residents and many smaller businesses. The community needs to be made aware of the environmental and health costs associated with inefficient solid waste collection systems so that they are willing to pay new solid waste fees.

It is often difficult for low- to mid-level managers to involve senior-level managers and public officials in the planning process. It is essential that lower level managers find ways to include the participation of key senior level decision-makers at the appropriate times during the tendering process.

The book is outstanding even without the case studies. It provides detailed guidance for the process of solid waste privatization that can be used by all governmental authorities. Moreover, the case studies provide valuable additional practical insights. Learning from the successes and failures of others will result in a better process that is acceptable to the community and local government officials.

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Part I
A review of the experience

1. Introduction

Contents of Chapter 1

1.1 The topic

We were generating solid waste when we were living in caves, though it appears that then we were relatively successful at recycling, using skins for clothing and bones to make tools. In recent years we have created for ourselves major environmental problems because of our preference for living in concentrated urban areas, buying more than we need and advertising extensively by means of paper and packaging. Many city administrations have not been able to cope with the rapid escalation of the solid waste problem, and consequently have left densely settled areas with no service, polluted precious air by the open burning of wastes, and damaged land and water resources by careless dumping of the residues of our proud civilisation.

Faced with these failures, municipal administrations have looked for experts and new ways of raising funds to pay the ever-increasing costs of solid waste management. First, they recruited and trained their own experts, but the results were not always successful, and failures were blamed on insufficient funds, bureaucratic restrictions, and inadequate decision-making procedures. Often small-scale entrepreneurs and groups of residents took action to fill in the gaps, organising or providing services on a local scale that at least moved their wastes out of their immediate neighbourhoods, and often earning much-needed income from the reuse of materials separated from the mixed waste. The most recent approach has been to invite private enterprise to take over the task, to increase coverage, improve efficiency and reduce the pollution of natural resources. Have we at last arrived at the ultimate solution? Do we need to look elsewhere for sustainable solid waste management, or have we finally found the right approach? What further change may be necessary? Experiences from many low- and middle income countries have been collected in order to evaluate the performance of private sector participation in the field of solid waste management and to contribute evidence that can help to answer these questions.

The term “private sector” is defined here in a very broad way, and includes:

- Privately owned and formally registered enterprises that provide services as contractors, consultants or suppliers. These enterprises may vary greatly in size from a single consultant or a microenterprise to a large multinational corporation. They may be locally based or international.
- Commercialised utilities (also known as government-owned corporations, arm’s-length companies or service councils) which are staffed by public sector employees, but have segregated accounts and managerial autonomy. Though they are strictly not in the private sector, they have many of the features of the private sector, and should be included as an option when private sector participation is being considered. Case Study D in Part II is an example.
- Joint ventures which are partly owned by private individuals or companies and partly owned by government.
- Informal sector enterprises, based on family units or larger in size, which are not legally registered.
- Non-governmental Organisations (NGOs) which provide services. The laws governing

NGOs vary considerably from one country to another, but often they are not-for-profit organisations, and many have links to international donors.

- Community-based Organisations (CBOs) which provide services in return for a fee or other payment. National legislation may require that the directors of such organisations do not receive a salary from them. They are usually linked to one particular community, but may also provide services for other communities.

In short, the private sector – as defined here – includes all means of service provision that have accounts and financial management that are not part of the accounting system of national or local government. Put another way, this definition excludes only service provision by public sector employees who are paid directly from national government or municipal budgets, and individuals who are collecting and disposing of waste for themselves, no payment being involved.

1.2 Learning from experience

In solid waste management, we often hear of the same mistakes being made again and again. Common examples are the failure to involve the public, wrong selection of vehicle types, failure to ensure that sanitary landfills are operated as they should be, inadequate consideration of the marketing of compost, and ineffectual enforcement of laws and regulations. We are also beginning to hear or read of similar mistakes being made in one location after another in the implementation of private sector involvement in the management of municipal solid wastes. Reflecting on this situation, it may be deduced that, in solid waste management, the main lesson that we have learned from experience is that we do not learn from experience. Why is this?

Most failures in solid waste management cannot be blamed on natural phenomena, because most activities in solid waste management take place in a man-made environment. We do not like to admit that we are wrong. In many cultures and under many management regimes it is not acceptable to admit making a mistake. Mistakes are punished, so it is important to play safe and to work within well-established guidelines, whether formal or informal. If a mistake is made, or an attempt to improve a situation is not successful – or not regarded as successful by senior management – then silence is the best policy, and the experience is hidden away, buried in the hope that it will never be dug up. We learn something from our successes, but often we do not investigate what factors are responsible for our successes. But the fact is that failures and mistakes are the most valuable part of experience. It is from these that we can learn much. Whilst this tendency to hide disappointing experiences may protect the individual, it does not enable others to benefit from what can be learned from such episodes.

This publication relates both successes and failures. It is often true that successes are not 100% success, and failures are not 100% failure. An attempt that is seen as a failure may be a large and important step towards success, and bring success within grasp. Let us not despise failures. Instead, let us examine them and learn from them.

The contributors to this book realise the importance of learning from failures, and so have provided honest accounts of activities that they have been involved with. Some have done this on the understanding that their names will not be linked to the information that they have provided and that the locations where the stories took place will not be specified. Therefore this book does not claim to fulfil all the requirements of an academic work. Information collected from published sources is referenced, but there is no referencing to indicate the sources of the material provided by some of the contributors. The reader will not be helped to trace the source of this information, and so will not be able to verify it or find out where to get further information. This is the price we must pay for honesty and openness, but in this context it is a price worth paying.

This publication is based on experiences from Africa, the Middle East, Asia, Latin America and Europe, and each region (except Europe) is represented by several countries. Some of the information that is used is reproduced as case studies in Part II, whilst other material is incorporated into the text of the chapters. The anecdotes and case studies provided by contributors are intended to act as clues and promptings, and to suggest issues that should be considered when arrangements for private sector involvement in solid waste management are being considered and prepared. This publication does not intend to encourage the assessing or judging of individuals, organisations, cultures or nations. In cases for which the location has not been specified in the text, readers may amuse

themselves by guessing where a particular incident or problem took place, but they will not find any confirmation of their guesses in this book.

The information that has been collected shows that there are great differences from one country to another, not only in economic and geographical terms, but also in terms of administrative practices, public concerns, and perceptions of the private sector. In spite of this, it is likely that many of the experiences reported here could be set in any of a number of countries. Indeed, it is remarkable how similar the successes and the problems are, between one continent and another. There is much to be learned from what is happening on the other side of the world.

Some of the case studies report difficulties and problems, which can serve as warnings so that others can take preventive action to avoid similar difficulties. However, the contents of this book are not all negative. Many of the experiences provide useful information about successes and improvements, furnishing examples of good practice in private sector participation that others can follow.

The reader will find that this book is not a complete guide to involving the private sector. Since the contents are based on contributions and experiences, this publication does not provide all the information that might be needed to set up a successful partnership between public and private sectors. Rather, it offers examples, ideas and warnings on certain aspects. It should not be used alone as a guide for preparing for private sector participation, but could be a very useful tool if used together with other resources, some of which are listed in Appendix 3. (This list includes some useful sources of further information which are available on the accompanying CD.)

This compilation is concerned with the involvement of the private sector, and it would be useful if a similar approach could be used to bring together honest accounts of experiences of other aspects of solid waste management, such as the siting and operation of sanitary landfills, the management of composting plants, and the selection of waste treatment options.

1.3 Readership

It is intended that these pages will be of interest to readers in both public and private sectors – national government leaders responsible for solid waste management policy, local government officials preparing to invite private sector participation, entrepreneurs considering involvement in the provision of waste management services, NGO leaders in contact with communities, consultants advising these parties, and academics seeking to inject practical experiences into their lectures and writings.
The material is mostly arranged in a chronological sequence, following the steps that should be taken to initiate the involvement of the private sector. Readers are invited to dip into the sections that relate to the part of the process that concerns them most, and are encouraged to pick out the case studies that relate most closely to the issues that face them.

It is assumed that the reader is familiar with solid waste management and with the various arrangements by which private enterprises can participate in this field. For such background material the reader is referred to Cointreau-Levine (2000)[1].

1.4 The recurring theme

As one considers these experiences, the golden word that repeatedly stands out is “partnership”. Many problems are caused by the lack of understanding that both public and private sectors need to work together as partners, each aware of the situation that is facing and challenging the other. There should be a mutual desire for a long-term and successful relationship. Too often the relationship appears to be that of two boxers fighting in a ring, rather than two rowers working together to bring the boat to its destination (as illustrated in Cartoons 3.1 and 3.2 in Section 3.4.2). Sometimes it is the local government agency that exploits the weaknesses of a private service provider; sometimes it is a large international contractor, or a national contractor with powerful friends, that seeks to dominate and overrule local administrations and develop a monopoly. By respecting the law and the contract agreement, and with a concern for the long-term success of the partnership, both partners should work together in an atmosphere of fairness and consideration. In such a relationship, many problems and differences can be resolved. Without this concept of partnership, the relationship can quickly turn sour, and the opportunities and benefits of private sector involvement may become excluded from

[1] This reference, and some of the others, are available on the accompanying CD.

consideration for many years because of unsatisfactory experiences.

1.5 A comment on gender

Any role within solid waste management can be taken by a man or a woman. In one country a particular job may be almost exclusively done by men, and in another it may be done by women. However, in this publication, for the sake of simplicity, the male pronouns “he”, “him” and “his” have been used rather than the more cumbersome “she/he” etc. to refer to both men and women. This usage is not meant to imply in any way that any position or job is more suited to men than to women.

1.6 The structure of this publication

This book is organised according to the stages in involving the private sector, starting with the initial decision to consider involving the private sector, through the preparation of the tender documents and on to the formal engagement of the service provider and the monitoring of performance. The chapter on preparation (Chapter 3) is a particularly long chapter, emphasising the importance of the consideration of a wide range of issues before a start is made on the preparation of the tender documents.

The case studies from which most of the material in this book in derived can be found summarised separately in Part II. There are frequent references in Part I to these case studies. They provide useful, specific and practical information about various aspects of private sector involvement in waste management. Part II begins with a brief introduction to each case study and ends with a summary table that lists some key aspects of the case studies and can be used to select the case studies of most interest.

Appendix 1 provides some brief information about the resource persons, reviewers and contributors, all of whom have made important contributions to the contents of this publication. Appendix 2 is a checklist that could be used to suggest issues that should be considered when private sector participation is being planned and implemented; for each item on the list there are links to sections in this publication that give more information. Appendix 3 lists published papers and reports which have been referred to in the text and which can provide further information (some of which are on the accompanying CD). The CD also includes some comprehensive publications that provide valuable background material.

The final appendix lists terms and definitions. In solid waste management, and particularly in connection with private sector participation, there is no universally accepted understanding of the meaning of many words. For example, words like *privatisation*, *scavenger* and *disposal,* and even *supervisor,* can be used in different ways and have different connotations for different people. Words used to describe particular arrangements for involving the private sector are used in different ways in the water sector and in waste management; definitions vary from one writer to another and from one organisation to another. In this publication, an attempt has been made to ensure that the use of specialised terms is consistent; this has involved changing terminology in the case studies. The usage of specialised terms in this publication is defined in a glossary in Appendix 4.

1.7 Acknowledgements

This book reminds one of the maps that one finds in airline magazines, showing lines coming from all over the world to one point. In this case it is case studies contributed from 15 nations to converge on GTZ headquarters. We hope that the return journey – with the finished publication in electronic or in printed format – will land at even more destinations.

This publication is an international team effort. Contributions have been received in four languages and from four continents. A debt of gratitude is owed to all who have contributed from their experience, for the time and effort they have devoted to preparing their contributions and also, in some cases, for their willingness to take the risk of reporting on bad practice and unsuccessful initiatives, so that others could benefit and avoid similar pitfalls. These contributors work in local government, or as contractors, consultants or development co-operation advisors. Thanks are also due to all who have reviewed the draft and offered suggestions and guidance, especially Kirk Ellis, who found time in his very busy schedule to read the entire draft and provide some very valuable insights. The names and brief biographical details of those who have played a major role in this work are listed in Appendix 1.

The publisher, GTZ, has funded the preparation and printing of this compilation, collected and translated many of the contributions, and arranged the production and distribution. The vision, effort and flexibility that GTZ staff – under the leadership of Anja Wucke – have shown in

driving the process of collecting the diverse and practical information are applauded. Many GTZ staff have played a vital role in the preparation work; the contribution of Johanna Gellermann is of particular note.

The CWG[2] has also fulfilled an important role by funding the preparation and dissemination of the accompanying CD and a summary booklet. This has been made possible by a grant from the DGIS of the Netherlands Government.

Thanks are also due to those who have allowed the inclusion of two major publications in the CD – to the Skat Foundation for permission to include the Guidance Pack of Sandra Cointreau-Levine: *Private sector participation in municipal solid waste management*; and to US Agency for International Development for the inclusion of *the Solid Waste Management Privatization Procedural Manual*, prepared by Abt Associates for the Egyptian Environmental Policy Program (under USAID Project No. 263-0255).

Dorsi Germann deserves a special mention for the cartoons, and the Skat Foundation is thanked for allowing us to reprint some of her cartoons from its publications.

[2] The Collaborative Working Group for Solid Waste Management in Middle- and Low-income Countries. The Skat Foundation (info@skat.ch) undertakes the secretariat function for this international association.

2. Deciding whether to involve the private sector

If the reasons for deciding to involve the private sector, as well as the concerns that might lead to opposition, are accurately identified, it is possible to prepare a list of objectives and to formulate a strategy that will achieve the desired results.

This chapter asks the question "why?". Why is there an interest in inviting the participation of the private sector? What benefits are anticipated? It also looks at the reasons why there may be opposition to the private sector. When the anticipated benefits and drawbacks have been identified it will then be possible to design a scheme for involving private enterprise and avoiding pitfalls so that the expected benefits can be achieved.

Contents of Chapter 2

2.1 Reasons for interest in private sector participation

The first step in increasing private sector involvement in solid waste management is to ask why this approach is being proposed, advocated or demanded. One answer is that the private sector already successfully plays a major role in waste management in many industrialised nations (Box 2.1).

Box 2.1
Private sector involvement in industrialised nations

In the United States, nearly 12,000 firms participate in the collection, transport, treatment and final disposal of solid wastes; small firms and a few large companies are the operators of approximately 80 percent of domestic, commercial, and industrial urban services (Sanchez, 2004). In many industrialised countries, the solid waste management industry is one of the most important industrial sectors in economic terms.

In many major cities in Latin America, such as Santiago, Buenos Aires, Cordoba, San Pablo, Porto Alegre, Belo Horizonte, Curitiba, Caracas, Bogotá, Cartagena, Barranquilla, Guayaquil, Santo Domingo, Montevideo, Monterrey, etc. private initiatives or entities separate from, or associated with, local governments are responsible for urban cleaning systems (Sanchez, 2004). Small and informal enterprises are extensively involved in waste management in many major cities in low- and middle-income countries. Private sector involvement is encouraged by many development agencies and forms part of Government policy in many countries. Can the involvement of the private sector in low- and middle-income countries be expected to bring the same level of success as that found in industrialised countries? Is the model of private sector participation that has been successful in industrialised countries also appropriate in low-income countries? Is private sector participation only appropriate for the largest cities, or does it offer benefits for smaller urban areas also?

The reasons for considering the private sector may determine the objectives of the contractual arrangements, which organisations should be invited to participate, and what preparation work is needed (to be discussed next in Chapter 3). If the reasons are unsound or of doubtful validity, it may be necessary to reconsider the decision, delaying the involvement of private enterprise until it can be built on a better foundation. The following paragraphs discuss some of the common reasons for considering the private sector. They do not all represent alone sufficient justification for involving private enterprise. The less valid reasons are included to assist in diagnosing the motivation for a shift towards the private sector. There is no significance in the order in which the reasons are listed. Cartoon 2.1 also addresses some reasons for being interested in involving private enterprise.

2.1.1 The need to be seen to be doing something

Solid waste management is often considered to be a very simple issue about which anyone can make decisions, yet so often there are major problems and complaints (which suggest that the issues are not, in fact, so simple). In a situation where senior public figures, the media or the public are expressing dissatisfaction, it is tempting to think that being active – doing something … *anything* – is enough. It may be possible to stop the complaints and protests by explaining that new arrangements are being brought in to involve expert contractors, and that the authorities are busy solving the problems in this way. As we will discover in later chapters, the private sector must not be seen as the automatic solution to all problems. The activity of bringing in new arrangements is not enough. Only if the arrangements are carefully designed and implemented, can private sector involvement be expected to bring improvements.

2.1.2 The public sector has failed to provide a good service

There are certainly cases in which the private sector has succeeded in providing a good solid waste management service in cities where the public sector had previously failed, but it is more common to find that, where the public sector (local government) has failed, private enterprise also fails to deliver the required service. It is true that, in some countries, local government operations have been unreliable and inefficient because of bad management, activities of strong trade unions leading to low productivity and a wasteful use of manpower, ineffective supervision of the workforce, and lengthy or ineffective disciplinary procedures. Local political factors often lead to the employment of excessive numbers of personnel and the appointment of

untrained executives. In some countries municipal staff are replaced with each political change brought by an election (as often as every three years), and in such cases there is little chance for public sector staff to develop their expertise in waste management, and little motivation for them to develop their skills.

However, if a local administration is unable to provide an efficient service directly, using its own workforce, it may also have difficulty in preparing the necessary arrangements for engaging a contractor, and in overseeing the contractor effectively. If public sector operators have not been able to achieve satisfactory standards themselves, they may be unable to monitor the private sector in a satisfactory way. If local government has been unable to ensure adequate funding of the recurrent expenses of public sector operations, it may also have difficulties in making regular payments to a contractor.

Cartoon 2.1 Anticipated benefits of private sector participation

What does a municipal official expect from private sector participation? Perhaps he expects a much higher standard of service – a cleaner city. Perhaps he expects some additional "informal" income from bidders or the contractor in return for favourable treatment. Or perhaps he is looking forward to an easier life, all the work and worry being taken over by a contractor.

2.1.3 The private sector is more efficient

(Here the word "efficiency" is taken to mean the ability to provide a particular service [the output] at a low cost [the input]). There are many cases in which private enterprises have been able to provide services at a lower cost than government operations. Higher efficiency requires the right working environment (including legislation and support from the judiciary, contractual arrangements and monitoring) and competition. Box 2.2 gives an example of how competition improved efficiency in England.

Competition is a key requirement for satisfactory private sector participation. There should be real competition in the tendering process to ensure good prices, but also ongoing competition, for the

sake of the reputation of the companies involved and for future work. It is common to divide large cities into several contracts so that there is competition between contractors. They may be divided into several zones, or different aspects may be given to different service providers. If there are several contractors working in a city, each in a different zone, the performance and charges of each can be compared, and if one company fails, others can step in to maintain the service. Cartoon 2.2 illustrates competition between public and private sector entities and Box 2.3 shows how competition has reduced costs in many cities.

Box 2.2
Compulsory competitive tendering in England

In the 1980s in England, the Government of Mrs Thatcher required municipal governments to put waste collection and other services out to tender. However, it was not only private companies that could compete. The waste collection departments of municipalities were invited to convert to commercialised utilities to compete with private enterprises in the bidding process. In preparation for this competition, municipal workforces changed their working practices to improve efficiency, and many of them later won contracts in competition with private firms. Many private firms claimed that the new utilities benefited from unfair advantages, and a mechanism was established to look into these claims. There is evidence to suggest that the costs of monitoring contractors were more than the savings from the lower tender prices, so the total cost of involving the private sector was more than was apparent from the bids. However, the overall effect – whether the service was eventually provided by utilities or contractors – was an improvement in the efficiency of solid waste management services.

However, often the private sector is perceived to be more expensive (i.e. less efficient). This may be because the contractor expects to earn a profit, and if it is assumed that the costs for the private sector and the public sector are the same, the addition of a profit makes the private sector more expensive. (It is likely that the costs of the private sector and for the public sector are very rarely the same.) Another reason why the private sector may be seen as more expensive is that municipal accounting procedures often do not include costs (such as capital costs, administration and even wages) which a private enterprise must include in its estimate of its total costs.

Another reason why private sector costs might appear higher than those of the public sector is that new contracts often demand a higher standard of waste disposal, at a more distant site that demands considerable extra transport of the waste. There may also be requirements for treatment processes that have not been applied previously. All these requirements can add to the total price of a contract, even if the service is more efficient than comparable public sector operations.

Box 2.3
Reductions in cost as a result of competition

A survey presented in 1996 of 2,000 cities in the United Kingdom, Canada and the United States served by the private sector showed that competition among companies had resulted in cost reductions from 25 to 45 percent. In the analysis of five cities in Latin America with private contracts for urban cleaning, costs were reduced by half. (Sanchez, 2004)

Sometimes the low efficiencies of public sector operations are the result of legal restrictions, labour union requirements or bureaucracy. Restrictions may be imposed on the hiring and dismissing of labourers. If too few labourers are allocated to each vehicle, the time taken to load it may be high, resulting in inefficient utilisation of the vehicle. If too many labourers are assigned to a vehicle (as is the case in Box 2.4), the costs can also be inflated, without a corresponding increase in performance. Bureaucratic restrictions (many of which are designed to prevent corruption and theft) may greatly increase the time required to carry out all but the smallest repairs on municipal vehicles, because the workshop manager often has very limited authority to buy spare parts or order repairs, and is required to get several signatures and approvals before undertaking most repair tasks. The private sector understands better the importance of reducing the time that vehicles spend in the repair workshop and so streamlines the process of buying spare parts. It should not be assumed that private sector service provision is always more economical. For example, a study reported in Case Study I

indicated that the private sector could provide collection and disposal services at a lower cost, but that the costs of a street cleaning service were lower when it was provided by the municipality than by the private sector.

Box 2.4
Too many labourers

The city of Mumbai in 1993 was using many different types of vehicles to collect its thousands of tons of solid waste each day. The labour union had negotiated an agreement that each truck should have a team of six labourers. This number of loaders was well suited to the open trucks that were loaded manually by labourers using rakes and baskets, but was not suited to the skip trucks which lift loaded containers mechanically, and therefore need a crew of no more than one driver and one assistant. This overmanning greatly increased the wages bill, which was already high because the union had negotiated much better wages and additional benefits than could be found in the private sector.

(Scheu and Coad, 1997)

Another example of this problem is found in Case Study P in Part II.

By kind permission of the Skat Foundation

Cartoon 2.2 Competition motivates

We are motivated to achieve our best performances when the competition is challenging. This race is between three private contractors and one local government service provider, all working in different zones of the same city.

2.1.4 Private sector administration is more effective

(The word "effective" is taken to mean the ability to achieve the desired results.)

Local government administrations often suffer from a number of factors that reduce their effectiveness in organising, innovating and improving. The main obstacles to effectiveness are:

- Bureaucratic delays – often caused by the limited authority of middle management to sanction spending and by the fear of corruption, so that many signatures are required, or the signature of the most senior official is required, for even routine matters;
- Political interference. This is a phrase that may be overused. Political leaders are elected to "interfere", but some use their authority for personal reasons or to disrupt processes that should be the responsibility of technical or accountancy staff.
- Insufficient financial resources, whether for capital or recurrent expenditure, and the taking – for other municipal purposes – of budget allocations intended for waste management.
- Lack of interdepartmental co-ordination, particularly in issues relating to staffing, planning, operations and maintenance.

The difference in approach between the public and private sectors can often be seen by visiting the vehicle depots of local government and private sector service providers. Local government depots are often littered with wrecks that are of no further use but are left in the depot because of the bureaucratic difficulties associated with getting rid of them. The depots of private companies are often clean and well-organised. Photos 2.1 and 2.2 illustrate the difference.

Photo 2.1
A scene that is fairly typical of local government vehicle depots.

Photo 2.2
Part of the yard of a vehicle depot run by a contractor.

2.1.5 Looking for expertise and improving standards

In local government service there is often little motivation or support for engineers or technicians to develop their knowledge regarding good practice in solid waste management. A municipal engineer, with a desire to improve waste management standards, and the knowledge of how this might be done, may not be able to convince his superiors of his ability and of the need to allocate resources for this purpose. So contracting a company that has been successful in providing services under similar conditions is seen as a way of improving operational standards. This applies particularly to sanitary landfilling in countries where there is no experience of this method of waste disposal, but there are many other aspects of waste management for which external expertise may be beneficial. A large company may have experts with a range of specialities who can be moved from one site to another as required.

The involvement of the private sector provides opportunities for upgrading the skills of local personnel, but if this is one of the objectives it should be considered in the preparation of contractual arrangements. National professionals who work with the private sector partner may learn much, both formally and informally, but in many countries where government pay scales are low and a strict hierarchy frustrates the initiative of middle managers, they may not be willing at a later stage to return to the public sector. Consideration should also be given to developing the skills and knowledge of public sector staff (perhaps in the national environmental ministry) who will be responsible for monitoring the operation of sanitary landfills or other new procedures.

International companies may be engaged in order to achieve improved environmental standards. The objective may be to replace the insanitary methods of the informal sector or to upgrade landfills. Another objective, perhaps introduced by a donor or lending agency, may be to improve recycling. There are great differences between recycling in industrialised countries and recycling in low-income countries.[3]

In low-income countries, the collection and processing of recyclable waste is a vital survival mechanism for the poor, who will fight for the right to continue to earn their livelihoods in this way.[4] The overheads and inefficiencies of the formal sector and government operations, together with the competition from the informal sector, indicate that this activity should not be a focus of private sector participation without giving it very careful consideration. This view is strongly supported in the final section of Note N4 in Part II. Integration of the informal sector is discussed in more detail in Section 3.4.5.

It is often true that government officials place great importance on the appearance of the vehicles that are used to collect solid waste. Size and sophistication are valued for their own sake, and because they are associated with industrialised countries. Waste management experts know that vehicles that are too large and overloaded can cause excessive damage to road surfaces and be unsuited to congested areas, and that the complex mechanisms of sophisticated compactor trucks can demand frequent repair. Experts would agree that, in terms of public acceptance and sustainability, the reliability and costs of a collection system are more important than the appearance of the collection vehicles, but unfortunately many decision-makers do not accept this logic.

It is sometimes assumed that companies that are capable of operating to high standards will always maintain such standards, but this is not always the case. Many international contractors may operate according to high standards purely out of concern for their reputation. However, some companies, if they are in a situation where there is no familiarity with – or demand for – the standards of operation needed for environmental protection, may prefer to save money by running facilities in a less than satisfactory way, especially if they are under financial pressure because of factors not considered at the tendering stage. If the client's monitoring and control are done by inspectors who themselves are not familiar with the latest concepts of good

[3] In industrialised countries, recycling is usually required by laws which derive from environmental concerns and it entails considerable additional expense. In low-income countries, recycling is usually undertaken by informal sector workers who have no other means of earning a living. The mechanisms and motivations are totally different.

[4] In situations where the informal sector is in competition with the local government service or with a contractor, the informal sector workers may collect waste from houses before the formal sector crews come, and sort through street bins before the arrival of the collection vehicles.

practice, there is no guarantee of high standards of operation.

2.1.6 Access to capital

Local government agencies may have a regular budget allocation for wages and operating costs, but may not be able to obtain funds for large capital projects, such as the replacement of a vehicle fleet or the construction of a sanitary landfill. For such capital expenditures they may depend on unpredictable grants from central government or official development assistance from another country. In contrast, a large private enterprise can get loans or use its own capital for large investments and repay the loan from user fees or monthly payments from the client. Especially when large financial commitments are involved, the private enterprise will need to have confidence that the public sector client will honour the contract, and that the investment can be fully utilised as expected. For this reason concession agreements for waste treatment and disposal operations often include "put or pay" clauses which guarantee payment equivalent to the agreed minimum tonnage of waste to be brought to the site by the collection and transport agency. (If the quantity of waste delivered on any day to the site is less than this minimum tonnage, the fee is calculated as if that minimum tonnage had been supplied.) It is also required that the contract or concession agreement runs for a period that is long enough to repay the loan, as discussed further in Section 3.4.6.

2.1.7 Increased coverage

In many countries the principal cities are expanding rapidly, and public sector waste collection services are unable to grow at the same rate. Lack of capital to buy new equipment and restrictions on hiring new staff, together with low productivity, can all prevent the collection service from increasing sufficiently. Often it is the low-income areas that have no service or only a very poor service. The private sector may be able to meet this need for additional coverage, perhaps by charging generators directly, as described in Box 2.5.

In any city, it is the poor and informal areas that suffer the worst service. One reason is that these areas are often the most difficult to serve because the access routes are often unpaved and narrow. Furthermore the waste in poor areas has the least value for recycling and the poor have less political and social influence. As in Dar es Salaam, the best way of providing a service to low-income communities is often to involve local people, but consideration must be given as to how the collected waste will be transported to the disposal site. Often the poor are able and willing to pay a small fee that is enough to fund the primary collection service, but this income is insufficient to cover the costs of transporting the waste to the disposal site and of the disposal process itself.

Box 2.5
Increased coverage

It was estimated that, in Dar es Salaam, Tanzania in 1992, the City Council was capable of collecting only 4% of the total waste generated in the City. In 1994 private sector operators were invited to participate in waste collection. It was estimated that, by 2002, the percentage of waste collected had risen to an average of over 30%, the collection being carried out by more than fifty enterprises, many of them small and based in the communities they served. While much remains to be done, this is a clear example of how private sector involvement can increase the coverage of the collection service. (Chinamo, 2003)

2.1.8 To improve control of operational standards

It is not always easy to control collection and disposal operations by means of the law. Sometimes the laws and regulations are not adequate and penalties have little effect; often enforcement agencies are weak. An alternative method of implementing high standards can be provided if a private sector operator is engaged by means of a well-written contract that specifies financial penalties for failures to achieve good operating standards. Persistent failure could result in the cancellation of the contract. In addition to the precisely-worded contract, well-trained and motivated inspectors are essential, and they must have the backing of senior management.

2.1.9 Policy and pressure

The private sector may become involved in solid waste management because of a new policy of central government. This policy may be the result of pressure from donors or international financing agencies. In some cases the policy

has specified in some detail how the private sector should be involved. If the method of participation has been defined in detail, it is to be hoped that the procedure has been discussed intensively with stakeholders and experts before being finally formulated.

Particular problems can occur if donors or funding agencies, via their consultants, are the main driving forces for involving the private sector. If the leaders of the local administration are not convinced, but being pushed by outsiders, the whole system may collapse when the consultants leave and the financial support has all been received. In other words, there may be a lack of ownership. If the senior figures in a local administration do not take the lead in making the decisions and preparations for private sector involvement, but leave this to consultants engaged by an external body, the result will be that the local managers miss the opportunity to develop their own expertise and understanding. Because of such excessive dependence on external consultants the system may deteriorate when the consultants are no longer there.

In some countries large private companies exert considerable influence in government circles. Sensing the opportunity for profitable activities, enterprises may pressure their friends in Government to offer certain services to the private sector.

The policy of central government to encourage private sector participation may be assisted by means of a taxation policy that offers tax breaks for particular kinds of enterprise or specific projects.

2.1.10 Simplifying responsibilities of local administrations

Local government agencies may invite the private sector to take over some of its functions in order to simplify or reduce its administrative and operational duties. However the service must still be regulated, monitored and financed, and these aspects require effort and expertise.

The desire to be rid of the responsibilities for waste management can result in unwise haste. If all waste management functions are put out to tender without any prior experience of private sector participation, there may be serious weaknesses in the arrangements, resulting in inferior service standards or higher costs. This is discussed further in Section 3.4.7.

2.1.11 Raising cash by selling assets

National governments have been accused of selling infrastructure and transport services in order to get some short-term cash, but this is less likely to be a motivation for privatising solid waste management facilities, because their capital value is not so high. In some countries there is the expectation that local administrations can make money from solid waste, but in most cases any income that is received is not enough to cover all the transaction costs (the costs of preparing for and overseeing solid waste management services) which in Peru were estimated to be between 3% and 5% of the costs of the service (Case study M).

2.1.12 Providing an opportunity for introducing a fee

The introduction of a private sector service may be used to provide a reason for the introduction of a solid waste management charge in cases where there is a shortage of revenue. If the general public considers that no payment should be made for services provided by local government, it may be possible to justify the introduction of a fee by arguing that a private sector contractor must be paid.

2.1.13 Improved decision-making

The private sector may be more capable of making wise decisions regarding the selection and allocation of resources than the public sector. The possible reasons why this may be true can be summarised as follows:

- The private company may have more specialised experience. In many local government bodies, engineers and technical staff are moved quite frequently from one department to another (for example, after spending two years in the roads department, an engineer may be moved into water supply, and later be transferred to solid waste management for an unknown term). This means that they do not have long to gain experience in the topic and they may have little motivation to study about and investigate into solid waste management, because they expect to soon be transferred to a different department. In smaller municipalities, one engineer may be expected to cover many responsibilities, and so does not have time to acquire specialist knowledge of any of them. In contrast, an engineer or manager in a solid

waste contracting company is likely to specialise in this topic, and see his prospects of promotion as depending on the extent to which he develops expertise in solid waste management. For this reason, the technical and managerial decisions made by senior staff in a private company are likely to be better informed than those made by local government staff.

- The objectives of a waste management contractor are likely to be more clearly focused than those of a local government department. Since the performance of waste management tasks may be directly linked to payment and opportunities for expansion, private sector managers are likely to be more motivated towards solving problems that obstruct this performance. Public officials may be more inclined to be discouraged by setbacks and bureaucratic obstacles.
- Private companies are likely to be less influenced by political factors, because their work and responsibilities are defined by a contract and so are less flexible and less likely to be modified by the personal requests of political leaders.
- In the case of long term contracts (of ten years or more, and which are protected by the judiciary from premature termination by political leaders), the private sector may have a longer-term view that local politicians (whose horizons may not stretch beyond the next election) and this can result in better planning.

2.1.14 Complementary strengths

In general, the best results are achieved when both public and private sectors work together in a partnership. This situation has been well described in the Philippines National Development Plan of 2001: "*both the public sector and the private sector have certain advantages relative to the other in the performance of specific tasks. By allowing each sector to do what it does best, public services and infrastructure can be provided in the most economically efficient manner.*" (Quoted by Lorenz in Case Study A in Part II.)

2.2 Opposition to private sector participation

Many of the origins of hostility towards private sector participation are to do with attitudes, perceptions and prejudices, rather than facts. In some countries senior local government officials may be accustomed to autocratic control of certain functions and of their subordinate employees. Consequently they may oppose efforts to involve the private sector for political, emotional and personal reasons, because control is being passed to private sector managers and actions are restricted by contracts. This opposition may express itself in the creation of obstructions to the processes of tendering and awarding contracts, in the delaying and reduction of payments, or in personal hostility towards private sector managers. Politicians and officials may be suspicious of the motives of private enterprises in negotiating long-term concessions on landfill sites and plant, fearing that the companies wish to use the assets for other purposes.

Senior public officials may seek to retain some control by instituting systems of penalties that give them control, rather than basing penalties on the reports prepared by subordinates and on the provisions of the contract. They may also expect the contractor to do extra work as personal favours in the way that they previously used municipal workers, and be angry if their requests are refused because they are outside the scope of the contract.

Private sector participation may be the policy of national government, but local officials may informally oppose it, perhaps for reasons of political beliefs. Whilst the best approach is to win the support of senior local officials for the idea of private sector involvement, a fall-back position is to ensure that the contract guards as much as possible against the abuse of power, and that there are quick and effective means of resolving disputes.

Political and individual opposition to private sector involvement may be based on the perception that such arrangements lead to excessive profits for the companies concerned.

Some municipal managers may object to dealing with small enterprises because they regard as the leaders of these enterprises as socially inferior.

Experiences of unsuccessful involvement of the private sector may discourage officials from considering engaging the private sector once more. In such cases it would be useful to investigate why the private sector failed,

because it may be possible to take steps to prevent the repetition of the failure.

Trade unions or other labour organisations may oppose private sector participation because of their political beliefs or because they fear the withdrawal or erosion of the benefits that their members enjoy, or because they oppose the more disciplined work habits that are expected of private sector workers. Consequently, municipal and political leaders may oppose private sector participation because they fear the protests, "go-slows" and strikes that the labour organisations would organise if private enterprises were invited to bid for services.

Residents may like to have the same labourer serving them because they get to know the particular street sweeper or refuse collector that works in their area, they engage them to do extra jobs and they develop a concern for their welfare, passing on old clothes and other second-hand items. Under public sector management, the same labourer may work in a particular area for many years. (There are even cases where a municipal street sweeper buys the right to work in a particular area [Box 3.6]). So both residents and sweepers may resist change. Contractors may use staff hired on a temporary basis so that there are frequent changes in the workforce, and the demands placed on private sector workers may mean that they have no slack time that can be used to undertake other work on an informal basis.

Not a few people associate private sector participation with corruption, and oppose it for this reason.

2.3 Threats to the success of private sector participation

This section suggests some factors that can lead to unsuccessful involvement of the private sector. Problems may arise from the shortcomings of either public or private sector, from the institutional or social context, and from perceptions and prejudices. Case Study C describes a situation in which a number of factors contributed to the failure of private sector participation in a capital city. Disappointing experiences can lead to the belief that private sector involvement is not one of the available options for meeting the challenge of providing sustainable and affordable solid waste management services, and the unwillingness to consider the private sector may persist for many years after an attempt to involve the private sector has failed.

2.3.1 Corruption

Corruption and the fear of corruption have very major impacts on public-private partnerships, and so should be considered carefully before making the decision to go ahead with involving the private sector.

In the minds of many people, public officials pursue private sector participation because they see the opportunity for getting bribes and other favours from bidders and contractors. If the power is concentrated in the hands of a few local government officials, with little transparency and no quick access to effective judicial decisions, there is a serious probability that there will be arbitrary decisions and demands for additional payment.

There is also the concern, which is justified because this has often occurred, that officials promote private sector participation because they will arrange that the contracts are given to friends or members of their family, perhaps at a higher price than if the contract were awarded fairly, or with the expectation that the contractor will not be penalised if the service is poor.

Corruption and, to some extent, the suspicion of corruption, can discourage competent enterprises from bidding for work, because they believe that the most competitive and competent bid will not win the tender, but rather the bidder that has the best connections or pays the largest bribe. As a result, the best service providers do not become involved.

During the operation phase also, corruption can lower standards if monitoring inspectors are bribed to not report shortcomings in the service, or if good performance is reported as deficient in the hope of getting a bribe for a more favourable assessment.

In addition, some attempts to *prevent* corruption have also had harmful effects. Senior officials may be reluctant to recognise and admit good performance by the contractor, even if the work has been done to a very high standard, because of the fear that they will be accused of receiving bribes to earn this approval. Sometimes the accusations may come from very junior staff. It is commonly agreed in some circles that government officials can be expected to always make negative comments about the work of

contractors, but never positive. As a result, penalties are imposed in an arbitrary or unfair way that is not related to actual performance and so does not encourage good performance. Box 2.6 gives an example of this behaviour, and Cartoon 2.3 illustrates it with a little exaggeration. Where there is a lack of transparency and little confidence in auditing, senior officials fear that subordinates or the press may denounce them, accusing them of wasting the nation's money, and so they are concerned to show themselves as harsh in dealing with contractors. The results are poor performance by contractors and the inability of many companies to survive in such a jungle.

Fear of accusations may also make junior officials, such as field inspectors, unwilling to sign reports and reluctant to certify that a job has been well done by a contractor. If only a few officials sign all documents, it becomes easier to accuse them of taking bribes to modify records, so it is important to empower and encourage more junior inspectors to sign. If inspectors who are close to the grass roots are able to sign their own reports, there is a wider involvement and a closer link to the situation on the ground, which both discourage corruption.

Fear of corruption often results in cumbersome and slow bureaucratic procedures, which cause expensive and frustrating delays, extreme centralisation of power and wastage of human resources. Transparency and the involvement of communities – "the grass roots" – are ways of reducing opportunities for corruption.

2.3.2 Lack of political leadership

Solid waste management shortcomings and problems are often very visible to the population, and so are likely to generate reactions from public and politicians. Private sector participation is seen by some as a means of helping the rich to become richer and as an opportunity for local leaders to benefit from bribes. Therefore essential activities in the preparation for private sector involvement are (i) persuading political and opinion leaders of the benefits of private sector participation, and (ii) implementing measures that will be used to prevent abuses.

Box 2.6
Never support the contractor

For 12 years a company had a cleaning contract with the Urban Railway Authority. For the first ten years the Head of the Authority was a very strong and business-oriented person and they had no problems in their relationship. Recently, after the appointment of a new head, who is much weaker that his predecessor, they started facing a problem:

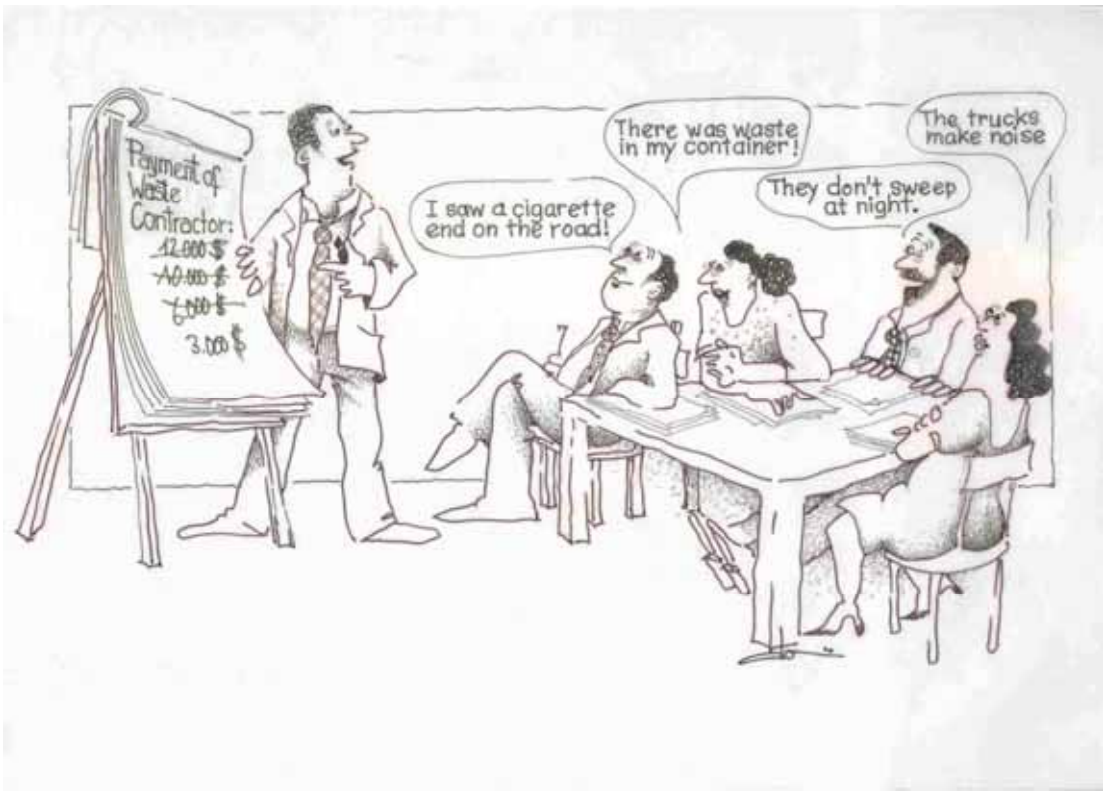
One of the middle-ranking officers of the Authority suggested a different reading for the contract, which resulted in penalty payments that were six times the previous levels – more than 60% of the monthly payment due to the contractor. The contractor complained to the new head of the Authority who said that he totally understood that this new interpretation was ridiculous, but that he could not and would not do anything against it, for fear that he might be accused of wasting public money. He advised the contractor that he should go to court or the Conflict Resolution Committee (the decisions of which are not binding) because, first of all, he considered the initial interpretation of the contract to be correct, and secondly because, according to the law, if a contract has been implemented by an agency for more than 2 years in a certain way, this mode of implementation becomes the legal contract – known as "the reality contract" (even if – which is not the case here. – this actual method of implementation differs from the originally signed paper contract). Unfortunately the contractor cannot expect a clear decision from lower courts (again perhaps because of the fear of being accused of corruption) and the case will take years to reach the highest court, where a favourable ruling can be expected.

So, the lesson learned here is that the strength of the head of an authority and his readiness to take decisions make all the difference – even with the same contract. Fear of accusations paralyses weaker managers. (Excerpt from Case Study O in Part II).

A policy of transparency must be maintained to reassure public and politicians that the contractor and public officials are not benefiting in any illegal way, and that public money is being used wisely. In many societies there is a real risk that these important steps will not be taken, so that, sooner or later, there is an outcry against private sector participation and the parties concerned. A strong negative reaction can poison the atmosphere for many years, excluding the possibility of introducing a more carefully prepared – and therefore potentially more successful – involvement of private enterprise. It is important that politicians are aware that thorough preparation for private sector participation is essential, and that it will be necessary to devote time and resources to capacity development, and to be vigilant, in order to ensure a successful outcome.

When introducing a new private sector system into a complex urban community, there will surely be times when the service does not meet certain deadlines, or fails to satisfy the expectations of some members of the community. At such times political leaders must "hold a steady course" – not being deflected or discouraged from steering towards the objectives that they had set for themselves and their contractor, even when there is a storm of criticism or an undercurrent of complaint. If the public have been involved in the planning of the new system, and the service is basically sound and is improving, the public opposition will not last. Political leadership is also needed to ensure that the rights of the private sector, as defined in the contract and in law, are upheld (Box 2.7).

Changes of political leadership may bring in different concepts of private sector participation or even a reversal in policy – the new leadership not wishing to continue the relationship with the private sector. If the contract (with support from the judiciary) does not protect the contractor in such a situation there may be internal conflicts, and damage to confidence among waste management contractors.



Cartoon 2.3 What shall we pay him this month?

The contractor has submitted an invoice of $12,000 for the month's work, but the Payments Committee is not prepared to pay the full amount. If they did they might be accused of corruption, being bribed to favour the contractor. So they find reasons to reduce the payment, based neither on contractual obligations nor on the reports of field inspectors, but on personal prejudices and inconsequential reasons.

Box 2.7
The power of an individual

Public-spirited and energetic leadership can greatly facilitate the development of an effective public-private partnership, but unfortunately the opposite is also true. The unprofessional and corrupt behaviour of one senior local government official can sink any contractor into bureaucratic nightmares. Such individuals can develop their personal influence to such an extent that even the higher-ranking decision-makers have no power to stop them. This can be a great obstacle to progress and improvement. Strong, positive political leadership is needed to neutralise such opposition.

Political will is needed to institute and collect the appropriate user fees (such as charges payable by households, commercial premises and industries) since elected councils may oppose the imposition or increase of charges for waste management, arguing that there was no special waste management charge before the advent of private sector participation. If any shortfall in revenue results from such opposition and is passed on to the contractor as reduced payments, the service may suffer, contractors may go bankrupt or withdraw, and there may be few bidders for similar work elsewhere.

2.3.3 Lack of capacity

New skills are needed when there is a change to private sector involvement. From the development of the strategy and basic concept (Chapter 3), and the involvement of the public (Chapter 4), through tendering (Chapter 5) and the development of the contract (Chapter 6), the inception stage (Chapter 7), to the challenge of monitoring performance to get the best possible service (Chapter 8), there is the need for knowledge, skills and a backup network of specialists. In some cases this situation is aggravated by changes in organisational responsibility, typically that the organisation that was the public sector provider of solid waste services is not the organisation that is responsible for arrangements with a new private sector provider, so that the practical experience of the former operator is not used to frame the conditions for the new private sector service provider. If such a change in institutional responsibility has taken place, there is an even greater need for capacity building and exchange of experience.

2.3.4 Clash of cultures

There are real benefits to be derived from involving foreign companies in service provision, but there are also risks. The foreign company may have a very different understanding of the role of the contract – especially in defining the work that is to be done and the administration of penalty deductions (Section 6.1). Unless these differences in understanding are admitted, discussed and resolved in some way, they can lead to a downward spiral – penalty deductions which the contractor did not expect leading to a reduced service because of lack of income. This reduced service leads to more penalties, and so the downward process continues. Without a constructive relationship of partners, the situation can quickly deteriorate while claims taken to court are delayed because of the general backlog of cases. As this is happening, politicians and journalists show no moderation in their attacks on the foreign companies, which are said to be bleeding the country by taking large profits (even if they are making a loss) and taking jobs from local people (even if they employ only two or three expatriates as senior managers). The nationalistic, anti-foreign tone is used these days by a minority of politicians in many countries of the world.

Lack of local knowledge can also cause difficulties and hostility, particularly for foreign contractors. Successful approaches in solid waste management depend on a good understanding of the local situation, including cultural, socio-economic, employment and geographical factors. A contractor who has been very successful in another country may not achieve good results in a new situation if he does not pay enough attention to local factors. (See also Section 5.3.1.)

2.3.5 Loss of control

If a powerful private company succeeds in winning many long-term contracts, it may work itself into a monopoly position so that there are no alternative service providers. In such a situation it becomes difficult for local government to control costs and service standards or to offer an alternative service.

Where waste is collected under franchise or private subscription[5] agreements, it is difficult to ensure that the collected waste is transported to the authorised disposal location. Vigilant monitoring of collection activities is required to

[5] These terms are defined in Appendix 4.

ensure that service providers do not dump their loads illegally in order to save fuel and time. There is also the possibility that private subscription operators harass or pressure residents in an unacceptable way into changing their service provider.

2.3.6 Conditions of employment

In many countries municipal labourers have social security benefits such as pensions, sick leave, social insurance, and regular medical examinations and vaccinations. When employed by a private enterprise, they may have none of these, and less security of employment. Waste management contractors sometimes avoid obligations to regular employees by hiring manual labourers for only short periods, dismissing them before they have been working for the company for long enough to earn the status of a permanent employee, with rights to annual paid leave, medical insurance, and perhaps retirement or severance pay. Casual labourers may be paid wages that are equal to, or even less than, the statutory minimum wage, and sweepers may be required to replace worn equipment (such as brooms) from their own pockets, thereby reducing their actual income even further. In the long run this exploitation may cause problems for the contractor, through strikes, public outcry or labour shortages.

A high turnover of staff, whether resulting from company policy or for other reasons, increases the number of employees who need training. Unfortunately, in such circumstances, there may be no training – for example in safe working practices, health protection and in how to relate to the public – for many of the staff. A high rate of turnover among staff can result in low levels of experience and local knowledge, leading to inadequate and uneconomical services. Basic health and safety training should be provided to all manual labourers as a requirement of the contract, but it is easier to make such a statement than to enforce it.

2.3.7 Lack of flexibility

If contract conditions are rigid and without provision for variations or additional work, there may be problems in clearing up after unforeseen occurrences such as high winds and floods, and after shows, festivals and other events involving large crowds. Situations of this kind result in the need to move waste collection crews quickly to particular areas and to work overtime, and if such occurrences are not considered in the contract, it may be difficult to respond to such emergencies.

2.3.8 Lack of acceptance by the public

Citizens are generally very aware of solid waste collection systems, and their co-operation is of great importance. Widespread objection to a private company for any reason can cause major difficulties if it induces an unwillingness to co-operate, or a lack of respect for the contractor's street containers (which can be easily damaged by fire, vandalised in other ways, stolen or even recycled).

The introduction of private sector participation in solid waste management is often accompanied by a change in the way that the service is paid for. Typically a user charge is introduced. If public opinion is not prepared carefully for this change, resentment of or opposition to the fee may develop into hostility towards the enterprise that collects the waste.

2.4 The next step – and a warning

When the decision to involve the private sector has been taken, the next step is to consider how it should be done. How should the decision be implemented – by edict or encouragement? What are the needs in terms of training, capacity building and research? What are the options and how should the best option be selected? How can the risks be minimised? The next chapters will help with answering these questions.

Some of the points mentioned in the later chapters of this book mention unfortunate experiences and unforeseen difficulties. They may give the impression that private sector participation is a very risky business, often leading to disaster. These accounts of difficulties that have been experienced are intended to act as warnings to both parties of specific problems that may arise, so that the likelihood of a particular problem occurring can be ascertained and steps can be taken to avoid possible traps. These warnings should not turn the reader away from any consideration of private sector participation. There are certainly cases of very difficult relationships, but there are also many examples of sustainable private sector involvement.

3. Preparing to involve the private sector

The goal of both sides should be to develop a win-win relationship, the public side benefiting from sustainable, satisfactory and affordable services, and the private side benefiting from a reasonable profit, valuable experience and stable work.

This chapter reviews the preparations that are needed in order to define the form that the involvement of the private sector might take. These steps should be followed thoroughly before starting to write the tender documents. There is a very wide range of options, from which the most appropriate measures should be selected. Instances in which this preparation stage have been rushed underline the importance of developing a clear and comprehensive strategy before reaching out to the private sector. The time needed for this stage is often seriously underestimated.

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3.1 Preparing public sector staff

In most cases the staff of local government units will need to acquire many new skills before they are able to work effectively with a private sector service provider. However, before considering the need for any *skill*, it is important to consider the question of *will* – why should the local government administrators be interested in making radical changes to their method of working, bearing in mind all the extra work involved? And why take the risk of involving the private sector? Do government officials *want* to work hard to ensure that the experiment of involving private enterprises has the best possible chance of success?

If the decision to involve the private sector has been taken at a high level, it is probable that the people responsible for implementing the decision do not understand and appreciate the reasons why this decision was made, and so their efforts may be half-hearted. If they believe the decision to be wrong they may even wish to see their scepticism vindicated by an unsuccessful programme. The enthusiasm and support of management at all levels are important, and steps should be taken to develop them. Provided that the officials are concerned with improving the living conditions in their cities and serving their citizens well, this objective may be achieved by means of

- presentations of the benefits of private sector involvement, with opportunities for frank discussion and unrestricted questioning,
- data and information from similar situations showing the benefits that have accrued from the inputs of the private sector, and
- visits to similar communities where the private sector has been successfully integrated.

In provincial Peru, the first step for many communities was to listen to presentations on private sector participation that were offered by a national agency with some international support (Case Study B in Part II). In this case the national-level support for private sector participation did not result in an instruction that all cities should involve the private sector, but instead an agency was commissioned to promote the idea, thereby encouraging local leaders to make their own decisions.

When local administrations are persuaded that it is a good idea that the private sector be involved in providing solid waste management services, it is then time to consider how to provide the relevant knowledge and develop the necessary skills.

The local government side has a very important role in a partnership with the private sector. The task of the public sector includes data collection and setting of objectives, leading to the preparation of comprehensive, specific and detailed tender documents. By the end of the tendering stage a contractor should be chosen according to his ability to provide defined services at an affordable cost, and the contract conditions should be clearly understood. By means of the contract – and the enforcement of the conditions of the contract – local government staff must ensure that service standards are met, that costs are controlled and that the environment is protected. The goal should be to develop a win-win relationship with the contractor, the public side benefiting from sustainable, satisfactory and affordable services, and the private side benefiting from a reasonable profit, valuable experience and stable work. There is often the necessity for setting up and operating a fee collection system that will provide enough revenue to fund the service.

Another important component is the promotion of public awareness and participation. Many administrations think only in terms of top-down planning and enforcement of laws, but these approaches are not enough for the process of making improvements in solid waste management. Public sector officials often have no experience of interacting with the public and do not believe that such interaction is necessary.

The role of local government in private sector participation is not a simple one, and too often municipalities do not prepare themselves sufficiently for the part they must play in the partnership. The goal is attainable, but the road to this goal needs discipline, knowledge and experience.

It appears that the knowledge is the easiest of these three. Training courses are the conventional answer to the need for knowledge and it is commonly believed that a few weeks of training will provide what is needed. However, there are weaknesses in the training approach which must be countered.

In many cases, training may be only of long-term benefit, since the impact may not be felt until the trained officials reach senior positions, provided

that they are reminded often enough of what they have studied (so that it has not all been forgotten). The most senior officials may not be willing to attend any training events between the opening and closing ceremonies. The best way to transmit new ideas to senior officials may be by personal contact with other persons of similar seniority, through innovative and attractive multimedia presentations, and during high profile seminars at luxurious venues. “Study tours” to overseas destinations may have a positive impact, provided that all accommodation, catering, free time and financial arrangements meet with the approval of the participants, but there is always the risk that only the sophisticated technology is remembered, and that attempts to present ideas, procedures and norms are quickly forgotten. The eye seems to be more closely linked to the memory than the ear; what is seen is remembered, what is heard is easily forgotten. Since the important decisions are made by the most senior managers – and many government institutions are very centralised, leaving little responsibility to any employee below the top three or four officials – it is very important to find ways of influencing the leaders. In order to have an impact on decision-making, personal relationships are paramount. Box 3.1 continues with this theme.

Training takes more time than is often allowed, and needs repetition and practice. A useful training experience can be provided by sending government staff to work alongside private sector staff for a period of weeks, in order to gain a practical understanding of solid waste management. This would help in the defining of work and the development of monitoring procedures, and help public sector staff to understand better the difficulties that waste management staff face each day.

The training of monitoring staff is a vital part of preparation for private sector participation, and will be discussed more in Chapter 8 and in Case Study L in Part II.

It was suggested in an earlier paragraph that the process of growing into this new role for the public sector would also need discipline and experience, in addition to training. Discipline depends heavily on political will, a set of priorities and the transmission of a vision of how the relationships should operate. Standards for transparency and integrity should be set and respected. Experience is also hard to find in many situations; experience in others should be sought and listened to. Different local government units may have used different approaches and there certainly is a great benefit in learning from their experiences. It is a real advantage when public administrations work together in a spirit of openness and co-operation, rather than working in isolation with an attitude of competition and secretiveness. It is reasonable also to expect that the capacities of local governments can be strengthened by assistance from outside, with the help of experts in contracting, public awareness and monitoring. It is very important to be prepared to admit a need for assistance and to listen to others who can pass on experience and suggest issues for consideration.

Box 3.1
Influencing decisions

A team of experts was assisting a local government agency to contract out waste management services. The experts worked together intensively with the solid waste management agency to enable its senior and middle management to understand the tender documents and the issues that they would need to master in order to work together effectively with the contractor. The time required for this process was measured in weeks, not days. Unfortunately, the senior decision-makers were willing neither to devote even five percent of this time to understanding their responsibilities, nor to delegate decisions to the trained managers. In the hierarchical culture of many local administrations it is very difficult to improve the quality of the decisions that shape the relationships between public and private sectors.

It is often said regarding training – “You can lead a horse to water, but you cannot force it to drink” – meaning that it is impossible to train someone that does not want to learn, even if they take part in a course. In the case of mayors and senior decision-makers, it is sometimes impossible even to lead them to the water.

Mistakes can be expensive. Contracts are mostly for long periods, and capital investment is considerable, so both failure and excessive cost must be avoided. Resources invested into capacity development may enable a client to save many times this investment by avoiding expensive mistakes.

3.2 Finding the needed expertise

Who and where are the experts? To whom does a national administration turn when it needs expert guidance in the formulation of a national solid waste management policy or strategy? Who can be asked to provide specialised advice when tender documents are being prepared? In some cultures it is normal to turn to university professors, because it is assumed that they have superior knowledge and understanding. Whilst universities may be the best source of experts to consult for advice on the current legislation and contract law, or for guidance in the preparation of a social survey, professors of sanitary engineering may not be the best people to contact regarding issues of contracting in solid waste management.[6] Unfortunately the best resource people may have a much lower social status and so be by-passed.

Solid waste management is often regarded as an aspect of environmental science, and courses on the subject often specialise in the scientific aspects of the subject, such as the microbiological processes that occur in a sanitary landfill, or combustion reactions in an incinerator. Professors who teach solid waste management may be experts in interesting and innovative methods of treating or recycling wastes, even if these processes have almost no practical application anywhere in the world.

Some university teachers are very aware of the conceptual arguments but not all understand practical realities. (Box 3.2 gives an example of one professor's views, and his views are not uncommon among people with an interest in solid waste management, but little practical experience.) Much of their information may come from textbooks and research journals. They occupy themselves with research that is academically respectable and appreciated by the editors of scientific publications. (Of course, there are exceptions to this rule, but rarely are they found in low- and middle-income countries.) Academics who fit this description are not suited to advise on issues of contract preparation and administration for street sweeping and solid waste collection services. Unfortunately, too often they are the ones who are consulted.

There are two categories of people who are much better suited to participating (as equal members of a team) in the development of measures for the involvement of private companies in solid waste management.

The first category comprises managers of solid waste services who have been working in the field, with a degree of success, for some years and who have practical experience of operating vehicle fleets, managing large workforces, and working together with the general public and with municipal leaders. In many aspects, a contract needs to be precise and practical, and so practical people need to be involved in the preparations for the involvement of the private sector. Unfortunately, even if such people are included in a team, they may be ignored or overruled by academics and administrators who have a higher social status and a more persuasive debating style.

Solid waste management specialists with experience of private sector participation in other countries or regions should also be involved. It is true that there are many local factors that must be considered in the preparation of tender documents and monitoring systems, and specialists who are not familiar with a particular country need guidance from other members of the team regarding the local situation, especially social and political aspects. However, much can be learned from experts who have successfully introduced the private sector into waste management in other countries. There may be opposition to including such people on a team because:

- there may be a shyness or reluctance to expose local difficulties to outsiders, perhaps because of what they might think or say to their friends;
- there may be a feeling of national pride which leads to the belief that all problems can be solved with national expertise and without the need to ask for help from outside;
- there may be the fear that foreign experts will pass on "inside" information to compatriots who are planning to bid for the work that is being prepared, so that these bidders will have an unfair advantage;
- there may have been bad previous experiences with external advisors, who have been dogmatic, arrogant, incompetent or unwilling to consider local factors, or because
- the fees requested by external consultants may appear too high (although potential savings may be several orders of magnitude

[6] The writer was a university teacher for 15 years.

greater than the consultant's fee if expensive mistakes are avoided).

The decisions made in the early stages of preparation can have long-term repercussions. Firstly, because the duration of a contract may be for many years, any weakness in the contact may persist for this time. Secondly, if the involvement of the private sector ends in failure and hostility, it may be a decade or more until private companies or local administrations are willing to consider once more the option of forming a partnership.

It is important that there is practical experience of solid waste management in the teams that prepare tender and contract documents and that oversee the work of the contractor. This practical experience will enable the local government officials to understand what can reasonably be expected from the contractor. This experience is lacking when the local government agency has not already itself provided a satisfactory service. It was also lacking in a particular case when the level of local government that had been operating solid waste management services – the municipalities – was excluded from dealing with the contractors, because contracts were prepared and managed by a higher tier of local government, which had had no experience of running waste management services.

A consultant may be engaged to undertake the necessary preparatory work. Case Study I in Part II describes a case in which a consultant was hired to identify and evaluate options for private sector participation and to assist with the tendering process. The consultant's team included financial, legal and social expertise and attached a high importance to informing stakeholders and listening to their concerns and viewpoints. The same consultant was called back four years later to review progress and achievements. It is clearly important to verify that the consultant actually has the expertise that he claims to have.

Box 3.2
It is a good idea, but . . .

In a region where most of the solid waste was being disposed onto uncontrolled dumps, workshop participants were considering how to promote the introduction of sanitary landfills that would stop the pollution of groundwater resources. A senior university professor argued vigorously that efforts should be focused on recycling and composting, not on sanitary landfilling. Whilst the concepts of his arguments were valid – the difficulty of finding landfill space, the desirability of reusing resources and the need of soil for organic matter – the realities of the situation suggested that landfills were urgently needed. In this medium-income country probably less than one percent of the municipal solid waste was being recycled. It would probably not be possible to increase this to even 50% within ten years. All the waste that is not recycled would need to be landfilled. (Based on past performance, the increase in the fraction recycled would probably not grow at a rate anything like this.) The professor seemed to ignore the problems that have plagued large-scale composting for decades. Landfills would be needed for the foreseeable future. Certainly, strenuous efforts should be made to reduce the quantities of waste going for disposal, but experience suggested that even the most successful efforts would take years to have a major impact. Even if the success of measures to promote recycling met with unprecedented success, there would still be a need for a landfill.

He also seemed to be unaware that formal sector recycling can be a very expensive business, and that it is often better to leave it to the informal sector (albeit with support, such as that described in Case Studies T and W). Germany has one of the world's most advanced formal sector waste recycling programmes, and yet a German contributor categorically advises local governments in low-income countries to leave recycling to the informal sector (N4 in Part II). Section 3.6.1b discusses further why recovery of recyclable materials is best done by small enterprises in low-income countries.

The professor's long-term vision and logic were admirable, but his advice was not helpful in the practical context of waste management. Recycling is of great interest to many, but it is not yet a comprehensive alternative to effective waste collection and disposal. As we seek to promote sustainable and affordable resource recovery, we must ensure that there is a satisfactory destination for every truckload of unwanted waste that leaves our cities each day.

The cost of hiring a consultant is considerable, though when compared to the expenditure on services over the duration of a contract, the fees of the consultant do not appear so large, and a good consultant can save a client large sums of money that might otherwise be wasted in bad contractual arrangements. It may be possible to reduce the fee of the consultant by using in-house personnel to collect much of the data, under the supervision of an experienced local consultant.

Whilst it is important for a local administration to feel a strong sense of ownership and responsibility for its own private sector participation initiatives, it is not reasonable to expect that every city can have all the expertise needed to prepare tender documents, contracts and arrangements for monitoring performance. One option for supplying this need for expertise is to engage competent consultants. Another is for a national public organisation (such as a relevant ministry) to develop a pool of experts who can be seconded to cities and municipalities which are preparing for private sector involvement.

A national ministry has taken some steps towards developing an indigenous source of expertise by setting up a solid waste management unit, to provide advice on private sector participation. Newly recruited young members of this unit are being given a broad theoretical grounding in the wide range of solid waste management topics, but are also being sent out to work alongside waste management contractors and NGOs, and to investigate the perceptions of the public, because text book knowledge alone is not enough. Further training and confidence will come as they work alongside more experienced colleagues. It is unfortunate that, for some years to come, they will be handicapped by their youth; in a society where seniority is greatly respected, these young and motivated trainees may have difficulty in being heard.

Case Study B describes how a national agency and external technical co-operation support assisted the process of private sector involvement by informing officials and advising in the preparations of the various stages. A consultant was later engaged to assist with technical issues.

3.3 Reviewing legislation

Before more specific preparations for involving the private sector can start, it is advisable to review existing contract law and practice.

In places where there has been little experience of government entering into service contracts (such as street sweeping and waste collection), contract law may be suited only to construction contracts which

- are for shorter periods,
- are measured and monitored in different ways,
- do not involve the general public,
- can be halted in the case of disputes and later resumed without major impacts apart from the delay, and
- rely largely on temporary labour forces.

When such law and practice is applied to service contracts there can be a variety of unforeseen difficulties related to the points just mentioned. New arrangements and mechanisms may be needed. Since many laws and regulations relating to tendering procedures are concerned with preventing corruption, it can be particularly difficult to amend or suspend them.

Some of the issues that need to be considered are:

- The right to provide a public service: In some countries the legislation does not foresee that certain public services (such as solid waste management and water supply) can be provided by the private sector. In such cases the legislation must be amended before the private sector can become involved.
- Licensing: If plans are developed to license enterprises to collect, transport, recycle or dispose of waste, it may be necessary to include enabling clauses in the legislation.
- Special wastes: There may be particular regulations regarding the handling of special wastes (such as wastewater sludges, hazardous industrial wastes and hazardous healthcare wastes). It is also important that the definitions of such wastes in the contracts are the same as the definitions used in legislation.
- Collection of fees: Legislation must allow the proposed method of collection of fees for a solid waste management service – for example, if fees are to be collected by the private sector service provider or collected in conjunction with another service (such as water supply or electricity).

- Revisions to enable small enterprises to participate: Contract requirements and laws are often designed for contracts with large companies and are not suited to the needs of small labour-intensive tasks that could be carried out by small enterprises. Requirements for bonds may not be appropriate for certain types of contract, and insistence on bank accounts, tax status and experience may also, for some purposes, be considered to be unnecessary barriers. (See Haan et al. 1998)
- Restrictions on contract duration: If there are regulations that limit the length of contracts to periods that are unsuitable for waste management, these regulations will need to be changed (see Section 3.4.6).
- Cross-boundary arrangements: For the sake of financial efficiency or environmental protection, or because of public opposition, it may be necessary to transport waste for disposal in a neighbouring administrative area. In such cases there must be provisions in law for honouring such agreements and compensation for the host region.
- Taxes and customs duties: Private enterprises that provide public services such as solid waste management may be given special tax privileges in order to encourage them to become involved in solid waste management and other public services.
- Charges and social security payments: Some contractors have been surprised by unexpected demands for payments. In one case contractors learned, after starting their service, that they were required to pay a significant stamp duty on cheques that they received, and that they were also responsible for paying considerable social security fees, the magnitude of which was subject to negotiation and therefore apparently unpredictable. In same cases, the bidders were not aware of these deductions during the tendering process, and so did not make allowance for them when calculating their bid prices. A full investigation – during preparation of the proposal – of the law relating to such charges is therefore advisable.
- Transfer of vehicles and personnel: Changes to the law may be required to allow local government to sell or lease their vehicles to a private enterprise and to enable them to change the status of government employees who will be transferred to contractors. (Vehicles provided to public administrations by donors may be subject to restrictions on transfer to the private sector.)
- Labour laws: Solid waste management may be considered as a permanent occupation (because it is not just meeting a temporary need) so labour laws may oblige that labourers be taken on as permanent employees – a serious liability for a municipality trying to reduce its direct labour force or a contractor with a limited contract and who wishes to be free to dismiss less effective employees. (Mihsill et al. 1997)
- Establishing monitoring and enforcement capacity: Enabling legislation may be needed to allow local government to establish an agency to monitor the performance of private sector service providers and to enforce fines or other sanctions.
- Environmental standards: The tender documents and contracts will need to refer to current environmental standards (and anticipated revisions) when specifying the performance required of the contractor. (Examples are the permeability of the material used for landfill liners and the quality standards for the flue gas from an incinerator.) In exceptional cases it may be justifiable to impose a standard that is higher than existing requirements. For this purpose a short input from a competent environmental specialist is desirable.
- Opportunities for foreign companies: Whilst the long-term aim must be to develop indigenous capacity, there may be short- and medium-term advantages in encouraging international companies to participate. If this is the case, it may be worthwhile to review regulations regarding the opportunities open to foreign firms, requirements to register locally and form joint ventures with local companies, and restrictions on repatriation of funds. Responsible agencies and ministries should be identified. The formation of a locally registered enterprise may be subject to some requirements which appear unnecessary, and the process of registration may involve long delays and numerous requests for informal payments. Partnership with well-connected nationals can be a great asset at this stage, though such people may not be so effective in the day-to-day operations of solid waste management. The

importance of accurate translation of legal terms cannot be overemphasised, and quality control of key translations is recommended.

- Limitations on market share: In order to prevent monopolies it may be necessary to enact legislation that limits the number of contracts that one enterprise or family can have. It may also be appropriate to review legislation that prohibits cartels.
- Transparency, availability of information: Solid waste disposal can generate intense public opposition. Such opposition can be fuelled by secrecy. Therefore, consideration should be given to ways in which information related to financial and environmental issues could be made available to the public.

It is clearly important that the legal framework is conducive to private sector participation, but this alone is not enough. It is also important that the enforcement agencies and courts uphold the law (particularly in terms of resolving disputes, honouring contracts and financial matters). However, there are also many other factors that can affect the feasibility of private sector participation, as Case Study P illustrates.

3.4 Using objectives to select the best approach

3.4.1 The importance of setting objectives

There are many ways in which the private sector can be involved in solid waste management, and the selection of the most appropriate arrangements should be made only after widespread consultation and careful deliberation.

Unfortunately, there are too many examples of little or no consideration having been given to the selection of the most suitable arrangements, in the rush to involve the private sector. Perhaps the decisions were made at a high level by officials with little knowledge and experience of the great variety of possible options and the factors that favour the best arrangements. Since the contracts chosen in this impatient way may run for 15 years or more, the consequences of a hasty and unwise decision can be very expensive.

Decisions regarding the contractual mechanisms and arrangements should be made on the basis of agreed objectives. Different objectives lead to very different contracts. Before making any decisions about involving the private sector it is wise to ask oneself "Why am I considering involving the private sector?" and "What benefits do I expect to get by involving the private sector?". It is even wiser to assemble a group of stakeholders and ask them these questions.

In choosing from the wide range of options for private sector involvement, the following considerations should be kept in mind:

- the reasons why private sector participation is being proposed;
- the available expertise in operating solid waste management systems and in running service contracts;
- any objectives relating to the development of the solid waste management sector;
- the available financial resources;
- local socio-economic conditions.

Section 2.1 has suggested reasons why local authorities may be interested in involving the private sector. Identification of the most influential reasons leads to the key factors that must be kept in mind as the tendering documents are being prepared. For example, if one of the main reasons is to improve waste disposal (landfilling) practices by engaging a firm with proven expertise and a good international reputation, it may be appropriate to seek a contractual relationship only for waste disposal, with a strong component of capacity building, rather than a comprehensive project that also includes waste collection and street sweeping. If recycling is regarded as important, the contract should be written accordingly.

If a local authority has not been able to offer a satisfactory service itself, it will have difficulty in making satisfactory arrangements for private sector participation. Important data will be missing, and the experience necessary to monitor the service provider will not be available. It will be very difficult to estimate a reasonable price for the job. In such a situation it is preferable to start with a short-term management contract, preferably of limited geographical extent, in order to learn valuable lessons. This approach was used for upgrading landfills and preparing for long-term waste disposal contracts in St Lucia.[7]

It should generally be the long-term aim to develop local capacity, usually of both the private sector service providers and the public sector

[7] The contract for this preparation stage can be found in Part V of Cointreau-Levine (2000) and is on the CD.

contract management and monitoring team. This objective influences the selection of partners and design of the contract. In any solid waste management system, the most important component is the people (especially the managers and the supervisors). Any private enterprise must ensure that its employees work productively, and so they must be well trained. Even if a contractor is from another country or region, there can be many opportunities for local people to be trained. An international enterprise may use permanent staff from its head office for the most senior management positions, but other posts are usually filled by local staff, and these local staff are given the training they need to do their work, so that the reservoir of knowledge and experience of the country is increased.

An example of a contract that was specifically structured to build local capacity is given in Box 3.3.

Box 3.3
Building local capacity

An interesting model for training local people has been developed in South Africa. The "Billy Hattingh" model uses a three-party contract for setting up community-based waste management systems in small towns. The three parties are (i) the client (local government), (ii) the service provider (an enterprise formed for this purpose from previously unemployed members of the community) and (iii) a consultant (or mentor, who administers the investments and provides guidance and training for the service provider, gradually phasing out the input as the service provider develops skills and gains experience). Incorporating capacity building into the formal contractual arrangements in this way is a very effective tool for training the local private sector. (Lombard and McPherson, 2003)

The private sector may be called in to provide capital and expertise for the development of facilities – for example under a *Build, Operate, Transfer* (BOT) concession arrangement. (There is a range of possible types of concession agreement.) Before the tender document is prepared, these objectives and mechanisms should be decided upon.

Poverty alleviation and the rate of unemployment among unskilled labour may be seen as key socio-economic and political considerations. Solid waste management allows a range of methods for many tasks, from the labour-intensive to the capital-intensive. Whereas a contractor from an industrialised country may prefer mechanised methods with which he is familiar, labour-intensive methods may be financially competitive and socially advantageous. The tender documents in such a situation may indicate a preference for labour-intensive methods or small, labour-intensive enterprises.

The current and preferred roles of the informal sector (often already intensively involved in primary collection and recycling) are another important consideration, and objectives need to be defined – whether informal sector workers should be excluded from participating in waste collection, integrated into the service, or allowed or encouraged to compete in the tendering process. If a new collection service is being planned, it may create conflict with existing informal sector activities. In such cases there may be three options:

- to ignore the informal sector and operate as if their activities do not exist;
- to attempt to find ways to stop the involvement of the informal sector, either by modifying operational proposals (by selecting different methods or equipment, or by changing schedules) or by means of police enforcement or
- to deliberately incorporate the informal sector into the service.

Case Study W describes a case in which a municipality invested in the development of informal sector recycling, and Case Study S describes measures that were taken by a contractor to include informal sector individuals in its workforce. This issue is discussed in more detail in Section 3.4.5.

3.4.2 Balanced partnerships – an operational objective

The relationship between government and the private sector should be seen as a partnership. It should be a win-win partnership in which both private and public sectors derive benefits. Too often the relationship appears to be that of adversaries, each trying to cheat, exploit or dominate the other. It should be a *balanced* partnership. This point is illustrated in Cartoons 3.1 and 3.2. One of the objectives of the whole process should be to set up and maintain a relationship between public and private sector

partners that is sustainable and effective because it takes account of the needs and responsibilities of both sides.

Municipality dominating

Cartoon 3.1 shows the mayor (representing the local government authority or municipality that is responsible for providing or organising a waste collection service) and the leader of a small enterprise. If the municipality side of the partnership is so powerful and authoritarian that it does not pay attention to the concerns and needs of the small enterprise, but regards the enterprise as a servant without rights and ignores agreed contractual arrangements, then it is likely that the partnership will not last long. The cartoon shows the mayor dominating to such an extent that the boat does not go in a straight line. In the end, both suffer.

There are many ways in which local government may have undue power over the private sector service provider, even if the enterprise is large. For example, the local administration may ignore the procedures in the contract for imposing penalties on the contractor, and deduct fines in a way that weakens the contractor and produces no positive result. The contractor can dispute the penalty, but legal processes, and even arbitration, can take a long time to reach a decision. (In one case a contractor expects arbitrators to deliberate for twelve months before announcing their conclusions.) Contracts should specify penalty mechanisms very clearly and provide access for both sides to an effective and speedy means of resolution of disputes, with full financial compensation to the contractor in the event that unlawful penalties have been deducted from monthly payments.

Both sides should have duties and obligations, as well as rights. Both sides should be liable to penalties if they do not fulfil their obligations.

By kind permission of the Skat Foundation

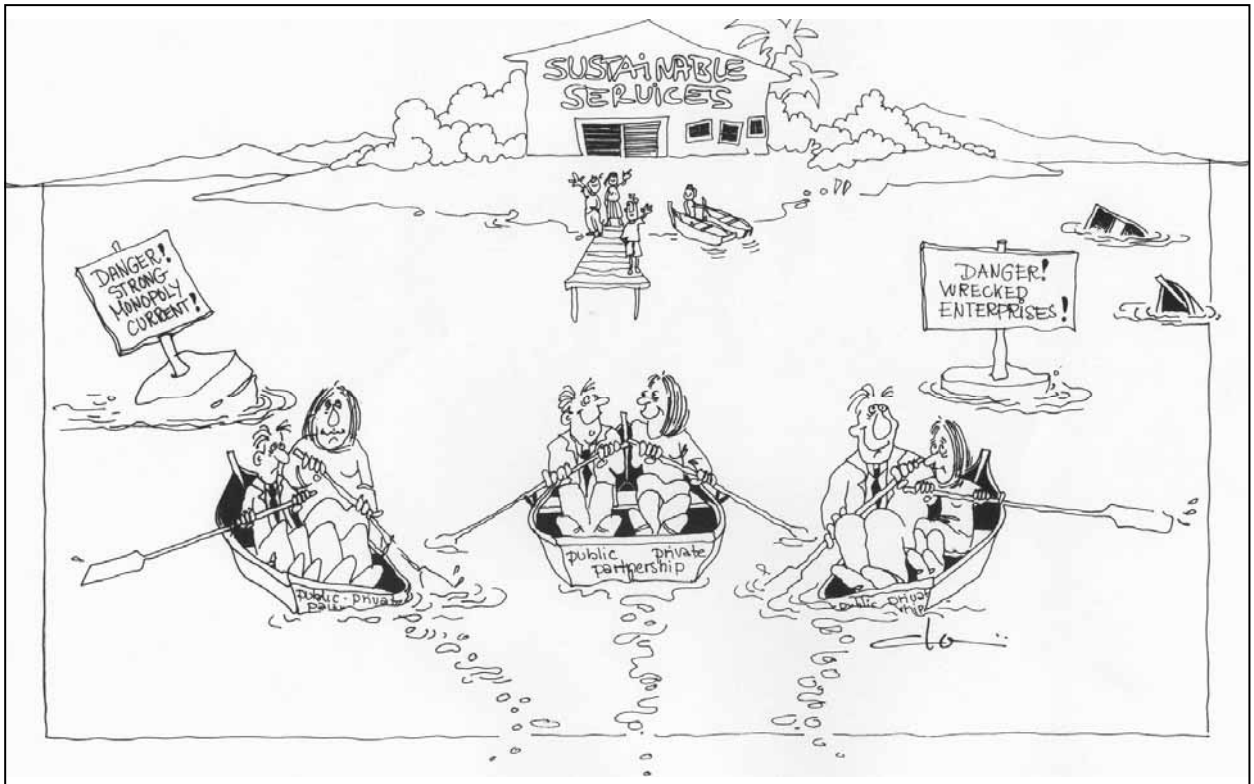
Cartoon 3.1 An unbalanced partnership – domination by local government

In this case the public sector client is much more powerful than the small private contractor, with the result that the boat moves off course towards failure, because the private enterprise may be wrecked by late payments and heavy penalties.

Another example of how a large contractor is in a weak position is that if, in a particular country, payments are not made by the contractor to government agencies according to demands, all payments to the contractor, and even bank accounts, can be frozen. In such a situation, with long delays to any appeals, the contractor is in a weak position.

Just as the rowing boat causes both occupants to suffer if it goes off course, so both parties suffer from domineering behaviour from the client. In response to excessive penalties, bidders at the next tender stage will increase their prices to allow for such penalties (as in Case Study O) and the number of bidders for subsequent or similar contracts will reduce, perhaps drastically, if the client develops a bad reputation.

If a number of small enterprises are involved, the municipal side could be required to appoint a suitable officer to work closely together with the enterprises. Alternatively, if small enterprises can form a co-operative or joint negotiating team, and the municipality is required to recognise this group, than a balance can be achieved.



By kind permission of the Skat Foundation

Cartoon 3.2 Balanced and unbalanced partnerships

On the right, the dominance of the public client can lead to the ruin of the enterprise. On the left the powerful and experienced private contractor can so dominate public sector clients that an unhealthy monopoly results. In the middle is a balanced partnership with both partners working together to achieve the goal that both desire – sustainable services.

Powerful companies

Cartoon 3.2 also shows, on the right, the dominating local authority rowing the boat away from the destination – sustainable services – towards the area where there are many wrecked enterprises. On the left it shows the opposite problem, where the private sector dominates. If the private sector is very strong – such as a large company with powerful political connections, or a multinational company – and if the municipality has little experience in dealing with such companies, and poor legal advice, the partnership may head towards a monopoly situation where the public sector has no choice but to accept what the private company does and demands. This is compounded if one company is awarded all contracts or if it buys out all the other contractors in the waste management sector. Contractual

arrangements should therefore divide up the work between independent firms and restrict the number of contracts that one firm – or association of firms – can bid for.

If a contractor has a monopoly in a particular activity, he can control the price that he charges for the service and it is very difficult for the government to influence the standards of operation. Landfill operators often have a monopoly in a particular area so it may be necessary to control the gate fees that they can charge and limit the number of landfills that they can operate nationally.

Fortunately, there is a middle way. Balanced partnerships – in which each side has obligations to the other and neither side dominates – are needed to reach the goal of sustainable services.

An illustration of the failure to achieve a balanced partnership is provided by the informal use of the term “submissive contract” in one particular context. This is used to describe a contractual arrangement in which the private sector “partner” submits to the wishes and whims of the client, whether or not they are included in the contract. The contractor is described as a slave of the client. In such arrangements the final payment due to the contractor may never be made.

3.4.3 Who should be the client?

In many cases it may be clear who will be the client, but there are contracts in operation at the time of writing for which several individuals or bodies each regard themselves as the client – irrespective of who actually signed the contract – and try to give orders to, and impose penalties on, the contractor.

In many cases there can be several options for the client role, as is suggested in Figure 3.1. In some major cities there are development corporations which fulfil many of the roles of municipalities in newly-developed districts, and in such cases either the development corporation or the municipality could be the client. Sometimes street cleaning and waste collection are the responsibilities of municipal or district administrations and transfer and disposal are the responsibility of regional organisations.

Associations are often formed by a number of neighbouring urban administrations – typically around a capital city where nearby towns have expanded until they coalesced into one contiguous metropolitan area. There are often good reasons why one landfill should serve several urban or regional authorities – often the inner municipalities have no land for waste disposal, and so must join together with peripheral municipalities for this purpose. In other cases municipalities may join together to benefit from economies of scale or to enable them to hire experts. In such cases should one of the constituent authorities act as client, representing the others, or should all the authorities jointly sign the contract, or should a new umbrella organisation be formed to act as client? (This type of inter-municipal union may not be advisable in some political environments because of the risk that one or more parties may pull out of the partnership for personal or political reasons, leaving the others with debts that they cannot pay and facilities and capacity that are more than they need.)

Consideration should be given to penalties that would be imposed on any of the contributing organisations if it wishes to withdraw from the arrangement, and to how the contractor or concessionaire would be compensated if the amount of waste to be hauled and disposed of is reduced because of the withdrawal of one of the client parties.) Germany has had many positive experiences of commercialised utilities and associations of municipalities, and information about some of them can be found in Case Studies N. Case Studies D and H describe other successful experiences in inter-municipal co-operation.

Another factor in the selection of the client is access to funds – to loans and grants for financing capital expenses in a service contract, and to recurrent funds, with control over the amount that can be paid to the service provider and over the timing of payments, so that the contractor is paid regularly and on time. The organisation that is selected should have the financial and administrative capacity to fulfil the obligations of the client.

3.4.4 The service provider – options and mechanisms

There are many ways of involving the private sector, and even of defining the private sector (Section 1.1). There are conventional, registered enterprises of various forms, of a range of sizes and with or without international links. They may participate in many different ways, from offering a complete waste management service, including public education and fee collection, to providing

one or more narrowly defined services (according to the particular need or according to the specialisation, size or resources of the service provider[s]).

There are enterprises which are wholly or partly owned by government, but if they operate according to commercial principles and are autonomous financially and in decision-making, may be classified as private sector for some purposes since they have many features of a private company, and may be considered as an alternative to a private enterprise (Box 2.2). Government-owned enterprises of this sort are often referred to as *commercialised utilities*, and may either provide some or all of the waste management services themselves, or subcontract and supervise private companies to provide the services.

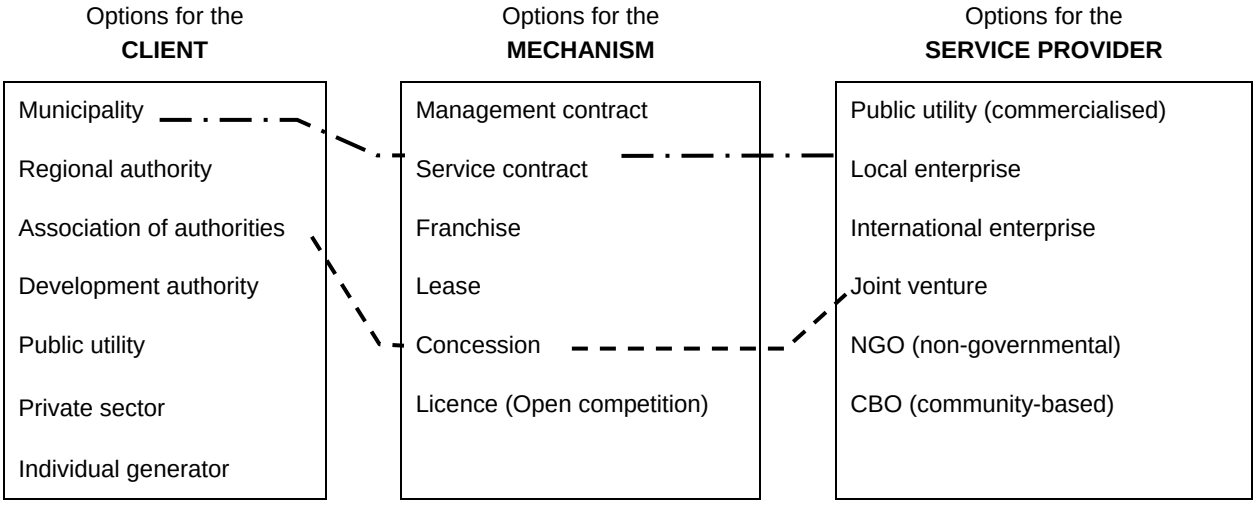


Figure 3.1 Institutional options

A wide range of options and combinations is available. As examples, this diagram shows a municipality awarding a service contract to a local enterprise and an association of authorities (perhaps in a metropolitan urban area) granting a concession to a joint venture (which might consist of a public organisation and a private enterprise or a local enterprise and an international enterprise).

The managers of commercialised utilities should have full control of their human, physical and financial resources and not be dependent on subsidies or allocations from local government budgets. Instead they are required to raise their own income by charging fees for the services they provide. A commercialised unit could not survive in some local government contexts, because it is essential that the local government administrators and political leaders respect the autonomy of the commercialised unit, by not taking money from the unit, by not interfering in management decisions and by not interfering in the payment of fees when they are due. Some municipalities and local administrations cannot be expected to exercise this degree of self-discipline. When commercialised utilities cannot make major decisions themselves and are very little different from a municipal department, their performance is likely to be similar to that of a municipal department (see Case Study F in Part II). The inspection and monitoring of commercialised units is often not carefully considered; sometimes no staff who are capable of monitoring are left in the public sector when the utility is formed by the transfer of all staff with any waste management experience (Case Study F), and it is difficult for local government to impose penalties on an agency which may still be regarded as an arm of local government.

There are many options for joint ventures. These may be alliances of public and private sector entities, or of various types of private sector organisation. They often comprise a local partner and an international partner. This possibility is in addition to the subcontracting of enterprises for particular purposes.

Not-for-profit NGOs, residents' associations and village development associations (also known as community-based organisations – CBOs) may also be considered to be in the private sector. Box 3.4 mentions three different arrangements for street sweeping that were used in one town, two

of which could be described as "private sector". Case Study U describes the work of an NGO in Delhi. In many locations NGOs have been successful in implementing decentralised integrated waste management schemes in which much of the waste is processed locally, thereby dramatically reducing transport costs. However, as Case Study V suggests, such arrangements may often not be very durable.

Box 3.4
Three systems for sweeping streets

Rajkot (Gujarat, India) assessed three arrangements for street sweeping by operating them in parallel. They were (i) direct labour (using the municipal workforce), (ii) contractors, and (iii) a service operated by housing associations within their respective areas and subsidised by the municipal authorities. (Mihsill et al., 1997)

Box 3.5 describes an innovative approach to beach cleaning, and illustrates how an NGO can benefit from resources from both private and public sectors.

NGOs often also play an important role in educating the public and in mobilising public opinion to put pressure on government to stop activities that are causing pollution.

Informal microenterprises and family operations that are not registered may be classed as "private sector" or "informal private sector". They are often active in primary collection and recycling, and may fulfil an important role in waste management. Changes in collection and disposal systems that are made without reference to the informal sector may result in duplication or conflict as informal sector workers seek to protect their livelihoods. (See Section 3.4.5 below.)

Various types of legal arrangements are possible, such as contracting, franchising, private subscription and concessions. (For more details about how these terms are used here see the Glossary in Appendix 4 and Part IV of Cointreau-Levine [2000], which is on the CD. There is some discussion of these options in relation to payment in Section 3.8.4.)

Contracts may be awarded for the complete provision of a service, or for components (such as management, monitoring, maintaining collection vehicles, providing cover material for a landfill, public education or data entry), or for various combinations of stages (from provision of storage containers to disposal).

For example, if it is desired to upgrade waste disposal operating standards, this may be done by

- contracting an experienced manager or management team to take charge of a public sector workforce with public sector equipment – a management contract, or by
- contracting for the complete landfilling service, the contractor providing all necessary machinery and staff.

Box 3.5
Who cares about the beach?

An NGO in Mumbai decided to get involved in cleaning an area of beach that was very popular. The workforce was drawn from an adjacent low-income housing area. The NGO approached the municipal authorities for support, and were offered the use of tractors and trailers to remove the collected waste, and were advised to ask the owners of the local hotels for financial support. The hotels supported the activity for four months, but then lost interest. The state of the beach deteriorated. Pressure was put on the NGO to resume the service, and this time the municipal authorities arranged for the NGO to derive income from advertising hoardings. (Sheokand et al., 1997b)

This is discussed more in Section 3.6. (It should be pointed out that these measures should only be used for waste disposal where the waste disposal site is located and constructed in such a way that it does not cause significant pollution. If this is not the case a new sanitary landfill should be prepared, and a concession may be the most appropriate mechanism for this.)

A management contract allows transfer of skills and knowledge to public sector staff, but the manager may be frustrated by lack of support from local government decision-makers – for example if they do not provide the equipment or other resources that the manager asks for.

Concessions in solid waste management are appropriate for the construction and equipping of facilities and plants, and can take various forms.

Lorenz in Case Study A lists the following possibilities:

> *Build and transfer (BT), build-lease-transfer (BLT), build-operate-transfer (BOT), build-own-operate (BOO), build-transfer-operate (BTO), contract-and-operate (CAO), develop-operate-transfer (DOT), rehabilitate-operate-transfer (ROT), rehabilitate-own-operate (ROO).*

Revenue can be generated in many ways, as will be discussed further in Section 3.8. In addition to the costs of the private sector service provider, there are also additional costs ("transaction costs" as discussed more in Section 3.7.1) that must be borne by the government side in preparing the documents, managing the selection process and monitoring the performance of the service provider. In this arena of finances too there are many options. If the fee is collected by local government, should the service fee cover all the costs of the service provider, or be supplemented by a subsidy from other local government funds? How should transaction costs be funded? If the fee is collected by the service provider, should the fee paid by the private sector to the government side be enough to cover the transaction costs? How should the level of the fee be determined and regulated? Should the service in low-income areas be subsidised, perhaps by fees collected in more prosperous areas?

There are many kinds of wastes. When preparing for private sector participation, it is important to consider which types of waste to include in the contractual agreement and also to plan how other types of waste will be managed. A list of types of waste can be found in Section 3.6.1.

In addition, contracts may be let for the collection, separation or processing of certain waste-derived materials for recycling, such as glass, PET bottles or metals.

The involvement of the private sector in the collection, treatment and disposal of wastes may require the introduction and operation of a licensing system to enable the authorities to influence operating standards by withdrawing licences from unsatisfactory operators. Licences can also provide a source of income to cover transaction costs.

Consultants can play many roles in this field, including capacity building of small local enterprises, assisting with the preparation of tender documents (Case Studies B and I are two examples among many), evaluation of performance prior to extending a contract (Case Study I), providing advice on technical issues and monitoring the performance of private sector service providers.

Some authorities seem very reluctant to discuss proposals with outsiders or make tender documents available to people who are not actually preparing a bid. Perhaps this is because of insecurity, a fear that the documents will be shown to be inadequate, or the fear of being accused of corruption. The opposite approach would involve inviting experts and potential contractors to discuss some elements of the tender documents with the local government agency before the documents are finalised. This open approach would be more likely to expose problematic issues so that many disputes and conflicts are avoided, and result in arrangements which encourage balanced and sustainable relationships. Transparency will be discussed more in Chapter 6.

This wide range of options emphasises the need for discussions with stakeholders, expert advice, local knowledge and careful consideration before a decision is made regarding the institutional and commercial arrangements that are to be used. Taxation policy may also need to be taken into account. Good decisions on these issues form a firm foundation for the next stages.

3.4.5 Strategy regarding existing informal arrangements

It is only on very rare occasions that a solid waste management system is introduced into an established community where there has been no previous waste collection service at all. The previous service may have been inadequate, and only available to a fraction of the residents, but usually the demand for waste collection ensures that at least some form of service is provided in any urban area, either by municipal authorities or by individuals without any official mandate. In low- and middle-income countries there are usually also individuals who make or supplement their living by collecting scrap or materials that can be sold or reused, by screening decomposed waste or by composting. Such operations are often regarded as unsatisfactory by the authorities, perhaps because the equipment that is used is not sophisticated, because of the poor living or working conditions of the waste collectors and their use of child labour, because disposal operations cause significant and obvious pollution

(Photo 3.1), or because the service reaches only the more prosperous citizens. In order to improve the situation, the local or national government decides to involve large companies, usually as contractors.

Unfortunately each side may not take account of the other during the preparation stage. Perhaps the new contractor has little knowledge regarding the existing arrangements, or has no experience of working together with the informal sector and microenterprises. Individuals who have been working in waste collection and recycling may have little understanding of the implications of the arrival of a large contractor, or they may feel that they have little bargaining power, and so they go underground. It is in the interests of both informal and formal service providers to work together, but this often needs some support and initiative from a third party.

Photo 3.1
Pollution associated with informal sector operations

Large quantities of waste are brought here by the informal sector for sorting and recycling, creating widespread pollution and unpleasant working and living conditions.

There are several reasons why it is advisable to investigate existing arrangements and take account of them:

- Families depend on the income generated from waste collection and recycling. In some of the major cities of the world there are tens of thousands (if not more) that depend in some way on the recycling industry – from collecting recyclables to producing and selling products from recycled waste. Any decision that affects the well-being of so many families must be taken carefully and be based on reliable and complete information.
- In cases where informal sector workers are providing door-to-door collection of waste, or providing extra services to households, relationships can be built up between residents and these workers. Residents may become aware of the poverty that these individuals suffer and help them in small ways with money, left-over food and old clothing. If a new private sector regime takes over and these people are displaced, residents may be hostile to the change and prefer the old arrangements to the new. This can be particularly acute if the new system is less convenient (in terms of level of service) than the old. Residents may continue to pay the informal workers whom they know, and oppose paying “a second time” for the new official collection system. Most people may not be aware of the environmental hazards posed by certain informal sector methods, and of the extra costs of good disposal techniques, and so not understand the reason for an increase in fees.
- Sweepers and recycling workers whose work and livelihoods are threatened by the introduction of a new private sector system can do much to undermine and frustrate a new private sector service. Box 3.6 gives an example of this. Waste pickers who are denied access to waste under new arrangements may find ways to continue to

have access to the waste, such as collecting it from door-to-door or sorting through street bins before the authorised collection crew arrives, scattering unwanted waste as they look for items they can recycle. There are examples of informal sector workers opposing new systems by blocking access to disposal sites or even, in one case, kidnapping municipal officials, in order to prevent the introduction of a new system that threatens them (Case Study R). It may become more difficult to recruit workers for the official private sector service if there is strong opposition from the established informal sector.

Box 3.6
Buying a street

In one city in Pakistan, investigators learned that street sweepers had unofficially bought and sold the rights to work in particular streets. A street of high-income residents would command a high price because it would provide opportunities for extra work (and therefore payment) for the sweeper who was working there. A new system of waste collection was being introduced – a system that would have displaced the sweepers so that they would have lost the benefit of their investment. They – naturally – opposed attempts to bring in the new arrangements that were proposed.

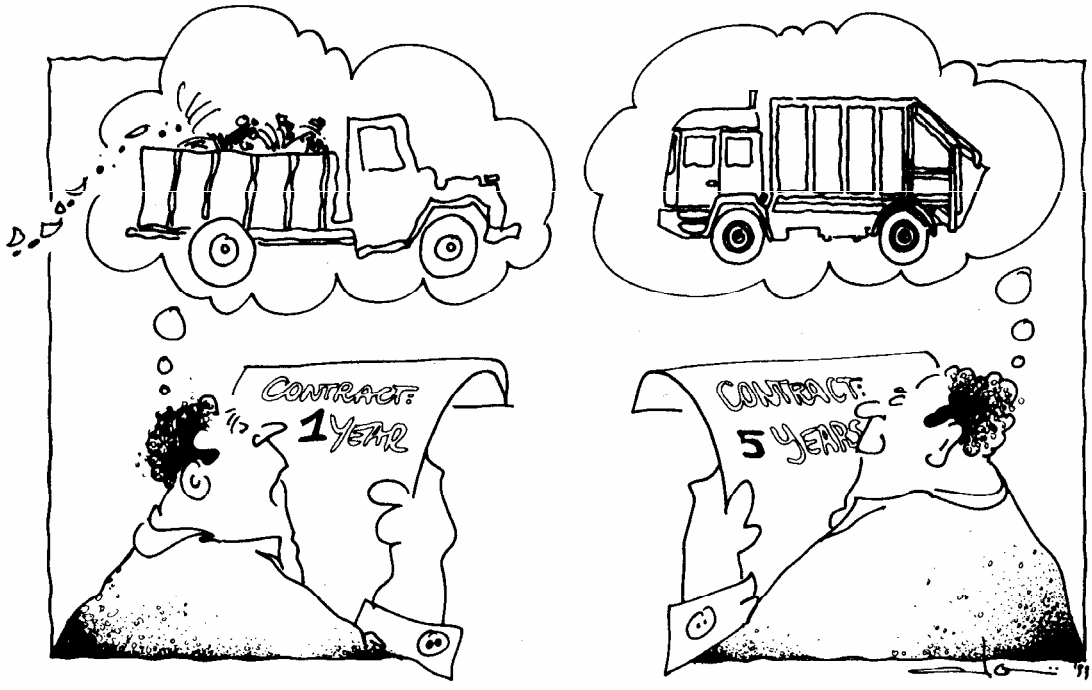
In developing objectives and plans for involving the private sector, it is advisable to look for ways of avoiding the exclusion of the existing sweepers, collectors, and waste pickers. Case Study S describes the action that was taken in a city with a very strong informal sector. Alternatively there may be ways of modifying the procedures so that the contractor is able to work efficiently and according to acceptable environmental standards while the recycling sector continues to have access to the materials that it wants. One approach would be to encourage segregation of certain recyclable materials at source, so that the recycling workers can collect recyclables and the contractor collects the rest. Establishing habits of household segregation can be difficult, but good contact between recycling workers and residents might make this possible. Payment for recyclable items – as practised in the Philippines (Camancho, 2001) – is another possibility. In some cases registered waste pickers are given access to the waste on a disposal site for a few hours before the waste is levelled by bulldozers. Clearly, it is important to involve informal sector workers in discussions at the planning stage, both to avoid conflicts and duplication, and also to learn from their experience.

Attempts to upgrade the operational standards of the existing informal sector have not generally been successful, unless there is an accompanying improvement in earnings or working conditions (Case Study W). Informal sector operators often pay little attention to the disposal of the waste they collect, preferring to dump it at a place that is convenient for them and acceptable to their customers. Attempts to control the informal sector often fail to achieve the desired results (as in Case Study R), perhaps because the informal sector individuals are not accustomed to complying with any external requirements and are not prepared to implement changes that would reduce their income. In some cases groups of informal sector operators are controlled by powerful leaders who have good connections to local politicians, so that it is very difficult to introduce any changes against their will. The introduction of a new waste management system may be a good time to support the formation of a co-operative for waste pickers and recycling workers. Such a co-operative can increase the incomes and living conditions of informal sector workers and provide opportunities for training, as discussed in Case Studies T and W. Recycling co-operatives can work as contractual partners to public sector clients or as subcontractors to private sector service providers.

Whilst the main disadvantages of the informal sector are its lack of concern for the environment and poor working conditions, the formal sector can learn from the informal sector in two specific aspects:

- customer orientation – Informal sector waste collectors know the value of providing the kind of service (particularly with reference to the time, frequency and point of collection of the service they provide), because if they do not pay attention to these factors they will lose customers to competitors.
- equipment selection and maintenance – The informal sector is concerned with providing a reliable service (in order to obtain a reliable income) for the lowest possible investment. Therefore simple handcarts or carts pulled by animals are often preferred, whereas municipal organisations and large con-

tractors, wishing to project a modern image, often insist on using vehicles that are much more sophisticated. Complex machinery is often very unreliable because of maintenance difficulties. The most important characteristic of a waste collection service is its reliability; the sophistication of the vehicles used to collect the waste is of less importance.



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Cartoon 3.3 The impact of the duration of the contract

If the duration of the contract is short, there is insufficient time to repay the loan needed to purchase new vehicles, so only old and unsuitable trucks can be afforded.

3.4.6 Contract duration

This is an important issue about which unfortunate decisions are often made. Perhaps the most critical factor affecting the length of time that a contract should run for is the length of time that is needed to repay loans for the purchase of equipment or for the acquisition and construction of facilities. This time interval is often linked to the economic life of the equipment or facility. A truck used for waste collection typically has an economic life of five to ten years, so contracts for waste collection or transport that require the purchase of trucks should run for at least five years, to allow the service provider to repay the loan used to purchase the vehicles in an affordable way. (See Cartoon 3.3) This phenomenon is also illustrated in Photo 3.2. The truck shown in this photo is one of the vehicles that was provided by the private sector for waste collection in Rajkot (India) in 1995[8], where waste collection contracts were valid for only one year. (Coffey, 1997). Not only was it very old, but it was not adapted for efficient waste collection, probably because the owner wanted it to be suitable for road repairs and construction work if his contract for waste collection was not renewed.

However, a concession for a landfill site or a compost plant should run for longer (perhaps up to 25 years if its economic life is thought to last for this time). In contrast, it may be suitable to offer contracts for primary collection with handcarts and for street sweeping for a year or less – not forgetting that it may be impossible for micro-enterprises to get bank loans anyway.

[8] It has been common in Indian cities for municipalities to engage contractors to provide transportation (a truck with a driver) and for the municipal authority to provide the labourers who load and unload the trucks.

Photo 3.2
Truck provided under a 12 month contract

In contrast, the vehicles used by the municipality were modern and well-suited to waste collection (Photo 3.3).

Photo 3.3
Waste collection vehicle used by municipality in Rajkot

It may be appropriate for the first contract for a particular service to be shorter than subsequent ones, the risks being greater because of lack of experience. Short contracts require more administration work, but many allow savings in subsequent contracts if the initial contract is priced too high. Much may be learned during the initial contract – which may run at a loss for the contractor or at excessive cost to local government – that can be used to improve the next contract. It is useful to provide for a possible extension of the contract period in case the negotiations for the following contract take more time than expected.

Often contract durations are too short. This may be for a number of reasons, including:

- Regulations or conventions, perhaps developed for construction contracts which are normally of shorter duration than service contracts, or the objection to running a contract into another financial year when the budget is not known or approved.
- The interval between local government elections. In some countries an administration will not honour a contract signed by a previous administration, particularly if it was of a different political party. In some cases municipal administrations may not make contracts that extend beyond their term of office, unless a special dispensation is obtained, involving considerable red tape.
- Concerns about allowing for inflation and over a longer period. (It is normal in long-term contracts to link the sum payable to an

inflation index, so that the real value of the contract, after allowing for inflation, remains constant and is not eroded by the loss in value of the currency. To allow for increases in population, the contract sum could also be linked to estimates of the population, or to the quantities of waste collected or disposed.)

If a contract is longer than it needs to be, it holds the signatories to commitments longer than they might wish. Especially in the case of a first contract, which may have been based on inadequate information and little experience, it is advisable that the contract does not continue for more time than is needed for amortisation of loans.

Often contracts offer the option of extending service provision for an additional period (such as two years more on a 10 year contract) in case of delays in implementing the next contract or as a reward for good work.

3.4.7 Strategy for implementation – a gradual introduction

It is quite normal for any first attempt to require improvement, adjustment and development. This is true in many fields – modern aeroplanes are very different from the first flying machines at the start of the 20th century. Poets sometimes spend years improving their poems. In the same way, we must expect that the first attempt to develop arrangements for involving private enterprise will have weaknesses that need to be corrected. Cartoon 3.4 suggests another situation where a gradual approach is preferable.

There is growing international evidence, in the water and sanitation sector as well as in solid waste management, that it is better to begin private sector participation with a small step, and increase the involvement of private companies in a gradual way, as experience develops (Box 3.7). Therefore, it is important to consider carefully which aspects of the service should be put out to tender as a first step, and the advisability of gradually extending the geographical extent of any contract or agreement. As the expertise of both private and public sectors increases, larger contracts can be considered.

If a donor or a lending agency is involved, there may be pressure to execute the project all at once, so that the money can be spent within a typical project period, or project staff are involved for the minimum time. In such cases it would often be wise to try to negotiate a longer timeframe for the expenditure, so that implementation can be phased. If the financing is in the form of a loan and the conditions do not allow step-by-step implementation, it may be advisable in some cases to cancel the loan rather than to rush into an untested scheme.

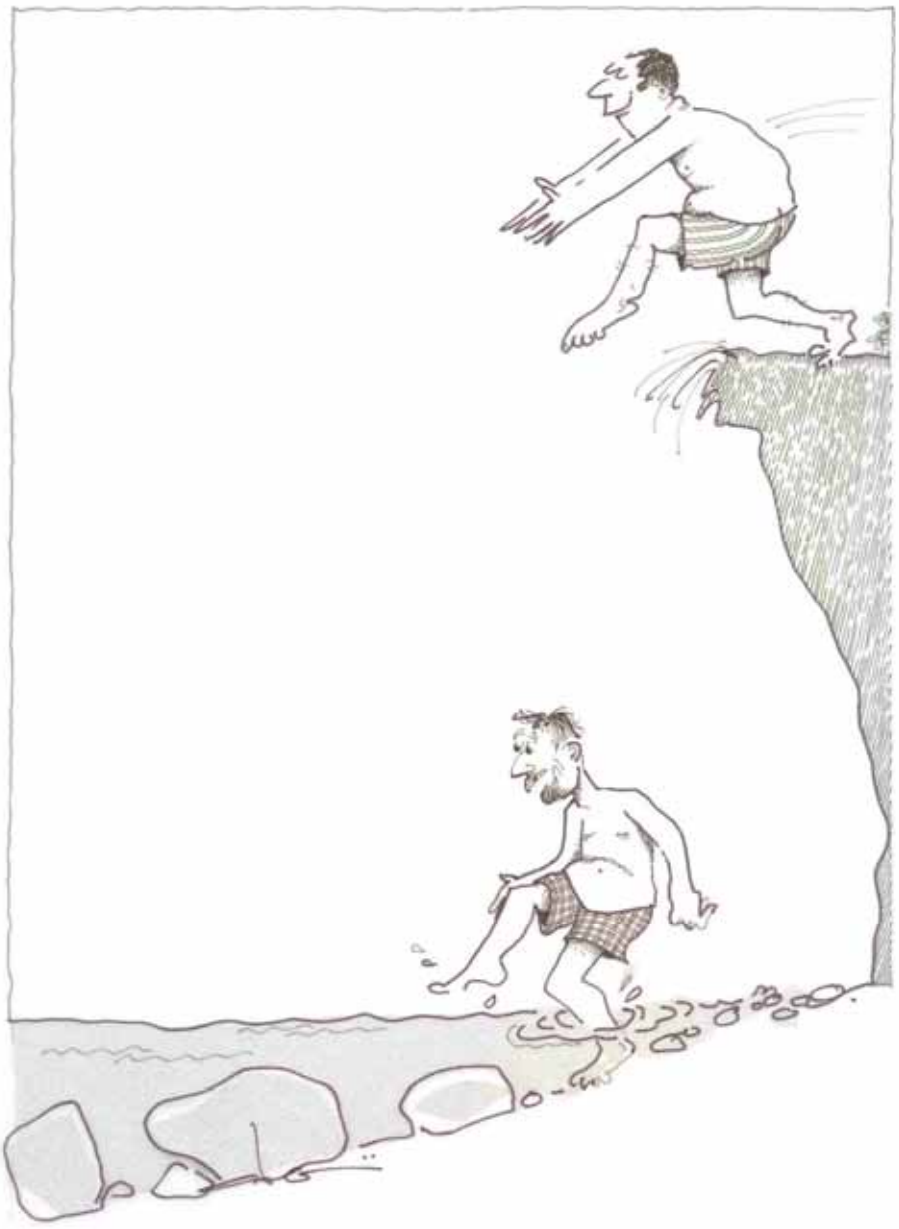
Box 3.7
Recommendations for phasing-in from the water supply and sanitation sector

Experience has shown that it is "important to have a stepwise phasing-in process, starting with decentralisation and commercialisation first, and awarding only short-term and clearly focussed projects. This approach has improved efficiency and motivation considerably. This approach also helps to improve local knowledge and thus creates more equal partners and greater information symmetry[9] for a future PSP contract. In addition, it helps to show how the public sector operator works in a more flexible framework (e.g. with new staffing policies and career opportunities) and also to foster competition for the tasks and contracts. Last, but not least, this might induce the involvement of local private service companies and thus promote local development." (Rothenberger, 2004:9)

It is common, even in the USA (where there is a vast amount of experience in private sector provision of public services), for contracts to be revised and improved before each phase is begun. It is recommended that any new initiatives to involve the private sector begin on a relatively small scale, so that shortcomings (either in terms of wasted money or inferior service) are small and can be rectified by modifying subsequent arrangements. Contracts and other agreements often run for long periods (5 to 25 years), and so it is very unfortunate if problems in these documents are retained for the full duration. (Whilst most contracts allow for amendments that are agreed by both sides, it may not be possible to change certain aspects of a contract that disadvantage only one party.) It takes time for service providers to understand the areas where they work, for relationships with the public to be developed and for inspectors to learn how to

[9] Information symmetry means that both sides – public and private – have equivalent levels of information regarding the local situation and the work being undertaken.

monitor in an effective and reasonable way. A step-by-step approach may also allow smaller enterprises to gradually build up their capital base and experience, so that there are opportunities for a larger number of indigenous enterprises to become involved in waste management activities.



Cartoon 3.4 The benefits of a gradual approach

These two gentlemen are showing two different approaches to entering the water. The man who is entering step-by-step has the opportunity to adjust his expectations and approach as he gradually walks into the water. The man who is diving in has based his approach on assumptions which he has not verified. He has very little scope for adjusting his approach to suit the actual conditions. It is clear which approach is more sustainable.

It may be useful to start with a management contract to upgrade municipal operations, or create a financially segregated municipal unit, in order to gain experience (including operational and financial data) that can later be used in the process of involving the private sector. In a large city it may be possible to start with one zone, learn from that experience and then extend the private sector service to a second zone, and so on. If, as a result of national policy, a number of cities are to involve the private sector, it may be possible to start in one city, concentrate available expertise on the preparations for that city, and use the experience gained there to improve the

approach used later in other cities. (This assumes transparency and a free flow of information – about problems as well as successes – to other cities. Some administrations may be unwilling to expose their experiences in this way.) It may also be appropriate to start with simpler tasks, such as street sweeping, and later move to more complex tasks, such as waste collection or landfilling.

Where private sector involvement is initiated because of central government policy, or because of a tight political deadline, there is the risk that pressure is brought on local government to introduce contracting in a hurry. The consequential lack of preparation can result in higher expenditures, inferior services and a bad reputation for private sector service provision.

If a sweeping or waste collection service has been provided by local government, and there are plans to replace it wholly or partly with a service provided by the private sector, it is likely that many or most of the public sector workers who were previously involved in providing the service will no longer be required by local government. It may be possible to redeploy some of them to other services provided by local government, such as maintenance of parks, and some may be ready to retire, but many will be surplus to requirements. Provided that recruitment to government service is frozen and some of the more acceptable labourers and drivers are recruited by the private sector, the progressive, step-wise involvement of the private sector can significantly reduce the degree of distress and opposition of the displaced labour force, as compared to the difficulties that would be faced if a sudden and complete transition is attempted.

Even if it is decided not to introduce private sector operation in a gradual way, it is still necessary to allow a start-up or preparation phase after the signing of the contract and before operations start. During this preparation phase there may be further negotiations, and the contractor may be required to design and construct facilities, negotiate with customs the importation of equipment, collect data and use it to develop detailed operational plans, recruit and train the workforce. The client may be involved in obtaining the necessary approvals from environmental authorities. Experience shows that the preparation phase often takes more time than the six months that is often allowed. When operations start, it is wise to stagger the start of the service, so that the area covered by the contractor is extended step-by-step. At the end of the contract there should be provisions for the work handed over to another contractor – although there may be clear advantages in continuing with the same contractor. Chapter 7 discusses the inception phase in more detail.

3.4.8 Method of selecting the service provider

In most cases the service provider is selected by a competitive process, usually according to the perceptions of the technical competence of the interested enterprises and according to the financial arrangements that they propose. If well managed, this process has the advantages of transparency and cost savings. However, there are some cases where service providers are engaged without a competitive process. One example is Case Study N3 that refers a joint venture in Germany, in which the public sector had a majority stake and the fee was based on the joint venture's actual expenditure. The joint venture was appointed after extensive discussions.

Community-based organisations are also engaged without a competitive process. There may be negotiations before any agreement is made, both on the fee and on the service coverage and level, but if an organisation linked to the community is preferred because of job creation and accountability, and there is no other organisation, there is no possibility of competition.

Apart from this exception, it is a high-risk strategy to appoint a service provider without a competitive, transparent and objective selection procedure. Appointing a contractor without a competitive and open process can lead to resentment and opposition, which may not emerge until some months or years after the arrangement is made.

3.5 The size of the enterprise

Competition is widely regarded as an essential prerequisite for successful private sector participation. It is desirable that *local* companies develop the necessary expertise (both technical and commercial) to enable them to compete on quality as well as price with international contractors. This requires that small companies are able to enter the market and grow. However, in an administrative environment in which payments from the public sector clients are delayed and subject to arbitrary deductions beyond the influence of the contractor, it is very difficult for small companies to obtain the capital,

not just for purchasing or leasing equipment and for initial operating costs, but also to enable them to pay unforeseen additional costs, cover deductions and survive delays in payments. Only large and powerful companies can expect to continue operating when payments are neither regular nor according to the contract. And if only a small number of large and powerful companies are bidding, prices will go up and the influence of the public sector will decline, as local authorities are obliged to accept the terms that are offered by a very small number of big contractors.

Big is not always best. Economies of scale are not the only consideration. Some solid waste services (such as primary collection and street sweeping) can be provided very effectively and economically by small enterprises, as has been demonstrated in Dar es Salaam – (Box 2.5) and Chinamo, (2003). A small enterprise that is linked to the community that it serves can benefit in many ways from the relationship with its customers. Small, local enterprises are in close contact with their customers, and so the feedback loop is small – they quickly learn if someone is dissatisfied with their work. The level of individual motivation is often higher in a small enterprise, because of team spirit and a feeling that the contribution of each player has an impact on the survival and success of the enterprise.

Smaller companies may also have more effective information exchange up and down the hierarchy, since the hierarchy is smaller and probably less formal. In some cultures where there is a strong social class or caste stratification, the managers may not talk to the manual staff and the manual staff may be conditioned not to pass on any information or question to managers. In such situations the managers may not be aware of the problems that manual staff are facing, and may not be ready to accept suggestions from lower staff. This isolation of management can have a very negative effect, and is likely to be less of a problem with smaller companies.

The involvement of smaller companies may be resisted by local government managers because they believe that there will be much more administrative work to do if more companies are involved. This may be the case, but the work can be routine in nature and managed at a lower level. If a service is being provided by several smaller enterprises in parallel, there are fewer problems if one of them fails, because the best of the others can be invited to take on the work, or it can be shared between the other enterprises. If one contractor is doing all the work, he has a very strong bargaining position (Cartoon 3.5).

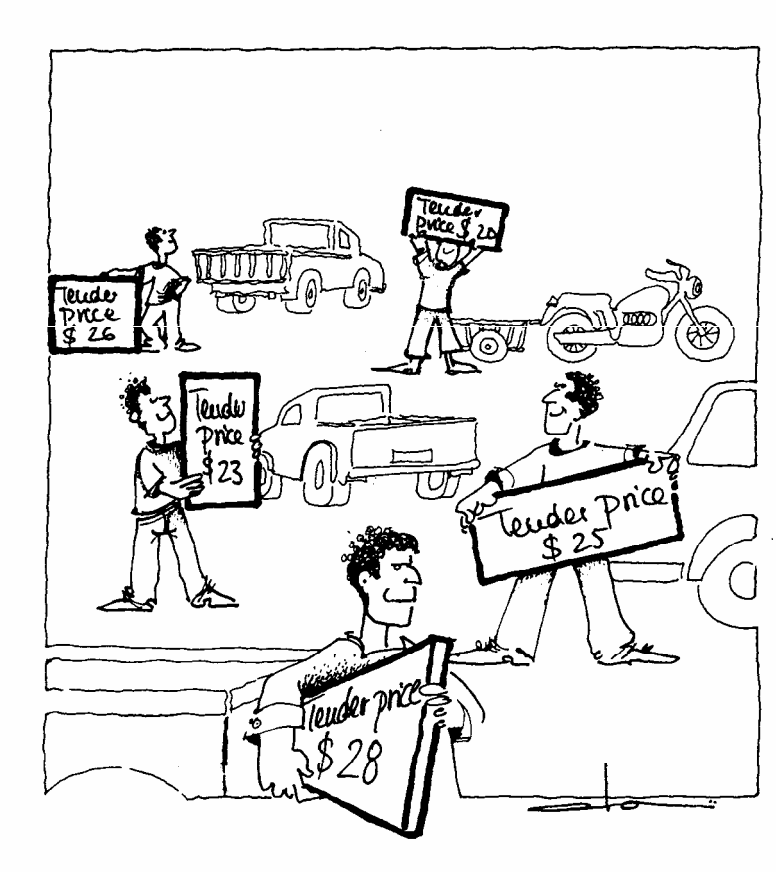
Steps can be taken in the planning of arrangements for involving the private sector to facilitate the development of small local firms. Here are some suggestions:

- Investigate how to ensure that contractors will be paid on time, and develop a mechanism for deducting penalties that are based on actual performance, with an allowance of 24 hours to rectify all but the most serious shortcomings, and an opportunity to appeal against any penalty before it is deducted. In this way the unjustified financial stress on the contractor can be reduced.
- Divide the work to be done into viable portions of various sizes (normally in terms of areas to be served) so that smaller companies have an opportunity to bid for contracts that are not too large for them. Primary collection and sweeping can often be done effectively by small companies with low capital, whereas establishing and operating a landfill requires the resources of a larger company.
- Require – or provide incentives to – large contractors to form consortia with or subcontract smaller local firms to give them an opportunity for experience and growth.

Persuade municipal officials that their job is to implement the contract fairly and to achieve improving standards in co-operation, not confrontation, with service providers.

a) *If there is a small number of enterprises that can be invited to provide a service, there is very little control of prices and less chance of providing a service if the contractor fails.*

b) *Many small enterprises encourage competition and allow flexibility*



By kind permission of the Skat Foundation

Cartoon 3.5 The participation of smaller contractors results in competition and lower prices

3.6 Defining the work

Perhaps the most serious shortcoming with many contracts is that they do not describe in a clear way the work that is to be done by the contractor, and they do not describe objective means of verifying that the work has been done satisfactorily. Two reasons can be suggested for such a weakness in the documentation. One reason is that the team preparing the tender documents is not able to describe in clear terms exactly what is required and how performance could be assessed, perhaps because they are not sufficiently familiar with practical aspects of waste management. The other reason could be that they assume that the requirements are obvious and that there is no need to describe the requirements in detail because there is no reasonable alternative. An example of such vagueness (taken from Case Study O) is the description of the required service as "waste collection from sources", not specifying whether it should be door-to-door, from each building or from street containers. This uncertainty is likely to lead to bad relationships and dissatisfaction – if the contractor priced his bid according to one interpretation, the client expected a different interpretation and the public are accustomed to a third level of service.

It is most important that the tenderers and the government authority all have the same understanding of the work to be done. There are cases where the tendering process has been cancelled because the tender bids showed such a different understanding among the bidders of what was to be done that the bids could not be compared with each other. If the contractor and the client have different understandings of the work, there will be frequent disputes, leading to inadequate services and perhaps the failure of the contractor. It is essential that the requirements of the contract are *clear* to both parties. For this reason it is useful to discuss descriptions of the work with other clients and with potential service providers, to check that the descriptions are clear and satisfactory. (If only one or two potential bidders are involved, there might be complaints about favouritism from other enterprises, so it would be wise to issue an open invitation for comments, or to involve all enterprises that are seeking prequalification.) Two examples of ambiguous descriptions of the work to be done are given in Box 3.8.

This section discusses three aspects of the definition of the contract task:

- the scope of the work – the area to be served, the tasks that are included, and the level of service.
- the method of verification that the work has been done. This information should be used to monitor the work of the contractor and form the basis for assessing whether any penalties should be imposed on the contractor for unsatisfactory performance.
- the methods that are to be used. Should the tender documents and contract specify the methods that are to be used, or only the standards and results that are to be achieved?

Box 3.8
Description of the work

In a particular contract there are many uncertainties regarding the definition of the work. For example, the collection work was defined as "Collection of waste 7 days a week from houses and shops". It is not clear what level of service is intended, whether kerbside, door-to-door or shared containers, and there is room for greater misunderstandings in the case of multi-dwelling buildings. The contract also required mechanical sweeping for major roads and manual sweeping for minor roads, and defined the status of roads according to traffic density. (This suggests that the contractor is supposed to conduct traffic studies at regular intervals for all roads in order to determine what type of sweeping service is appropriate.). Neither the frequency of sweeping nor an objective standard of cleanliness was described.

3.6.1 Scope

The scope of the work should be defined precisely. This section lists many points for defining the scope of the work that is to be undertaken by the contractor, but because of the range of activities that can be the subject of a contract, the list of options that is provided here should not be regarded as complete. In each case the preparation of tender documents involves deciding which elements are to be included in the proposed contract, and which excluded. There are good reasons for contracting particular types of waste, particular locations or particular services separately; it should not be assumed that one contract should cover every part of waste

management. Even if most aspects of waste management are handed over to the private sector, there may be good reasons for keeping some activities for local government provision. For example, if a particular activity is difficult to monitor or measure, it may be appropriate for the public sector to continue to provide this service.

In selecting the tasks to be performed by the private sector, it is useful to consider the issues of responsibility and co-ordination. If tasks are split between two or more service providers, it can be difficult to determine which provider is responsible for any shortcoming. For example if street sweeping and emptying of communal street containers are the responsibility of different contractors, it is hard to determine who is responsible for waste scattered near a container. If one organisation is responsible for excavating silt from drains, and another is responsible for carrying it away for disposal, there can be difficulties in co-ordination. If one contractor is responsible for pruning trees and another for removing the foliage that is cut down, it is likely that the foliage will be lying on the ground for some time. Whenever possible, a service provider should be made responsible for all related tasks in a particular area, so that responsibility is clearly defined.

Some important considerations in deciding on the scope of the proposed provision by the private sector are listed in the following paragraphs.

a) Area to be served: The boundaries of the area that the contractor will be required to service should be unambiguously described, both on a detailed map and in text. Public areas and open spaces that require sweeping and litter collection should be defined – for example, whether public parks, beaches, river banks and the parking areas of government buildings are included. The location and extent of any facility that is to be constructed or operated as part of the contract should be clearly shown on large-scale maps.

   Most cities are growing rapidly, so consideration should be given to the provision of sweeping and collection services to the new areas that will become established during the duration of the contract. The tender documents may specify that the bidder must estimate and take account of the extra work that the population growth will entail, or they may propose a formula for automatic compensation for this growth, or a provision could be made for negotiating extra fees at specified intervals to reimburse the contractor for this extra work. If up-to-date records of the population or households are kept, fees could be increased in line with actual population growth. Alternatively, new housing areas could become the subject of a new contract. Whatever the arrangement is to be, it should be clearly specified in the tender documents so that both sides have the same understanding of the contract conditions.

   Large conventional contractors may not be interested in collecting waste from low-income areas, preferring to work in areas where the wide streets allow them to use large trucks. Therefore it is necessary either to ensure that the contract includes provisions that guarantee that the poor receive a sufficient waste collection service or to engage a small enterprise specifically to provide a primary collection service to low-income areas. It is important that the selection of which areas to serve is not left to the private company, but controlled by the municipality to ensure that the poor also receive an adequate collection service. A clear decision should be made and communicated regarding informal (unplanned, or squatter) settlements, so that tenderers know what action they should take regarding the waste that is generated in such areas.

   In some situations, opportunities may be given to a contractor to increase the quantities of waste that are collected, treated and disposed of by allowing him to look for additional customers, such as industries and neighbouring communities. In this way the contractor is encouraged to be competitive in terms of cost and service, and he is given opportunities to increase his income.

   In many cases there are real economies of scale in waste management, though it must always be remembered that supervision and motivation are often less effective in large operations than in small. Table 3.1 shows anticipated economies of scale for sanitary landfilling in one area of South Africa. In contrast, there are also advantages in dividing up larger cities into several contracts, to add an element of competition in service delivery and to provide a backup if

one service provider fails. The motivation and effort of the employees of a small organisation may be more than that for a large enterprise.

Table 3.1 Economies of scale for annual tonnages of landfilled waste

Annual Range (tonnes)	Rate (Rands/tonne)
0 to 24,000	315.49
24,000 to 48,000	201.82
48,000 to 72,000	123.39
72,000 to 96,000	91.76
96,000 to 120,000	72.34

Source: Dohrman, 2004

b) Stages: The tender documents and contract should specify the stages in the solid waste management chain that are the responsibility of the private sector. The main stages are:

- sweeping, washing streets, and removing waste from streets and open spaces,
- provision of containers for street wastes (litter),
- distribution and emptying of litter bins,
- cleaning of open drains,
- provision of storage containers for domestic and commercial wastes,
- primary collection,
- transfer,
- secondary transport,
- collection of recyclables,
- treatment (including recycling, composting and energy recovery),
- disposal (including energy recovery and mining of decomposed wastes), and
- aftercare of landfill sites.

Whilst it is generally true that all stages can be operated by the private sector, there is one very clear warning in the case study and discussion written by a German contributor. Germany has one of the most developed systems in the world for collection of recyclable materials, but Hohenschurz-Schmidt at the end of Case Study N4 warns that, in low-income countries, recycling is not a suitable sphere of activity for the public sector (whether operating directly or by contract). He argues that the collection and sorting of recyclable material should be left to open competition, though there may be some scope for assistance via microcredit and business skills development. Individuals and microenterprises who are involved in recycling are likely to be much more efficient than local government and larger enterprises, which have higher overheads and lower productivity rates than the informal sector. There is also the issue of leakage of recyclables – employees may find ways of keeping the most valuable recyclables for themselves, thereby reducing the sales and income of their employers. Furthermore, the collection of recyclables provides an important safety net, allowing the poorest of the poor to earn a livelihood when they are unable otherwise to find employment. Hohenschurz-Schmidt also argues that intensive recycling according to the German model would not be sustainable in low-income economies and where regulation is less developed.

Composting is an excellent means of treating waste according to environmental considerations, but there are often financial problems caused by the difficulty of selling the product at a price that covers the costs of producing it. The financial viability of any private sector composting operation should be carefully studied by both public and private sectors before any contract is signed. The writer of Case Study V argues that the marketing of compost is best done by the private sector, though with government subsidy for transport costs. There are many advocates of community-scale composting projects, operated by residents, but it appears that many of them have failed after a short time in India.

Disposal may include a number of components. In many cases an existing site needs to be replaced because it has no remaining capacity, because its location is unsuitable or because it does not meet current environmental standards. The closure, restoration and ongoing monitoring of this site may need to be included in tender documents. The establishment of a new landfill may necessitate finding a site (which is usually the responsibility of the client), designing and constructing the facility, operation and provision – perhaps in the form of an insurance policy – for monitoring the site after it is closed and for correcting

any eventual environmental problems. New sites are generally further away from city centres than their predecessors, so the establishment of a new site may necessitate the acquisition of new or larger trucks, additional transport costs and the establishment and operation of transfer stations.

c) Types of waste: Among the different types of waste to be considered are
   - municipal wastes[10]
   - foliage and garden wastes
   - bulky wastes (furniture etc.)
   - construction and demolition wastes
   - wastes from open drains
   - industrial wastes
   - hazardous wastes from industry
   - hazardous commercial wastes
   - hazardous healthcare wastes
   - hazardous domestic wastes
   - crop residues
   - other agricultural wastes (some of which may be hazardous – e.g. pesticides)
   - mining spoil
   - port and airport wastes
   - slaughterhouse wastes
   - water and wastewater treatment sludge
   - dead animals (which may be categorised as small and large)
   - abandoned vehicles
   - used tyres
   - electronic waste
   - confidential wastes and used banknotes.

   The documents should clearly indicate which types of waste are to be included in the work. The use of a term like "municipal waste" could be ambiguous and so the categories of waste that are included should be defined.

d) Sources: In addition to defining the types of waste, it may also be necessary to define which types of waste are to be collected from certain sources.

   By including general healthcare wastes in municipal wastes and hazardous healthcare waste as a separate category, this list defines which wastes (i.e. hazardous or similar to domestic) should be collected from medical establishments, but tender documents and contracts should state explicitly which types of healthcare wastes are being considered. Frequently the problem arises that hospitals and clinics do not segregate these two types of waste, so the contract should define what action the service provider is expected to take in such a case. If healthcare establishments are charged appropriate fees on a weight or volume basis for the collection of hazardous waste, they may be motivated to segregate into hazardous and general wastes so that the quantities attracting a high charge are reduced. If hazardous healthcare wastes are not segregated from domestic-type hospital wastes, the cost of the treatment of these wastes (often by incineration or autoclaving and shredding) will be much higher than if hazardous wastes alone are treated. An example of this situation is found in Case Study J.

   It may be necessary to define the types of waste that are to be included in the contract in the case of sources which also produce larger quantities of another type of waste. For example, the contract may include domestic-type waste from a factory (waste from canteens and offices) but not process wastes (such as scrap steel or chemical sludges), but the problem then becomes how to ensure that process waste is not included with domestic-type waste, and what action the contractor should take if the two types are mixed.

   Another example is waste from shops. In a particular situation where waste collection was funded from local taxes, shops were allowed a waste collection service for a quantity of waste that was equivalent to that generated by a household. Additional waste was to be collected under a separate contract. Such an arrangement is fair to the shop owner but difficult for the service provider to operate.

   Construction and demolition debris is a major problem in some areas because it blocks paths and roads, attracts other forms of waste, and is heavy to remove. If a pile of waste is outside a building site, it is easy to guess who is responsible, but many piles

[10] Municipal wastes include domestic wastes, office and shop wastes, institutional wastes, street sweepings and general healthcare wastes.

result from relatively minor alterations within private houses, and it is difficult to determine who should be requested to remove it. Therefore some waste collection contracts specify that it is the contractor's responsibility to remove small accumulations of construction and demolition waste – for example those that have a volume of less than one cubic metre. (The estimation of the volume of irregular piles scattered over irregular ground is not easy, and so in such cases the contractor is required to be flexible.)

If household waste is to be segregated and the various streams collected separately, this should be clearly described in the tender documents since separate collection is significantly more expensive that collection of one stream of mixed waste.

Any responsibilities for waste on vacant plots and in the gaps between buildings should be defined. If drain cleaning is included in the contract, it is necessary to specify which drains – according to size, purpose and whether they are open or closed – should be cleaned. The responsibility for removing silt dredged by others from drains and catch pits should be defined.

e) Aspects: There are many aspects of waste management, apart from the stages mentioned above, that must be considered. Some key aspects are listed below:
   - Public awareness: A most important aspect related to storage and collection is public awareness – informing the citizens about services that are provided and about their responsibilities, and motivating them to co-operate and develop a concern for the environment. This is closely linked with the effectiveness of drain cleaning, street sweeping and waste collection activities, yet there are cases where the responsibility for public education has been removed from a successful proposal and a reduction in the contract price has been demanded, suggesting that the client considers public education to be an optional luxury. This is discussed further in Chapter 4.
   - Complaints: Complaints provide an important means for the contractor to supervise his workforce and for the client to monitor the work of the contractor and the perceptions of the population. The contract should state who should operate the complaints channels, and how complaints should be managed and acted upon.
   - Other aspects of street cleaning: Some public cleansing contracts include the removal of graffiti (writing and designs) and unauthorised posters and advertisements from walls, and special provisions for the removal of chewing gum and excreta from walkways and public areas.
   - Promotion of compost: A contract may specify that a contractor is required to operate a composting plant, but often there is an inadequate demand for the product so that marketing and promotion are needed to increase the sales of compost. This can involve visits to farmers and horticulturists, and trial plots to show the benefit to crops. There can be benefits in specifying who is responsible for such activities. A contractor who is simply responsible for producing compost may find it cheaper to dump compost in a landfill than to promote sales.
   - Quality control of compost: The quality and constituents of compost are important factors in determining the demand. Whilst it should be the responsibility of an independent laboratory to assess compost quality at regular intervals (perhaps annually) or randomly, the operator should be required to test the product on a more regular basis and report the results.
   - Aspects of sanitary landfilling: There are many tasks associated with operating sanitary landfills that may be undertaken together, under separate contracts, or by local government. In each case tender and contract documents should specify who is responsible. When the tasks are the responsibility of different organisations, there can be cases where each blames another for a failure. (For example, if there is an escape of polluted leachate water into the groundwater outside the site, is it a result of the siting, the design, the construction or the operation?) Some of the aspects to consider are:
     - finding suitable sites

- geological investigations and drilling of monitoring boreholes
- environmental impact assessment
- public relations and public meetings
- acquisition of the right to use the site
- survey and design
- construction
- operation
- provision, operation and maintenance of heavy machinery
- disposal of special wastes
- gate control and collection of fees
- provision and application of cover material
- monitoring of groundwater levels and quality
- control of landfill gas and energy recovery
- recycling and mining of decomposed waste
- final closure of site
- monitoring of site after closure.

f) Level of service: This is a very important consideration because of its impact on public opinion, willingness to pay, and operational costs. The requirements of the client should be clearly stated in the tender documents. (It is appropriate to point out at this stage the importance of providing definitions in the tender documents for all important terms. Even if there is no need of translation, the definitions are essential because of the different terminology used in different English-speaking countries; if translation is involved the need for clear definitions is obvious.)

- Method of storage: In some Asian cities, waste is tipped out onto the side of the street for the sweeper to collect up – in other words no storage container is specified by the authorities. In some countries waste is to be put out in plastic bags or any container that comes to hand, or one-trip plastic bags are provided by the cleansing authority. Elsewhere special plastic bags must be purchased, and waste will be removed only if it is enclosed in one of these official bags. In southern Africa reusable sacks have been provided by municipal authorities. Other systems include the requirement that each household provides its own container, or the provision of containers by the collection organisation (which is essential if the containers are to be compatible with lifting mechanisms on trucks). Communal collection (either for a number of households in an apartment building or for a local neighbourhood) can be provided, either from dumps on the ground, simple fixed enclosures, or bins of various sizes (from 80 litres to 12 cubic metres) which can be emptied or picked up and taken away by special trucks. It is becoming more common for waste to be segregated in the home, in which case two or more containers will be needed for the segregated streams. Tender documents may specify which method of storage is to be used, or may leave the decision to the individual firms when they are preparing their tender offers. The responsibility for repairing damaged containers and replacing stolen or unusable containers should be clearly stated.
- Point of collection: This is the location (in the context of a dwelling and its surroundings) where the waste should be left for collection or where it should be handed to a collection worker. The term “house-to-house” has two meanings: in some situations it means collecting from each individual household, but in others (for example Mumbai in India [Pawar et al., 1997]) it means collecting from outside each apartment building. This point reinforces the importance of providing precise definitions of the terms that are used. The term “door-to-door” is less ambiguous, referring only to collection from the door of each apartment or house. For houses that have open space and allow access to outsiders, collection may be from inside the yard, typically just outside the kitchen door – a system that was widely used in Britain and has been observed in Sri Lanka. If street gates are kept closed, the waste may be taken out and handed to the collector when he rings the bell, or it may be left out for him to pick up later – this latter system is known as “kerbside collection” and it is a method which is widely used because it provides a convenient service at reasonable cost. “Block collection” is cheaper still, because it involves residents bringing their waste out to a truck which parks at intervals for

this purpose after alerting the neighbourhood to its presence (and so for this reason it is known as the "bell ringing" method in Mumbai). Communal collection requires residents to bring their waste to a container in the street. The advantages are low cost and the fact that the container is available 24 hours a day, but the disadvantages are that the container may be too far for some (so that they do not take their waste to the container) and too near for others (so that it pollutes their immediate neighbourhood) and that large containers may block the streets or paths. If waste is allowed to accumulate around a communal container the residents will not walk on it to deposit their waste in the container, so wastes will be dumped around the container, not in it. Therefore contracts should specify the requirement that the surroundings to such containers should be kept clean. It is clear that the location of such storage points should be decided in a participative way, involving local residents, and so this consultative method for locating containers should be mentioned in the contract.

Communal containers are vulnerable to vandalism and theft. A contractor complained that 50% of his company's portable containers had been stolen, and a newspaper article referred to the theft, in one city, of 450 containers, each valued at US$ 200. It is thought that some are taken for other uses (such as storing water, for selling soft drinks) and some are recycled. (There is a report that one container was actually found in a shredding machine in a recycling workshop, and that the large-sized shredder was bought specially for the purpose of cutting up stolen solid waste containers.)

If citizens are accustomed to one type of service, they may be very reluctant to change to a less convenient level of service. For example, if they are accustomed to a "door-to-door" service they may protest the introduction of a communal service which requires them to take the waste out into the street. In more prosperous areas such a change will provide informal sector individuals with the chance to earn some money by offering to take wastes to the street containers. Alternatively, the contractor could provide this extra service for an extra fee.

- Frequency and timing: If the number of times in a week (or a month) that a service is to be provided is not clearly stated in tender documents and contracts, there can be serious misunderstandings. Even if client and contractor agree on the frequency at which a service is provided, the public may have other expectations, so all concerned must be informed. It is important also to specify whether the service will be also provided during the weekends (or weekly rest-day) and on public holidays and festival days. The time of day at which a service is to be provided must also be clear, though this may be left to the planning of the contractor, on the understanding that the client will be informed of the contractor's schedule within an agreed period after the start of the contract. In the case of waste collection, it is good policy to consult householders regarding times of collection that would be suitable to them. Local regulations may prohibit the movement of vehicles of some kinds in congested urban areas at certain times of the day, and this would restrict the scheduling of operations or the types of vehicles that can be used for primary collection. If primary collection is to be carried out during the day and secondary transport must be effected at night, for example, it will be necessary to have storage capacity at the transfer station.

  The timing and frequency of street sweeping is an important issue which will be discussed under the heading of verification in Section 3.6.2.

  It is noteworthy that the level of service expected in many low- and middle-income countries is much higher than that provided in Northern Europe, where waste is collected once a week from a street container. Many Asian and Middle-eastern communities are accustomed to a daily collection from their door. To some extent this higher frequency is justified by the higher ambient temperatures and the higher moisture content of the waste, both factors leading to more rapid decomposition and the associated odours.

g) Additional work and emergencies: Many municipal officials are accustomed to re-directing the manpower and machinery of the waste management service to other duties – such as transportation of building materials or cleaning areas that are not included in the contract. It is helpful in countering the old master-slave model of private sector participation if the contractor can agree to do such extra work based on unit rates (per hour for labour, per ton and km for vehicles etc.) that have been written into the contract.

   Quantities and characteristics of waste can change with the seasons and on particular occasions, particularly as a result of the availability of fruit and vegetables, trees shedding their leaves, tourism, festivals, wedding customs, parades, demonstrations, special sporting events and other occasions when large crowds gather. Unusual events such as high winds and flooding may result in large quantities of extra waste, and such eventualities should be borne in mind when contracts are being drawn up. The work involved in cleaning up the associated wastes includes providing and emptying containers and cleaning streets and public places within a specified time after the end of the event. Is the bidder expected to be aware of them and add these extra costs to his bid price, or is the extra work to be agreed on a case-by-case basis and paid for according to agreed procedures and rates? The tender documents and contract should make it clear whether – and, if so, how – the contractor will be compensated for such extra workloads.

3.6.2 Method of verification

Ideally, no task should be written into a contract unless it is possible to verify objectively that the task has been carried out in a satisfactory way. Therefore it is necessary to consider not only what tasks should be performed, but also how the performance can be monitored, and what steps are necessary to ensure that monitoring takes place. (Monitoring is discussed further in Chapter 8.) In the following paragraphs, some aspects of verification are discussed as they relate to specific tasks.

a) Street cleaning: Street sweeping provides a clear illustration of the link between the definition of the task and verification. There are two ways of defining the task of keeping streets and public places clean. One is to define the input – that the street or area should be swept x times per week. (This type of contract is called a *service delivery* contract in Case Study J, which also refers to problems when the method of verification implied by the contract is not adhered to in practice. It is also sometimes called a *performance* contract.) The other way is to define the output – that the street should be clean at all times (with perhaps the provision that if it becomes dirty it should be restored to a clean condition within a specified period [such as one hour]). This latter definition is also termed a *quality* contract, and requires that the term “clean” be defined – this is usually done in terms of the number of pieces of litter within a specified area. It is relatively easy to quote a price for sweeping a given area once per day, and so the input method allows an accurate estimate of the manpower needed and therefore the cost. But the output method, although desirable in terms of appearance, poses problems when the bid price is being calculated. The time taken for a street to become dirty and therefore to need sweeping again depends on the number of people using the street, the habits of the people (whether they are accustomed to littering freely or whether they usually put their waste into street litter bins) and the adequacy of the storage facilities provided for street waste as well as domestic and commercial wastes. It also depends on other factors such as wind and traffic. The rate at which the street becomes dirty influences whether it is better to deploy sweepers with brooms all the time or whether it is sufficient to use litter-pickers who simply pick up individual pieces of paper and other litter, after the street has been swept once.

   The input method can be verified by ascertaining when the street sweeper is due to work in a certain area, and then checking that he sweeps up the waste that is there at the designated time. If the monitoring inspector comes an hour later and finds litter on the street, this does not necessarily mean that the contractor has not done his job. Perhaps the street was perfectly clean when the sweeper had finished, but a strong wind or a group of football supporters made the street dirty again in the intervening time. The sweeper must be working and the monitoring inspector present at the predetermined time

to check that the work has been done. Under the output method, the monitoring inspector can visit the street at any time, and if it is not clean can report this to the contractor. Only if the street is not cleaned within the stated time interval can the contractor be penalised for neglecting his duty. It is not realistic to expect the contractor to deploy enough staff so that they can pick up any litter as soon as it is dropped. Clearly the behaviour of the public is a very important factor in determining the number of sweepers that should be deployed. Some national or ethnic groups are known for their cleanliness and regard littering as unacceptable behaviour, whereas citizens elsewhere seem to be trying to do all they can to convert their streets and open spaces into rubbish dumps. If the output method is used, the bidder must have a good understanding of the behaviour of the people he is hoping to work amongst, and this is clearly a question of experience. Perhaps the initial contracts in a city should be written in terms of the input method, and later contracts (after experience has been gained by both sides) in terms of quality or cleanliness – the output.

b) Waste collection: The simplest way of verifying that waste has been collected is to check whether containers are empty immediately after the scheduled emptying time. In the case that bins or bags from individual households are put out for collection, it is easy to check if a bin has been emptied or a bag picked up. Problems arise when the collection crew do not have access to the bins (for example, in kerbside collection if the bin is not put outside the property for collection) and then the householder complains that the bin was ignored. The contractor should be prepared to go back to empty such bins if this does not happen often – if this happens frequently there is a need for some public education. The contractor should not be penalised in such cases. Complaints from residents are a useful guide in monitoring collection from households, but it should not be assumed that all complaints are justified.

   An attempt in Windhoek, Namibia to pay one-man contractors according to the number of sacks that they collected was abandoned, because streets were left in an untidy condition and waste was taken from unauthorised places (Joubert, 2003).

   The situation with communal collection is more complicated because no-one is responsible for the storage points and so it may be difficult to find someone who can verify whether the storage facility was emptied. Neighbouring residents may start putting waste into the storage facility immediately after it was emptied, so if a container is half-full one hour after it was supposed to be emptied, this does not mean that the contractor has failed to do his job. With communal storage the contractor should ensure that the surroundings to the container are kept clean (otherwise residents will not approach the container to put their waste inside it). This must also be checked at the time that the container is emptied. Because – in this case as with street sweeping – it is important that the work of the contractor is monitored at a particular time; both the contractor's staff and the monitoring inspector must work according to the predetermined schedule of working. An alternative arrangement that is quite common in India is to allocate one monitoring inspector to each collection crew, so that they can verify the work that is done at each location.

   It seems that a good way of monitoring the work of a collection crew would be to weigh the loads that they collect. This appears to be objective and verifiable. Weighing loads has proved to be an indispensable aspect of management in the Gaza Strip (Case Study D and Photo 3.4), but has been discarded as a means of measuring contractors' performance in several cities in India. For example in Rajkot, for four years contractors were paid according to the weights of the loads that they collected, but this practice was discontinued because not all the communal storage facilities were emptied and the weights of loads were increased artificially by adding soil and rubble. Elsewhere there have been reports of water being added to loads to increase the weights (Case Study M), and a group of men standing on the weighbridge with the vehicle to give elevated readings. More recently in Rajkot, performance has been measured by checking that all communal storage points are cleared at the required frequency

(Sheokand et al., 1997). In 1995 in Rajkot, the number of trips needed to clear the waste from each ward was specified, and enterprises were invited to bid for each ward individually. If contractors later found that they needed to make additional trips, this was at their own expense (Coffey et al., 1997).

The collection of bulky waste, construction debris and foliage is in some ways similar to street sweeping, in that co-operation from the public greatly reduces the workload and expenditure. In some cities each locality is promised a collection service for such wastes on a particular day, perhaps once a month. Residents keep their items until the announced collection day. This is the most cost-effective way of operating a collection service, is easy to verify, and is completely satisfactory if the residents co-operate. However, if the residents insist on putting their waste out for collection at any time, and the client does not accept that such wastes should be left in the street, the contractor must be continually looking out for accumulations and clearing them quickly or responding quickly to complaints – a much more expensive service.

However, in high-density areas most residents have nowhere to store their bulky and construction waste, so they are obliged to put it on the street.

Photo 3.4
Weighing loads at entrance to a landfill

Some contract requirements are difficult to specify in an objective way. For example, a contract states that a penalty will be imposed if a contractor's vehicle is found to be "in a bad condition". A requirement of this kind is very subjective, and could be more influenced by the sense of well-being of the monitoring inspector on a particular morning than by the condition of the vehicle. It would be better to define the condition of a vehicle in terms of mechanical tests (on brakes, noise, exhaust gas etc.) or on precise damage (such as broken lights or dented panels). In this way it is clear to the contractor what remedial work must be done and penalties can be based on objective facts, not subjective assessments.

c) Recycling: Contracts may specify that a certain percentage of the waste should be recycled. This requires that the total quantity of waste is known. It would also be necessary to decide whether waste that is recycled by the informal sector should be included, and, if so, how the quantity could be assessed. Would construction and demolition waste that is used for reclaiming land or building temporary roads be included as recycling?

   If composting is included, it should not be assumed that all of the input to the plant is recycled – the rejects (which are often about 40% of the input) should also be considered. The responsibility for transporting and disposing of the rejects should be clearly allocated, since this could be a major expense for the contractor. In many

cases composting is promoted for environmental reasons but offers no financial benefit. In such cases it may be cheaper to take waste to the disposal site rather than to compost it, so a contractor may be tempted to save money by recording waste as it comes into the composting plant and then transporting it directly to the disposal site, in order to save on the costs of the composting processes. Recording the output of a compost plant – particularly the sales invoiced – may be a good way of demonstrating that the plant is being used, but the market for compost is seasonal and poorly developed in many places, so the contractor may be tempted to falsify sales figures, perhaps by selling a particular batch of compost several times. It is clear that the preparation of contractual arrangements for composting presents a considerable challenge.

Any requirement to recycle a certain percentage or quantity should be accompanied by the requirement that weighbridges should be available and in working order at the appropriate locations, and a means of verifying the actual weighbridge (truck scale) readings (rather than depending only on manual entries into a record book) should be required.

d) Transfer: The transfer of waste can be measured in terms of weight or the number of loads. The use of weights can encourage the falsification of incoming weights as discussed in Paragraph (b) above. Since it is difficult to estimate the volume of each individual load, the number of truck loads would be another means of measurement, provided that the volumetric capacity of – or average load carried by – each truck is known to allow for the various sizes of vehicle that are used. (The maximum load that the truck is rated to carry should not be used as a guide to the load, since non-compacting trucks usually carry much less than this load.)

Other requirements for operation of transfer stations are that the site should be completely clean at the end of each working day, and that all loads entering and leaving the site should be covered. There should also be some means of verification that each truckload is delivered to the authorised destination. Spot checks at the destination are recommended to confirm that the records of vehicle arrivals are accurate.

e) Disposal: In the case of street sweeping and collection, the important consideration is whether the waste has been removed and taken to the right place. The output is important, not the input. However, in the case of sanitary landfilling, it is difficult to prove that no pollution is taking place and when pollution is detected, it is too late. So it is important to monitor the inputs regarding a landfill – what waste is accepted (including where it comes from), how it is placed, the quantities and use of impermeable materials (clay, liners) and the way in which these liners are formed and tested, the volume of leachate treated and the quality of the effluent from the treatment plant etc.

Both quantity and quality should be assessed at the entrance to the disposal site, even if no fee is collected for each load that enters. Quantity is best assessed by means of a weighbridge which automatically records each weight, either by punching a card or (preferably) by recording and sending the information electronically. Every incoming load should be weighed, and inspectors may be required to check that all incoming traffic is routed so that it passes over the weighbridge. The nature of the waste is another factor that should be controlled. Sometimes it is possible to check the waste visually at the gatehouse, otherwise it is possible to inspect it when it is being unloaded. The source of the waste should also be recorded since this also gives an indication of the nature of the waste. The composition of the waste is important because some types (such as persistent toxic liquids) should not be disposed of on landfills, some types (such as slaughterhouse wastes) need special treatment and so may be charged at a higher rate, and some are inert and may be used as cover or for constructing temporary roads. Contractors operating landfill sites should be required to keep a record of all incoming loads.

In countries where there is a code of practice for operating a landfill, the contract may simply state that operational practices should conform to this code of practice.

Otherwise certain basic standards should be required in the contract, such as segregation and safe disposal of difficult wastes, covering the waste each day, the covering of inactive sections of the landfill with an impervious cover, control of surface water, the construction and maintenance of access and site roads and the treatment of leachate. It is widely believed by experts with relevant experience that it is more realistic to upgrade the standards of landfill operation in steps, rather than try to improve from open dumping to European standards of landfill operation in one leap (Rushbrook and Pugh, 1999). This stepwise upgrading is the most that can be expected of both operational and monitoring staff. (It is unfortunately very common to find disposal sites that have been constructed at great expense to the highest standards being operated very badly so that the pollution from the site is not controlled.) Therefore the requirements for operational standards in a contract, lease or concession should be realistic, not copied from the standards that are required in a country with much more experience in waste disposal.

Whilst the treatment of leachate can be monitored by recording its flowrate and effluent quality, some of the other aspects can only be monitored by site inspections. Site inspections should be carried out at random intervals and unannounced, by inspectors who have been trained in landfilling techniques and who are unlikely to be influenced by the contractor to overlook problems and shortcomings. To meet these requirements in the early stages it might be necessary to set up teams at the national level, or to use experienced consultants or international experts. Such monitoring is not cheap and is likely to be dismissed as unnecessary by decision-makers who have little understanding of the importance of environmental protection.

f) A final comment on verification: It can be argued that *no requirement should be put into a contract if it cannot or will not be verified*. If it is not possible to check objectively whether a particular contract requirement is achieved or not, or if there is no political will or motivation to commit resources to verify the requirement, then it may be appropriate to remove the requirement from the contract.

3.6.3 Specification of methods

Some writers of contracts stray into the responsibilities of the contractor when they specify the methods or the equipment that the contractor should use. Tender documents and contracts should clearly explain the objectives and standards that are to be achieved, but should not define *how* these targets are to be achieved. Box 3.9 shows two alternative means of primary collection, each of which has advantages.

There are several reasons why a contractor is often more efficient than the public sector. One is that he uses equipment that is more suited to the task, and another is that he manages to achieve higher productivities of machines and labour. If the contract requires that the methods and norms of the public sector must be used by the contractor, there is a risk that opportunities for improving efficiency are denied to the contractor. For example in Rajkot, India, in a contract for street sweeping, the municipal administration defined the area that was to be swept by each sweeper, thereby excluding the possibility of productivity gains from incentives or improved working practices. (Mihsill et al., 1997).

Tender documents should give bidders as much choice as possible in the selection of equipment. For example, if the future client wishes that vehicles should be covered so that waste does not blow off them when they are travelling, the tender documents should specify that the vehicles should be such what waste is not blown off, but they should not specify that the vehicles should be compactors, or even closed (because for some purposes open trucks covered with tarpaulins may be the most suitable). In the same way, only outline requirements for containers should be specified, leaving the selection of type, size and material to the bidders. In the Gaza Strip, vehicles that were specially designed and constructed for local conditions and the high waste density proved to be both more reliable and efficient than conventional compactor trucks (Photo 3.5).

Box 3.9
Alternative vehicles for primary collection

a) Small van that can be used for primary collection

b) Handcart used for primary collection

In some situations the motorised van (a) would be more reliable and economical, and in other situations the manual handcart (b). The choice between these two means of transport depends on many site-specific factors, including slopes, wages, distances, maintenance facilities and street conditions. It is common for clients to prefer more sophisticated equipment without considering factors such as reliability, job creation and economy.

In another case, the tender documents specified the number and type of vehicles that the contractor must provide, but these estimations by public authorities may have been based on low productivity figures achieved by under-motivated municipal staff using vehicles that were poorly maintained. In contrast, the contractor may be able to achieve more with fewer vehicles if routes are well planned, labourers work hard and vehicles are kept in good condition. Basic information about streets, housing and occupants of buildings should be made available to the bidder so that he can calculate for himself how many vehicles the work requires, and the optimum size of the vehicles. If the contractor cannot estimate his needs, he is not competent to do the job. Municipal officials would be well advised to make their own estimates of equipment needs so that they can compare them with proposals of bidders, but they should not expect that their estimations should be the same as those of the bidders, and they should be open to innovative approaches, and the use of different types of vehicles to those with which they are familiar. The tender documents referred to earlier in this paragraph also stated that the local administration would have the right to ask the

contractor to renew his vehicles at any time. The unpredictability of such a request adds a major uncertainty into the financial planning of the bidder, so that it is necessary to raise the price in order to be prepared to replace the vehicles. The contract should set minimum standards for the vehicles, but not give the power to the client to order replacement at any time.

Another large waste management contract required all vehicles to be new at the start of the contract term. These new vehicles will soon become old, and their reliability depends more on the standards of driver care and maintenance than on age. It might be better to use reconditioned vehicles and replace them every four years than to require new vehicles at the start. The service provider should be allowed to use his experience to develop his own strategy for meeting the objectives defined in the contract. Elsewhere, contracts specified a maximum age for the vehicles, but this requirement was clearly ignored by all contractors, who would be obliged to increase their prices considerably if the age limit were to be met. It is more appropriate to set certain verifiable standards for the condition of vehicles and to require that, in the event of a breakdown, a replacement vehicle should be on the spot within a certain time. These requirements will motivate a contractor to ensure that his vehicles enjoy a reasonable degree of reliability.

Photo 3.5
Avoiding unnecessary restrictions on the type of truck

The trucks proved more reliable and more efficient than conventional compactor trucks. It is fortunate that compactor trucks were not specified for this job (Case Study D).

Due to the differences in conditions, technology commonly used in industrialised countries often fails in the cities of developing countries. Community-based waste management systems take advantage of the creativity and entrepreneurial abilities of individuals who are familiar with their communities, with the surrounding environment and the opportunities it offers to them. Community-based systems promote investment in locally made collection vehicles and equipment. Indigenous equipment used by community entrepreneurs and equipment that has been improved and proved over a considerable period tends to be appropriate to the conditions in which operates. Local equipment does not require foreign currency for its initial purchase, or to obtain spare parts. Repairs of local equipment and equipment that is widely used in a particular city also tend to be cheaper and quicker. In short, these systems tend to rely on the resources that exist in their communities (Medina, 2004). Bearing these considerations in mind, decision-makers are advised to restrict as little as possible the freedom of the contractor to select the equipment that he will use.

In the case of sanitary landfills it may be appropriate to specify certain working practices that are widely accepted as precautionary measures, but there should still be a willingness to consider alternative suggestions in a bidder's proposal. For example, even if plastic membrane and clay linings are normally considered to be the approved materials for the bottom lining of a landfill, the client should be ready to consider asphalt as an alternative (Photo 3.6).

3.6.4 Issues of ownership

Consideration needs to be given to the ownership of land and facilities during the period of a contractual agreement or concession, and afterwards. The facilities of concern may include administrative offices, vehicle depots and workshops, transfer stations, treatment plants (including composting, recycling and incineration plants) and disposal sites.

Often the private sector is invited to participate because it can bring the capital resources needed to construct facilities such as landfills and treatment plants. In such cases some form of concession is appropriate. However, in different circumstances it may be decided that the client will construct and own a facility in order to reduce the financial liability and risks of the private sector operator.

Photo 3.6
Asphalt liners for a sanitary landfill

Asphalt liners are not as common as clay and plastic, but in certain situations offer many advantages. If legislation allows the choice, it is often wise to let the private sector partner choose, rather than restricting the choice in the tender documents (Case Study D).

If these facilities are already owned by local government, ownership may be retained by the public sector and a contractor engaged to manage these facilities. Alternatively they may be leased to the private sector partner for the duration of the agreement, with the obligation to hand them back to the client at the end of the agreement. A third option is that they are sold to the private company, with or without the understanding that the facilities will be sold back at an agreed price[11] at the expiry of the agreement. The selection of the preferred arrangement must be decided on the basis of the relevant legislation, with particular regard to the allocation of responsibilities, rights of access and arrangements for returning ownership (if appropriate).

- Responsibilities: Legislation may attach to the owner of a site the responsibility for any nuisance or pollution emanating from that site, both during the operational phase and (especially in the case of a sanitary landfill) for some years after the site ceases to be operational. In such a case the client may wish to transfer all legal responsibility and risk to the private sector operator, and therefore be required to transfer ownership. There may be situations in which a client does not trust a private sector company to monitor a site after closure, or for some other reason (such as the desire to control the subsequent use of a site) wishes to take back the responsibility of a site after the end of operations. If the useful lifetime of a site extends beyond the duration of a contract or concession agreement, the operator may be required to return the site to the client so that another concessionaire can take over the ownership and operation of the site. (In this case, it may be difficult to determine which concessionaire – the first or the second – is responsible for pollution that is later caused by the facility.) These comments show that legal liabilities need to be looked at very carefully in the preparation of private sector participation for treatment and disposal facilities.

[11] Sometimes property is sold to a concessionaire and bought back for a token sum, such as $1.

- Rights of access: Generally, environmental law grants to the relevant enforcement agency the right of access to any facility for the purpose of monitoring pollution and compliance with legislation. In cases in which this right does not exist or does not apply to the agency that monitors the performance of the private sector, the client may prefer to retain ownership of the facility to the extent that allows access at any time for monitoring purposes.
- Eventual return of ownership: Facilities that are used for a prescribed period by a private sector operator may be abused or neglected to such an extent that they are no longer suitable for their intended purpose, and require expensive rehabilitation before they can once more be used effectively. If it is proposed that ownership should return to the client, then it is necessary to develop a financial mechanism that will motivate the private sector operator to maintain the facility in good condition. This is discussed further in Section 6.5.2.

3.7 Estimating the costs of the service

3.7.1 The need for a reliable estimate

It is very important to obtain a reliable estimate of the costs of the service that is requested for two main reasons:

- To estimate the revenue that will be required to provide the service. The local administration may have a clear concept of the service that should be provided, but should estimate the cost of this service so that it can be compared with the anticipated income. In order to estimate the prices that bidders can be expected to ask, it will be necessary to add to this cost a percentage to cover the profit margin that the contractor seeks (as the reason for his involvement in the work), and to cover risks and uncertainties, and taxes and deductions for which the contractor will be liable. It is prudent also to include a sum to cover local government costs for the preparation and monitoring of the contract (known as the "transaction costs"). If these costs add to more than the available or anticipated revenue, then either alternative sources of income should be found, or the scope of the contract reduced until the anticipated costs can be covered by the available means. It is, unfortunately, too common that public agencies do not prepare estimates of costs and so are surprised when tender bids come in and are found to be considerably more than available financial resources. In such cases either the tender is cancelled and both effort and time are wasted, or the process is continued, but difficulties soon appear.
- A carefully prepared estimate of the costs will provide a useful standard against which to compare the bid prices that are offered in the tendering process. When allowances for profit, risks and taxes have been added in, a target bid price can be estimated to assist in selecting the preferred bid.

Municipal administrations often use accounting systems that do not include all of the costs. Some items, such as personnel management and administration, may appear in a general budget, not associated with waste management. Depreciation of capital assets is often not included in recurrent costs and so it appears that the costs of the private sector are much more, since companies must pay back loans used to buy equipment and so include these costs in their bid prices.

The work undertaken by the public sector body to estimate the cost of the envisioned contract is useful in itself. The public sector official responsible will learn about the process of estimating the cost and so be better qualified to assess the financial aspects of the bids. By considering the steps involved in the calculation of the estimated cost, the writers of the tender documents can request bidders to include in their proposals certain key items of data that are used in the estimation of the bid price, so that the bidders' calculations can be compared with those of the client organisation.

3.7.2 Minimising risks

Risks and uncertainties at the tendering stage increase the bid prices. In the case of a changeover from the public sector to a private contractor, there may be many gaps in the information that is available to the bidders, especially if the service provided by the public sector has been inadequate, funded from general revenues or poorly managed. (At the end of a contract, the current contractor is at a great advantage in the subsequent bidding because of his detailed knowledge, but the opportunities for other contractors to compete successfully can be improved if the contract requires that necessary

information is to be made available to the client so that it can be passed on to other bidders.) Inadequate tender documents and short tender periods also increase uncertainties so that bidders must increase their prices to allow for unforeseen extra costs and commitments. If the contractor is lucky and the additional costs are less than his estimate, the contractor pockets a large profit and the people pay a high price for the service. If the additional uncertain costs are higher than the contractor guessed, the contractor will suffer financially, and may go out of business or struggle to survive and be obliged to offer a service that is inferior because of a cash shortage. The prices that will be accepted for subsequent contracts may also be held down by a comparison with the current price.

Apart from uncertainties in planning the operations, caused principally by missing or inaccurate information, there are other uncertainties that may oblige bidders to increase their prices. Among them are:

- deductions that are made automatically from the monthly payment according to taxation, social security and other financial regulations.
- the way in which penalties are assessed. If there is reason to believe that excessive deductions will be made, disguised as penalties for poor performance, it will be necessary to increase the price so that the contractor can cover his costs. Case Study O gives a clear example of this.
- uncertainties regarding price inflation, foreign exchange fluctuations, future legal requirements and extra work. There should be mutually agreed mechanisms for dealing with inflationary factors and additional work. (This will be discussed further in Section 6.4.) In construction contracts it is normal to state a price for each of the activities that together comprise the construction work, and in a waste management contract also, the prices for various operations (such as transporting a ton of waste over one kilometre) should be quoted, so that extra work can be paid for in an agreed way. A mechanism should also be suggested for agreeing costs of work that may not be foreseen in the original contract – such as installing gas vents in a landfill.

The risks faced by bidders can be minimised by providing as much information as possible regarding these issues, as well as specifying as precisely as possible what work is required. If risks are minimised, prices will also be minimised.

Another, very important way of minimising the risks faced by the contractor is to share risks between client and contractor. If certain risks are clearly made the responsibility of the client, the bidders may be able to reduce their bid prices. Section 6.3.4 discusses this in more detail.

3.7.3 Methods of estimating costs

It is not simple to estimate the costs of providing a service, but it is worthwhile to do it. Whilst norms (such as the time taken to sweep an area of 1 m^2) can be used for street sweeping, it is difficult to estimate the time taken to fill a truck with waste collected from houses and shops. This time depends on many factors, some related to the workforce, some related to the vehicle and some related to the area served – the population density, access roads and type of housing. If a satisfactory service is currently being offered, operational data and costs from this service can be used directly. If not, it may be necessary to undertake some pilot trials to measure the times taken to perform various operations and so calculate the costs. It is worthwhile to use a computer to calculate the costs so that calculations can easily be repeated with different data inputs.

If the existing system is satisfactory, the costs of providing the service should be determined. In the case of many local government administrations this may not be easy, since some of the costs of the service may be paid by different departments: wages may be paid by one department, vehicle maintenance by another, fuel by a third and so on. Capital investments (in trucks and machinery, for construction, land acquisition and fixed plant) may be paid out of a completely separate source, with no available figures for amortisation of these costs over the economic life of the assets. Other hidden costs may include supervision and management overheads, social insurance and seconded staff. Private companies may be required to pay additional expenses such as duties and taxes, insurance premiums, registration costs and the costs of setting up and running an office. For these reasons the monthly fees paid to a contractor may be more than the apparent monthly expenditure by the local government solid waste management department, even if the contractor is more efficient. The local government

authorities should be warned of this and know what level of expenditure that they should expect.

It may be worthwhile to consider engaging a consultant to provide an estimate of the expected costs if a service is to be provided by the private sector. This may not be possible in cases in which government authorities are worried that outsiders (such as consultants) may pass information to bidders so that they have an unfair advantage in the tendering process, and many local authorities feel unable afford consultants' fees. Some consultants may claim to be able to develop good estimates, but not, in fact, have the necessary expertise. However, a good consultant may be able to save a client many times the money that is spent on his fees.

It may be possible and useful to cross-check the estimate of the costs for one city by taking the contract prices for similar cities and adjusting these prices according to populations and spatial factors. However it is not wise to rely on this method alone, because it assumes that the contract prices from the other cities represent good value.

As has already been mentioned, if there is uncertainty about the true cost of a service, it may be useful to let either a short contract for the provision of the required service so that the needed cost information can be determined, or a contract for a service in a limited area. Alternatively a commercialised utility could be established under local government ownership to provide the required service and collect cost and operational data.

Costs for the construction and operation of a sanitary landfill are very dependent on the conditions of the site, and cannot be estimated within any accuracy until the site has been selected and surveyed.

3.8 Determining and estimating revenue sources

Under some arrangements for private sector participation (franchises, concessions and private subscription), it is the service provider who collects the income that pays for the service. In such cases the enterprise must internally determine how it will raise the needed revenue. In the case of contracts, one of the major factors that determine the success or failure of private sector participation is the client's performance in paying the contractor, and, linked to this, the reliability and sufficiency of the source of revenue that is used to make these payments. Residents and shopkeepers are very aware of the introduction of any new fee or any increase in an existing fee, and so they want to see clear improvements linked to these new financial demands. If they are not content there is likely to be opposition and reluctance or refusal to pay the fees. The main issues are:

- How much should each beneficiary pay and how should the tariffs be determined and adjusted? and
- How should the money be collected?

Unfortunately it appears to be quite common for decision-makers to decide on the level of service that they require and to set a fee level on the basis of what they think will be acceptable to their citizens, without understanding the link between the level of service and the income that will be needed to provide this service. Too often the income is not enough to pay for the service that the municipal leaders have declared will be provided, and little attempt is made to close this gap – apart from pressuring the successful bidder to reduce his prices and cutting out parts of the service (such as the operation of the landfill or public education activities.) Steps should be taken to close the gap between income and expenditure long before the tender documents are finalised.

Income is needed to pay private sector service providers, but also for the "transaction costs" incurred by local government – the costs of preparing for and managing private sector participation, including the preparation of documents and monitoring. Rothenberger (2004) gives more information about transaction costs and the factors that influence them, which include the complexity of the contract and tasks, and access to information. Some findings suggest that, in some cases, these transaction costs can be as much as ten percent of the contract value, and perhaps even more.

The first step in developing the financial strategy is to determine the objectives for revenue collection. The following section describes two major objectives that should be considered.

3.8.1 Possible objectives for fee collection

Full cost recovery

Should the solid waste management fee cover all costs of the service? It is often written and said that fees should cover the full costs of the service,

but the reasons for this statement are often not clear. Clearly, the fees that are collected by a franchisee or a financially-independent public sector utility must be sufficient to fund the service and all associated costs, unless there are other sources of income (such as landfill gate fees paid by other organisations, or subsidies).

In some countries the law may require that fees are to be used only for the purpose for which they have been collected, whereas local taxes can be used for any municipal purpose. If the fees are collected by local government and paid into general local government funds, the situation becomes more confused, because the amount of money that is available for waste management depends on the decisions of local leaders and the relative urgency of competing needs, rather than the amount that has been collected. Even if the fees are sufficient to cover the costs of waste management, some of the revenue may be diverted to other purposes, and if the fees alone do not generate enough income, funding may be found from other sources so that the full costs of the service are paid. The key requirement is that funds are available and reliable, so that planning is possible[12] and the contractor can be paid in full and on time.

The practice of imposing penalties on the contractor because there is a shortage of funds to pay him is both dishonest and inexcusable. (If a client is unable to collect enough revenue to pay the monthly fees, the client should renegotiate the contract with the contractor to find ways of providing a reduced service at an affordable cost.)

Some companies prefer franchises to contracts because they do not trust the local government agency to pay on time and in full. The costs of monitoring the service provider (the salaries and expenses of monitoring inspectors) must not be forgotten, and many franchise agreements include the payment of a fee to the local government partner in order to cover these costs.

Although transparency is alien to the culture of many government institutions, there are advantages in making both contract requirements (if not the full contract) and payments known to the public, because of the common belief that private sector participation is always associated with corruption, and because the involvement of the private sector is likely to involve increased direct expenditure.

The polluter pays?

Should each generator of waste pay a fee that covers the costs of collecting, treating and disposing of that particular sample of waste, or should payments be made according to ability or willingness to pay, so that some beneficiaries are cross-subsidising others? Will full cost-recovering fees discourage certain waste generators from co-operating?

Whilst the “polluter pays” principle is widely accepted, it may not be advisable in situations where there is not the enforcement to prevent illegal dumping of waste. For example, there is a constant struggle in one capital city to stop small companies – who contract for waste collection directly with households – simply dumping their waste a short distance from the area where they collect it. They do this to save time and fuel, and to avoid paying disposal site gate fees. If there were no gate fee at the disposal site, the waste collectors might be more inclined to take the waste that they collect to the authorised disposal site. Clearly, this is not an ideal or final solution, but it might be a positive interim step until effective enforcement is operational.

In situations where hazardous wastes are supposed to be treated and disposed of according to special (and more expensive) procedures, industries may simply arrange that their wastes are mixed with municipal wastes or dumped illegally, rather than pay the higher fees for hazardous wastes. In this way, applying the “polluter pays” principle where there is inadequate policing will result in illegal dumping and additional pollution.

One way of introducing the “polluter pays” principle may be to start with a free collection and disposal service (particularly for services to industrial and commercial generators) in order to get to know the quantities and nature of the wastes from the various sources (provided that the generator of the waste does not suspect this strategy). Then, after some months, one could introduce a fee that covers (say) ten percent of the cost of the service, and increase the fee

[12] If the contractor does not know, with a reasonable degree of certainty, the amount of cash that will be available to spend on recurrent costs and investments, it is not possible to plan operations and purchases. This situation is often also faced by municipal departments, which often do not know when they will get capital allocations or items, and so see no reason to plan for more than a few months ahead.

gradually until it covers 100% of the cost. This would have the following advantages:

- Firstly, the authorities could improve their knowledge about the waste generators (if the waste generators do not 'enter' the system, they may not be known to the municipal authorities). But once they are in the system and the number of containers of waste that are collected has been recorded for several weeks, it is possible to base the fee on these records, and show that the fee is fair.)
- Secondly, the contractor and the inspectors can use this time to build up their own capacities to manage the solid waste.
- Thirdly the phasing in of cost recovery over a longer period of time has the advantage of helping the generators to get accustomed to paying for solid waste management services.

However, unless the service is operated by local government, an alternative means of raising revenue to pay the contractor would be needed during this long phasing-in period.

3.8.2 Willingness to pay

Are beneficiaries ready to pay for a solid waste collection service? If so, how much are they willing to pay? It appears that one cannot generalise about willingness to pay. In many cases residents and businessmen consider that it is the duty of the municipality to collect the waste and since they have received the service in the past without making a specific payment for it, they are often unwilling to start paying for a continuation of that service. Much depends on the *demand* for the service (not the need). A survey in the Gaza Strip showed that the cleanliness of the streets and the regularity and convenience of the primary collection service influenced the willingness to pay of the residents – the secondary transport system and the method used for waste disposal had no impact (Case Study E). Other issues also affect the willingness to pay. For example, two similar small towns, about 25 km apart, exhibited very different degrees of willingness to pay. In one town the local council had rejected the idea of a waste management fee. In the other there was a high level of payment, based on a general environmental law that was enforced by the police.

If the people who receive a service are truly willing to pay, it will not be necessary to use threats and police pressure to ensure payment. Communities who have recently suffered from a lack of service may be happy to pay for regular waste collection, seeing the clear link between the fee and the improvement of environmental conditions. Various factors may motivate communities to be willing to pay for waste collection, including the desire for a healthier environment, convenience, competition and status. In many cases it is necessary to implement a programme of public education regarding the health, environmental and economic benefits of a good waste management service, but it must not be assumed that knowledge alone is enough to persuade beneficiaries to pay their fees regularly. If they regard the fees as too high or have no confidence in the organisation that collects the fees, then no amount of environmental awareness will make them willing to pay. For example, residents in one village agreed that they would not be willing to pay a fee to the local government administration for a waste collection service, but they said that they would be willing to pay a fee to a local NGO, if that organisation would provide the service. There appeared to be a lack of confidence in the local administration.

Willingness to pay is linked to level of service. Some may be willing to pay for a high level of service, such as a daily collection from the door of each apartment. Others, concerned to minimise costs, may prefer a much less convenient service – for example, communal collection which involves carrying waste to a street container. It is essential to involve beneficiaries in decisions regarding level of service and fees for two reasons: (i) to get a reliable understanding of the kind of service that they are willing to pay for, and (ii) because when people are involved in making a decision they are more likely to participate in implementing the decision, since they feel ownership or responsibility for the decision. Therefore it is advisable to select two or three feasible and acceptable collection systems, calculate the costs and the fees for each, and offer these alternatives (levels of service and associated fees) to waste generators, asking for their preferences, and checking how much they would be willing to pay for the service they select. This is illustrated in Figure 3.2. A tool that can be used for such a survey can be found as Annex A9 in Part III of Cointreau-Levine (2000) and available on the accomanying CD. Clearly, considerable work is involved to prepare and cost several options, but the success of the change that is to be implemented may depend on it. Very often, sustainability requires a foundation of hard

work and patience. Rushed implementation is an invitation to failure.

Outsiders should not assume that they understand a community's willingness to pay for waste management. In some cases households may be willing to pay more than would be expected for a better or more convenient service; in other cases they may be willing to pay very little and be satisfied with a very basic service. A survey to investigate a community's willingness to pay for sweeping and waste collection must be carefully planned and executed if it is to result in reliable conclusions (Altaf et al., 1996). It cannot be assumed that it is always easier to collect fees from high-income areas than from low-income areas; a case was reported from India by Agarwal (2003) where the poorer citizens were more willing to pay than the rich. In Mexico, residents of low-income areas have been willing to pay for informal sector waste collection services, such that the providers of these services have earned several times the minimum wage (Case Study R).

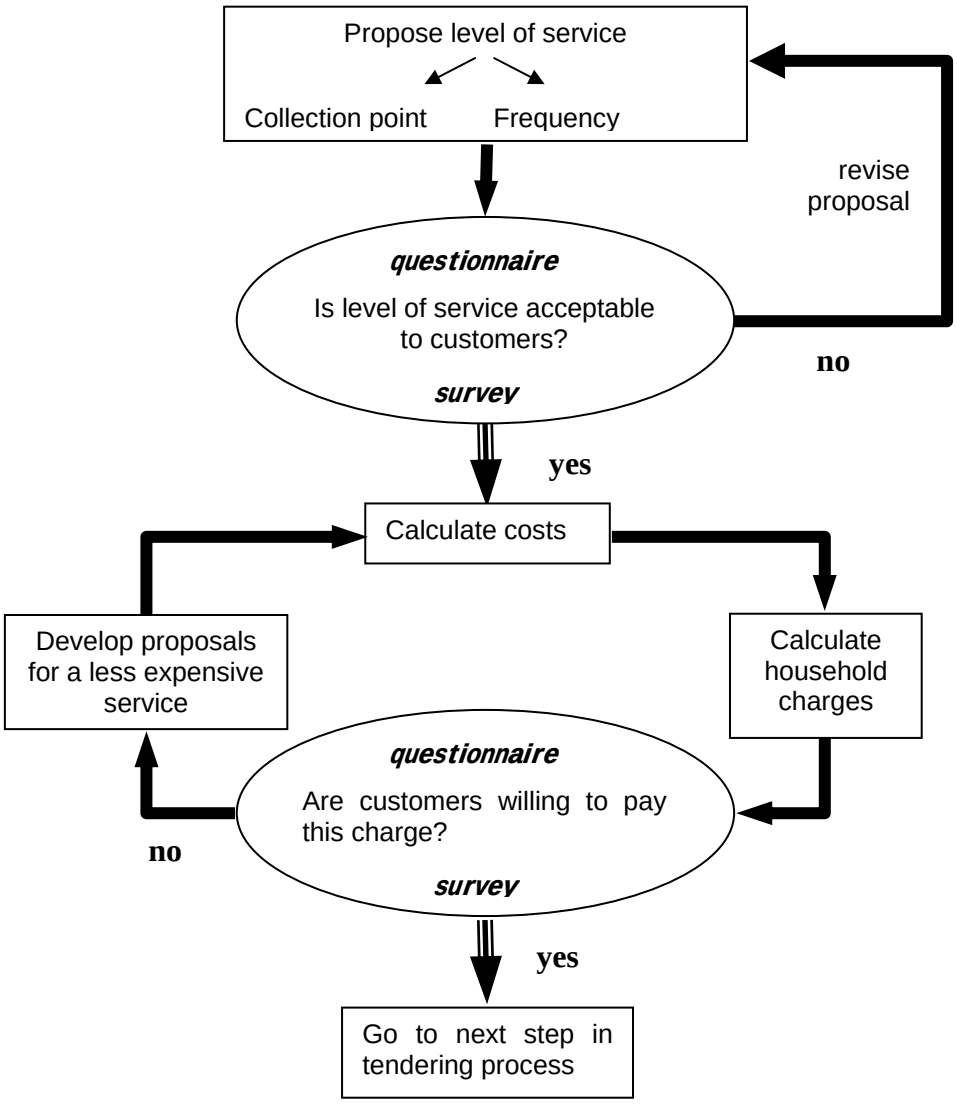


Figure 3.2 Linking level of service and willingness to pay

There have been cases in which a lack of willingness to pay seems to have been caused by the foreign connections of the waste management contractors. Hostility to foreign companies seems to have been encouraged in the media. The common perception seems to have been that the foreign contractors were taking all the income from the fees paid by poor householders and repatriating large profits. (The facts that the contractors were recording losses and that their bids had been lower than the bids of local companies seem to have be missed by the media reporters.)

Another aspect of willingness to pay relates to the willingness of local governments to pay for improved treatment and disposal. There is

generally a stronger public demand for collection services rather than for disposal. Exceptions may be where the majority of the citizens have a high level of environmental awareness or in communities that are directly downwind of burning dumps. National legislation may demand higher standards of disposal, but unless there is effective monitoring and enforcement, such legislation may have very limited effects. Tender documents may specify high standards of treatment and disposal, but such requirements may have been put in by outside experts without the active support of local officials and politicians. The wise bidder will try to find out during the tendering process what level of treatment and disposal the client is really willing to pay for.

3.8.3 Mechanisms of fee collection

No method of collecting fees for waste management is ideal. Drinking water can be charged according to meter readings so that customers are charged according to what they use, but it is difficult to design a system of payment for waste management services in which payment is directly proportional to the load on the system. Some systems appear to be closely linked to the effort required to dispose of the wastes, but they are generally sophisticated and difficult to maintain, especially in developing countries. An example is the computerised system that uses bins with locks and electronic identification tags, and trucks with weighing devices which bill households according to the weight of waste that is put out for collection. Even this system does not differentiate between different types of waste (the costs of disposing of different types of waste vary according to their potential for causing pollution) and may encourage generators to dump their waste illegally or burn it to reduce the weight that they pay for. Another system requires that waste be put out for collection only in official bags (the price including the waste management fee), but again this is open to abuse. Other systems seek to charge households according to household size or according to their economic level – according to the value or size of their house or apartment, according to income, area or electricity consumption. In other cases a flat rate is used for domestic generators, but such systems may require subsidy by the business sector or from some other source. Commercial rates may be determined according to the size and type of business. No system is perfect or wholly logical, and rarely is everyone satisfied, so compromises are needed. The importance of a well-executed public information campaign cannot be over-emphasised. Simplicity, transparency and reliability are of great importance. Some of the questions that need to be asked about a fee collection system are:

- *Does this system encourage unacceptable behaviour* (such as illegal dumping or open burning)? In many societies, systems that charge according to waste quantity promote illegal dumping. It is much more expensive to pick up waste on the streets or that has been dumped illegally than to collect waste that is in containers.
- *Is it legal, acceptable to the public and regarded as reasonably fair?* Encouraged by public opposition, there have been legal challenges to the collection of fees as a supplement to electricity bills, on the basis that the contract between the electricity company and the consumer does not include a provision for a waste collection fee. (See Box 3.10)
- *What are the costs of collecting the fees?* The cost of collection of fees can be a high proportion of the income that is collected, especially if collection is made from each house once a month, and return visits are often needed.
- *What measures can be taken to encourage payment and punish non-payment?* If fees are collected together with those for another utility service – such as water or electricity – it may be possible to cut off the other service if the waste management fee is not paid. Even if this measure is legally possible, it may still be regarded as politically or socially unacceptable, and so not be an effective tool. Shops that are required to renew their trading licences regularly may be refused a renewal if they have not paid their waste management bills. Perhaps the same could be done regarding renewing driving licences. By grouping houses or shops together into a local cluster, it may be possible to use social pressure to motivate payment.

Box 3.10
Linking waste management fees to electricity charges

Several countries have established tariff structures in which waste management fees are linked to electricity consumption and billed together with electricity bills. This arrangement has several advantages, among them:

- Electricity suppliers often have good records of consumers (although stealing of electricity through illegal connections is common in some cities), and such records have been useful in indicating a customer base for setting up a fee collection system for waste management.
- Electricity suppliers have a well-developed billing system which can be also used for collecting waste management fees (and payment of a commission of around 5% of the sum collected to the electricity company is a good arrangement for both sides).
- It may be possible to use the threat of disconnection from the electricity grid and a subsequent reconnection fee to motivate customers to pay their waste management fees. In some Latin American cities the electricity is cut off for persistent refusal to pay solid waste management fees.
- Electricity consumption can be used as a guide to the affluence and size of a household, and therefore as an indicator of the amount of solid waste that requires collection and disposal.

However, in practice, these benefits have not been realised in some situations where this approach has been tried.

- Court cases have been brought successfully to oppose the linking of electricity charges and waste management fees, on the basis that the contract each customer has with the electricity provider does not refer to or allow this extra charge for a totally different service.
- Where electricity charges and waste management fees have been added on the same bill, some customers have refused to pay either item, so that some electricity companies have been forced by reducing incomes to stop collecting waste management fees.
- In cases where two separate bills are sent out, customers have refused to pay the waste management bill and suffered no consequences as their electricity supply has not been cut. Some bill collectors working for an electricity distributor have actually advised residents not to pay the solid waste management fee.

The way in which domestic waste management fees have been tied to electricity consumption has caused considerable protest where the fee has increased steeply with electricity consumption, resulting in fees which are ten times higher for some households, as compared with households that use only little electricity. Commercial consumers have also reacted angrily in situations where shops and businesses that use a large amount of electric power but produce little solid waste (such as jewellers and laundries) are charged much more than fruit retailers and builders who use little electricity but generate large quantities of waste.

In one case where waste management fees were collected together with electricity charges, the electricity distribution company became a shareholder of the waste management contractor, because of a concern that it might lose money because of this link. As it happened, the electricity distributor increased its revenue because the link with waste management (more precisely, the close contact between waste management staff and each household) helped them to identify more customers (such as new buildings, and ground floors converted into shops).

Charging flat rate fees may provoke fewer objections, but a fee that poor households can afford may not generate sufficient revenue if applied to all households. Some municipal administrations have transferred much of the financial load to commercial waste generators, but this causes hostility in the business community, especially from those businesses that generate little waste. Perhaps the most acceptable system for commercial premises is to develop tariffs for each particular type of commercial activity, and scale these tariffs according to the size of the operation. This is relatively easy for hotels (where the fee can be sized according to the number of rooms or beds) but may be more difficult for shops and street traders. Assessing the fee to be paid by each individual business is a labour-intensive activity with many opportunities for minor corruption, unless there is a formalised procedure for assessment and records of each assessment are scrutinised and filed.

There is compelling evidence of the effectiveness of participation in decision-making. If shop-owners and other generators of commercial waste, for example, are invited to develop a fair system of charging for the collection of commercial waste, they are exposed to the factors that affect the costs of the service and become more aware of the many aspects of waste management, and so may understand more clearly why a fee must be charged. It should be possible to estimate the quantities of solid waste generated by the various types of enterprise and then confront the owners of these businesses with these figures and have them discuss a tariff structure among themselves. Taking participation further, the relevant associations or representatives could be asked to collect the fees from their colleagues, thereby adding the motivating factor of social pressure.

3.8.4 Franchises, concessions and private subscription

Franchises and concessions offer monopolies and so there is a need for some means of controlling the fees that can be charged. Arrangements involving private subscription (or open competition) leave the setting of fees to market forces – customers are free to choose a service provider who charges a lower fee, or to avoid using any supplier.

a) Franchises: In the case of a franchise, the private sector service provider is responsible for collecting the charges for the service. The fee level may be determined by competition or the maximum that can be charged set by the government authority. Enterprises that are competing for a franchise may be asked to compete on the basis of the fee that they will charge for the services, and the bidder who offers a satisfactory service for the lowest user fee is awarded the franchise. Alternatively, the user fee may be set by the government authority and the franchise awarded to the bidder that offers the largest fee to the authority, or gains the approval of the local authority in some other way. Box 3.11 discusses a case where this was done.

b) Concessions: Before an enterprise agrees to a concession for the construction and operation of a waste management facility, it will seek assurances of a minimum income. Often the assurance is provided by means of a minimum tonnage agreement (also called a “put or pay” agreement) which defines a minimum tonnage of waste which is to be handled by the facility each day, month or year. If the actual tonnage of waste handled is less than the defined minimum, the authority is responsible to pay the concessionaire as if the minimum figure had been reached. The concessionaire may be required to pay a percentage of his income to the government authority.

Box 3.11
Worse for the poor?

In Dar es Salaam, residential areas were classified as low-, medium- or high-income, and the fees that the franchisees could charge were set by the city authorities. The fees in the low-income areas were 25% of the fees that could be charged in the high-income areas. (Coad, 2003). This was justified according to ability to pay, but penalised some of the franchisees and the poor communities. Franchisees were allocated areas that were generally in only one of the income groups. Therefore the fee income that a franchisee working in a low-income area could collect was much less than the income of a franchisee in a prosperous area. Furthermore, the task of collection from a poor neighbourhood was often more difficult because of access difficulties; in contrast waste from high-income houses could easily be loaded directly into a truck. As a result, high-income areas were greatly preferred by the franchisees. The local municipalities assisted some of the franchisees who were serving poor communities by providing transportation to take the waste they had collected to the disposal site.

One way of improving this arrangement would be to require the franchisees working in rich and middle-income neighbourhoods to pay a fee to the city authority; this fee could be used to assist the franchisees working in more difficult situations. Another option would be to divide the city among the franchisees so that each franchisee has both low-income and middle- or high-income customers.

The concessionaire who is invited to provide the facility in question should be selected in a competitive bidding process. The successful bidder is selected – from among the enterprises that are judged to be technically satisfactory – on the basis of the fee that they will charge to users, or perhaps the fee

that he will pay to the local government client.

The concessionaire may seek to increase his income by attracting waste from outside the area of the government authority that granted the concession. Whilst this is to the advantage of the concessionaire (because he receives more fee income) it may be a disadvantage to the authority if the lifetime of the facility is thereby reduced. So the local authority may require that a part of the income from external sources is passed on to it as a "host fee".

c) Private subscription: Private subscription (or open competition) arrangements may be used for collection, treatment and disposal. Fee levels are not regulated, but there may be a charge for a licence. The licence income may be used to pay transaction costs. The licence itself is used to guarantee that the enterprise operates according to defined standards, and should be withdrawn if the enterprise performs poorly, attracts many complaints or fails to observe environmental requirements.

3.8.5 Estimating anticipated income

It is essential to have a reliable estimate of the revenue that will be available to pay any private sector service provider. The failure to obtain such estimates led to the situations that are described in Box 3.12.

The involvement of the private sector will require changes in financial management. Collecting revenue by means of fees or charges will require new mechanisms for recording payments, identifying defaulters and taking action to ensure that they pay, and proposing modifications to tariffs. It may be necessary to respond to any decline in payment with public awareness initiatives. In addition to the fee collection mechanism, these and other aspects of financial management should be given consideration.

3.9 Preparing and involving the public

Private sector participation is often referred to as "public-private partnership", but in practice there is another important partner – the community of beneficiaries. Solid waste management is a very public affair. Each household must assemble its waste and make it available to the collection service. Individuals have the choice of littering or refraining from discarding waste on the streets. Fees are to be paid. Waste collection crews and vehicles are often seen (and heard) on the streets. Accumulations of uncollected waste are visible to all, and may be a serious nuisance. The many impacts of unsatisfactory waste management can affect our health, our environment and our well-being. It is surprising how some local authorities neglect to keep the public informed about what they are doing in this domain.

Box 3.12
Counting the cost

A new partnership with the private sector was being developed. Revenue was to be collected by means of a surcharge on electricity bills, but at the tendering stage, there was no reliable estimate of the anticipated revenue. It appears that the only available estimate was based on the assumption that all of the bills would be paid in full. As it happened, the income was significantly less than the sum to which the contractor was entitled. It appears that heavy penalties are being deducted from the payments to the contractor in order to close the gap between income and outgoings. These penalties are not explained to the contractor and they are not determined according to the arrangements in the contract. As a result, the contractor is obliged to reduce the scope of his services, leading to further penalties and serious complaints from residents.

In another case, after the failure of the first attempt at tendering, the administration of a district comprising more than ten towns asked for assistance in estimating the costs of providing the service at the desired level, and also in estimating the fee income that could be expected. It became clear that the income would not be sufficient. So it was decided to provide a service to only the three larger towns and exclude disposal and other functions from the agreement.

In some situations, discussions with residents and newspaper articles indicate clearly that not enough had been done to inform the public about plans to involve the private sector, about fees that were to be introduced, about the future role of the informal sector, and about changes in the waste collection and sweeping services. Citizens do not know how to register complaints. There are misunderstandings about the role and impact of the contractors. The lack of understanding and knowledge leads to criticism and hostility, and low levels of co-operation and fee payment.

Measures to involve the public should start before the beginning of the contract. The public should be informed regarding proposals and processes, and consulted as discussed in Section 3.8.2. Each stage in the tendering process is an occasion to make announcements in the local media and foster a positive attitude towards the service.

It is likely that many municipal authorities do not have public awareness experts on their payrolls. It is possible that other cities that are more advanced in the process of private sector involvement, universities and national agencies may be able to provide advice and support during the preparation phase.

Links with the public are discussed in more detail in Chapter 4.

3.10 Transparency

It has already been mentioned that some people consider that corruption is always associated with private sector participation. Whilst it is difficult to uncover information about particular cases of corruption, it is hard to avoid examples of where the fear of being accused of corruption is leading to breaches of contract conditions and expensive delays.

In this section, consideration will be given to ways in which the impact of corruption can be minimised during the preparation process. Later chapters will also refer to problems posed by corruption at later stages.

Two methods that are widely used by governments for combating corruption are committees and transfers. Both have serious drawbacks. Committees appear to be favoured because they allow the responsibility for making decisions to be shared among the members, and it is less likely that a number of people will agree to be bribed and not be exposed. However, committees cause delays, because of the time needed to convene a meeting. In some situations also, no-one in the committee is prepared to take the leadership or advocate a minority opinion. In particular no member of the committee may be willing to make a statement in support of a contractor, because he fears that he will be accused of having accepted a bribe from the contractor in return for promoting the interests of the contractor.

If the tasks of the contractor are clearly defined, there is less room for subjective opinions regarding the performance of the contractor, so it is important to define tasks and methods of verification in a way that allows simple verification. Reports from monitoring inspectors should be signed by the person who makes them, and checked by a superior on a random basis. In this way discussions should be focused on facts and reports, not on opinions. The training of the monitoring inspectors, which is a very important aspect of the preparation for private sector participation, should make it clear to the inspectors that they must be prepared to take responsibility for the reports that they write.

The other method that is used by some governments for controlling corruption is frequent transfer, based on the belief that officials take time to develop corrupt relationships with individuals or organisations, and so frequent transfers do not give time for corruption to take root. Unfortunately, transfers from one sector to another allow little time for officials to learn about each job and gain expertise, and there is little motivation for an official to take the trouble to increase his competence if he knows that he will soon be transferred to a different department.

A more positive use of transfer was proposed for monitoring inspectors in a big city. It was suggested that they be moved from one area to another at regular intervals. If the replacement of one inspector by another results in a marked change in the numbers of complaints or penalties, this suggests that one of the inspectors may not have been doing his job properly, and that the reasons for this should be investigated. However, such moves also reduce the opportunities that inspectors have to become familiar with the area where they work and to develop positive relationships with local residents.

In some cases it may be possible to involve a committee of beneficiaries in monitoring. Small contracts that employ local people and are

supervised by local people are less likely to be involved in corruption, because the revenue is coming from local people and local people can observe the behaviour and performance of the contractor.

Secrecy feeds corruption; transparency starves it. At an early stage policies should be developed that will promote transparency. Documents such as tender documents, contracts and financial records should be made available to the public, and NGOs and residents' committees should be encouraged to review these documents. In some countries tender documents and contracts seem to be treated as confidential, whereas in other countries contracts are posted on the Internet.[13] It is not clear why contracts are enclosed in secrecy. Perhaps the responsible administrators believe that the contract documents are of poor quality and will give a bad image if others see them. Perhaps they think that making contracts available will somehow give an unfair commercial advantage. Perhaps the local authorities wish to be able to control the information that is given to the citizens so that the authorities can defend themselves by accusing the contractors and giving false information about contractual arrangements. This absence of transparency produces some serious negative consequences. The associated lack of accountability of the authorities towards the citizens that they are supposed to serve allows the public perception of corruption to continue.

3.11 A concluding comment on preparations

The length of this chapter emphasises the importance of the preparation stage. Urgency from government policy or public demand, and ignorance of the crucial nature of this stage may cause officials to rush these necessary preparations. Experience shows that failing to proceed carefully through this stage leads to unwise decisions, inadequate foundations, inappropriate directions, wasted effort and damaged reputations. A major city took five years to move from the initial feasibility study to the signing of the contract for comprehensive waste management services, and this partnership is regarded as successful. In another urban area not far away this process was compressed into two years, and the resulting arrangements are regarded as more problematic. Another city that tried to rush this process had to retender, extending significantly the time required for the whole process. Other cities may well be able to conclude satisfactory arrangements in a shorter time, but experience makes it clear that the tendering of all solid waste services for a large city is not a simple or short task.

The next step in the preparation process is discussed in Chapter 5, which considers the development of the tender documents and the selection of the preferred bidder. Before that, however, it is necessary to consider an essential aspect of private sector participation that is often given too little attention, with serious consequences. This essential aspect is the involvement of the public.

[13] Waste management contracts that are freely available to the public can be downloaded from the accompanying CD; they are taken from the Guidance Pack of Cointreau-Levine (2000).

4. Public awareness and participation

Some waste management professionals appear not to understand the importance of involving the public and seem to believe that the occasional printing of a poster or a leaflet is enough to ensure public co-operation and a satisfactory service. Others devote considerable effort to informing, involving, consulting, persuading and empowering the customers that they serve. Services established by professionals in the latter category are likely to prove more sustainable.

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4.1 Introduction

Private sector participation in solid waste management is often called *public-private partnership*, and this is an acceptable term when the activity is the treatment of hazardous waste, or the operation of a disposal site. However, in many cases the partnership is three-way – it must involve the citizens or customers. This is particularly true for activities such as domestic waste collection and street sweeping and in situations where customers are required to pay a specific fee for a waste management service. Figure 4.1 illustrates this three-way partnership.

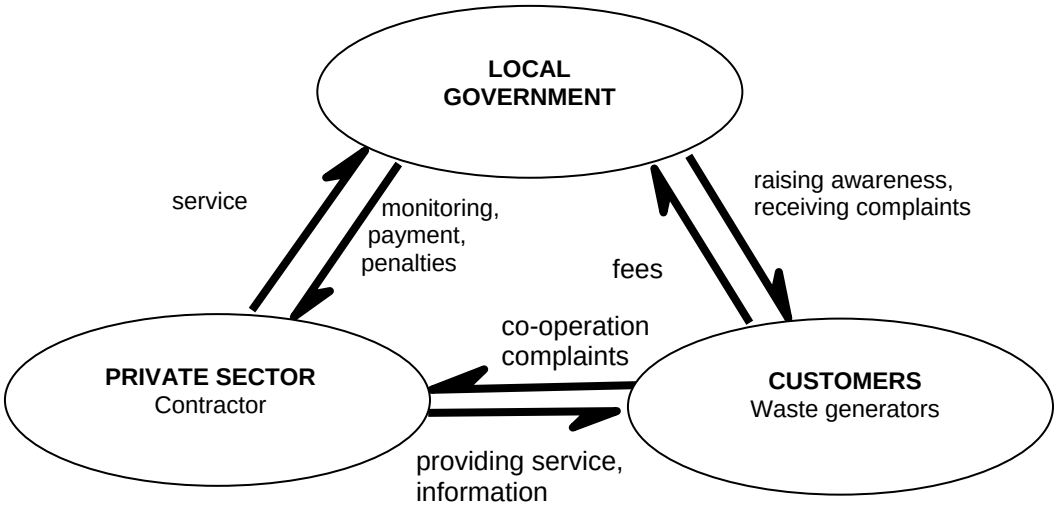


Figure 4.1 The three-cornered Public-Private-Customer partnership

Some of the functions that are shown between the partners may vary from case to case. For example, in the case of a franchise the customers should pay the private sector service provider, and public awareness – in addition to providing information – may be the principal responsibility of the private sector.

It often appears that there are two separate streams of inputs into solid waste management – the engineering stream and the sociological stream. They often show neither appreciation nor understanding of the other. Engineers calculate, design equipment and plan, and (it is hoped) calculate and estimate costs. They think if terms of *top-down* processes and try to ignore the human element. On the other had, sociologists are concerned with the behaviour, perceptions and participation of the people who are to be served by the solid waste management system, thinking in terms of bottom-up processes and paying little attention to equipment, technical requirements and costs. Clearly there is a need for both approaches. City and regional administrations tend to lean towards the engineering approach and so need to be persuaded of the importance of involving people, informing and listening.

Successful private sector participation often depends on a high level of participation in fee payment by householders and business people. To ensure payment of fees, the authorities may apply measures such as enforcing long-ignored environmental laws to threaten waste generators with high fines in order to force them to pay the waste management fees. Experience shows that it is better to convince people to pay by raising their awareness and understanding, rather than try to force them to pay by enforcing penalties and threats. Threats of punishment for non-payment have resulted in opposition and evasion, such as the situation where shops were open in the evenings but closed during the daytime when fee collectors were expected.

A better long-term strategy includes awareness raising, providing information to the public about the real costs of the service, inviting participation in decision-making, and positive responses to complaints. These are discussed below.

4.2 Informing the public

4.2.1 Motivation and co-operation – public awareness

To be successful, a solid waste management system needs co-operation from citizens. An understanding of the benefits of a clean environment, and of how solid waste management seeks to minimise health risks and protect the environment, is an important factor in motivating citizens to co-operate with the solid waste management service. It may also encourage them to pay the related fees. Therefore the public should be informed in simple terms about what action they are required to take, to co-operate with the service provider and to reduce pollution.

The public should also be informed, well in advance, of any changes in the service provider or the service level that will affect them directly, and of plans to introduce or change the method of collection or the magnitude of the fees that the beneficiaries are expected to pay.

An improved understanding of the importance of a clean environment, and a greater degree of sympathy with the waste collection service should lead to a decrease in the additional and unnecessary workload of the contractors that results from bad habits such as:

- burning of waste inside the containers,
- discarding of waste on the streets,
- digging waste out of containers, and scattering it on the street in order to feed animals or while looking for recyclable materials,
- illegal dumping of difficult wastes such as waste lubricating oil, and
- using waste containers for unintended purposes.

These practices often lead to significant financial burdens, such as the repair or replacement of containers and the cleaning up of pollution. The cost of a well-structured awareness-raising programme (resulting in improved waste management habits) may be far less than the costs resulting from bad practices. Informing the public about the financial consequences of their bad habits may help to establish a sense of ownership, reduce service costs and help to maintain a cleaner environment.

When progress has been made on these issues, efforts may then be focused on developing habits that encourage at-source segregation of wastes, and that reduce the quantities of generated waste and environmental impacts of consumption and disposal practices. Information alone is often not enough to encourage a change in behaviour, but it is at least a necessary first step, especially with children and with adults that already have some concern for their immediate environment and general well-being.

Photo 4.1
A huge wall poster
Various methods are used to communicate with the public. Posters are rarely larger than this one! It would be interesting to investigate the impact of posters of this kind.

Effective education of the public that leads to changes in habits requires clear messages and multiple means of delivering these messages. Often, attempts at educating the public are poorly planned and ineffective. To print a leaflet or prepare a short television presentation is generally not enough. In contrast, programmes of public education in Gaza (Zonneveld and Zakout, 1996), demonstrated an effective approach, since they included many means of reaching the public, among them competitions for schoolchildren, plays and puppet shows, house-to-house visits, provision of information in clinics and mosques, and the production and use of audiovisual presentations, as well as posters and leaflets. The development of awareness-raising tools can be fun, and offer wide opportunities for creativity and the use of culturally-appropriate humour. However, it is necessary to check regularly that the information programme maintains its focus and direction – not being carried off in another direction by enthusiasm and creativity – and the effectiveness of each tool that is used should be ascertained by interviews and surveys whenever possible.

Opposition to the payment of fees can be reduced by being as transparent as possible about the use of the fee revenue. An important message to get across is that a lack of co-operation makes the fees higher – street litter, waste just dumped on ground, mess around bins, bulky waste and debris, and failure to segregate hazardous wastes in hospitals all add to costs that ultimately the community must pay.

Campaigns should be conducted before the start of the new solid waste collection service, so that the communities involved are aware of what is being planned and that they will be required to participate by co-operation and paying fees. At this stage the flow of information should be in two directions, because it is important to consult the future beneficiaries and fee-payers regarding their preferences (as discussed in Section 4.3). As the collection service starts, there should be an intensive campaign to explain to residents what they must do with their waste, how the system operates and how they should complain. Focused campaigns on specific issues (such as littering, care of containers, and paying fees) should be run at intervals to address observed needs.

Awareness-raising is becoming recognised as an important issue and therefore increasingly included in tender documents. In may cases contracts mention awareness-raising, but often little is done. In order to save costs awareness-raising has sometimes been removed from the responsibilities of a contractor, without making sufficient alternative arrangements for ensuring this function, with the result that this important component of service upgrading was ignored or dealt with inadequately. In some cases where donors were involved, they were given the task of funding and implementing awareness-raising activities, but this does not solve the problem after the donor has left. Sometimes awareness-raising appears to be done for its own sake, to spend the budget allocation, rather than to achieve a particular change in behaviour or attitude.

Who should take the lead in running these campaigns? Who decides on themes, and timing? Who implements? Who pays? Since the impact of improved public awareness will be felt more by the service provider than by the administration, it is appropriate that the contractor has the leading role, although other stakeholders (including the local administration and community leaders) should also be closely involved. If the client has agreed to share this activity with the contractor, each one may wait for the other to take the initiative.

Some client organisations that considered awareness-raising to be an important activity have established separate units inside their solid waste management departments for raising public awareness. Unfortunately, some of these units are facing problems in the implementation of awareness-raising activities with the contractors. The unit may not be successful because staff assigned to it have not received adequate training on how to deal with waste generators, how to deliver awareness messages and how to convince waste generators to pay fees. In one case the unit clearly lacked leadership and motivation. Sometimes there is lack of clearly defined responsibilities and of co-ordination of awareness-raising activities with local government and the private contractor.[14] As a result, awareness raising is not successfully implemented and enforcement measures are often chosen instead.

An example of a situation in which the public were not informed of the change from traditional to private sector service provider, and of the new method of collection that was to be used, can be found in Case Study J. The results of this omission were hostility and a lack of public co-operation. The relationship between the three parties would have been better if the residents had been informed in advance of the changes, and much better if they had been consulted when the changes were being planned, as discussed in Section 4.3. Case Study B describes how the residents of a town were consulted and informed regarding the changes related to the involvement of the private sector and how all stages were marked with open and public signing ceremonies; this transparency laid a firm foundation for good public relations and positive opinions of the new system.

4.2.2 Information and public relations

Any shortcomings in the collection of solid waste are usually obvious to citizens and likely to cause complaints in newspapers and elsewhere. A good public relations policy can use complaints to improve the service and develop friendship and support. A pro-active approach will ensure that successes and new developments are reported in the media so that problems and complaints are not the only items that citizens hear or read about. Explanations and assurances should be given when there are failures.

There have been cases where the press have launched unduly hostile attacks on foreign companies providing solid waste management services in a middle-income country. In many ways a company that is based overseas, or has international links, is an easy and safe target. The company can be accused of charging excessive fees and of being ignorant of the wishes and customs of the local people, and arrogantly ignoring its contractual obligations. This is especially true where attacking other targets, such as local or national government, carries a certain risk.

Providing information can help to improve the relationship between the service provider and the citizens. Consideration should be given to providing the following categories of information:

- Prior to the introduction of the service, residents should be informed regarding the

[14] It is essential to co-ordinate awareness-raising programmes with waste collection operations to avoid situations such as residents being told to put their waste into containers when the containers have not yet been provided or are overflowing.

type of service that is being planned and actions that they will be required to take. (It is better to involve them in the decisions that will affect them directly, as discussed in Section 4.3, but informing is better than nothing.) Box 4.1 recounts the results of a lack of such information.

Box 4.1
Lack of information

In a particular city, an increasing mistrust between the population and the private company could be observed. Talking to community members, it became obvious that a large proportion of the population were not well informed about the service that they could expect from the contractor. The community was impatiently waiting for the contractor to start and demonstrate a high quality of waste management services. But because they had not been well informed about what exactly to expect, there was a high degree of disappointment among the people when they learned that the planned service would not be door-to-door as they had assumed, but that instead a street or communal container service was planned.

More information dissemination was required to help residents understand that door-to-door collection would be much more expensive and could not be applied in all areas. The cost of the service had to be financed out of a limited budget. Also some streets were not suited for door-to-door collection.

Furthermore, in some cases residents then learned that the containers would be placed only in the main streets, whereas they had been told that the containers were going to be placed in a very dense pattern so that each resident would have one near to his home. Clearly, more information and more explanation should have been provided, preferably jointly by representatives of both the client and the contractor.

- Information about waste collection routes and times so that waste generators know at what time their waste will be collected. With this knowledge they can prepare their waste containers on time and check that the service is provided as promised. When they find that the service is being provided regularly and on time, they are likely to be more willing to pay the fees.
- Information about other elements of the solid waste management service. Many people are not aware about the extent of the work associated with transporting and dispose of wastes, and therefore do not understand the reasons why the fee is as high as it is (particularly in the case in which the previous system did not provide environmentally acceptable disposal and so involved lower costs). Residents may think that the service involves only of the collection of waste from their doors, and do not take the subsequent steps into consideration when assessing the appropriateness of the fee they are asked to pay. They may think that if they take their waste out to a container in the street, that they have done almost all the work themselves. If they have a better understanding of efforts and costs involved, they may be more willing to pay. If a composting plant disposal site is well managed, it may be possible to arrange visits by groups from schools or clubs, integrated with studies or other activities in the environmental field.
- Information about how to make complaints regarding unsatisfactory services and about how to get information about methods of dealing with special types of waste (such as construction and demolition waste or unwanted furniture).
- Information about positive developments, such as the extension of a service or the ordering or arrival of new equipment, about winners of competitions and incentive benefits, and other factors expected to result in improved service or standards. It is very common in the field of solid waste management for only bad news to reach the media.

There are, therefore, clear advantages in engaging the services of an effective, indigenous public relations consultant, if such a person can be found. If possible any waste management contractor should cultivate good relationships with the press and other media (and through the media to the public) because hostile reporting can cause major damage, both to co-operation and fee income. This is also another reason for involving the public in decision-making and monitoring, as is discussed in the following sections.

Unfortunately false information may also be circulating. False and inaccurate information can be another threat to the involvement of the private sector. Why and how this happens are not always clear. Sometimes it is because accurate information is not available or that wrong assumptions are made unintentionally. On other

occasions senior officials or politicians have appeared to give incorrect information for political purposes and propaganda. Perhaps, in some cases, some media people were more concerned with creating sensations than with reporting accurate information. False and inaccurate information can raise unrealistic expectations or lead to rumours which reduce the public acceptance of private waste services even before they start. (One example of apparently deliberate spreading of false information is given in Box 4.2.) One way of reducing the impact of false information is to make accurate information freely available and to maintain good links with the media.

Box 4.2
False information from the client

During the initial stages it is common for private contractors to start providing services incrementally, gradually increasing the area coverage till reaching full service. In one case this was done in agreement with the client, with the understanding that the monthly payments to contractors would increase in phase with the increase of service coverage. However, contrary to this, in some interviews during this initial phase, representatives of the client announced that they were enforcing fines on the contractor for not serving the whole area. It appears that this was done in an attempt to impress the public regarding the activity and firmness of the client.

In many cases it will be necessary for information to come from the local government authority, rather than from the private sector service provider, because the citizens may not be aware or convinced of the official status of the private sector partner.

4.2.3 Building trust

The ideal situation is to have relationships of trust between the three partners in Figure 4.1. Trust takes time to develop and can be quickly shattered. Trust in a client or a contractor can be lost by failing to pass on information (for example, about starting dates or changes in service) and by failing to explain it at the earliest opportunity. Trust can be shattered if one party blames the other unjustly for a delay or failure.

A loss of citizens' confidence in the contractor and the public administration, however, puts at risk not only any willingness to pay, but also the public awareness and monitoring systems. The awareness teams play a significant role by building the important links between the beneficiary population and the contractor and client. For most residents, the awareness-raising team is the representation of the contractor and client, since most people do not meet staff of either partner before the start of the service. Hostility towards the contractor or the client is likely, therefore, to express itself as hostility towards awareness workers or mobilisers, whose work is thereby made more difficult and unpleasant.

The collaboration of the public administration and civil society is crucial for the successful implementation of the monitoring system and, in turn, for ensuring a satisfactory standard of solid waste management service because of the importance of community participation in ensuring efficient services.

4.3 Consulting the public

Most municipalities and local governments have had little practice in involving the public in decisions that affect them directly. Experience shows again and again how important it is to invite inputs from residents when decisions are being made, particularly regarding collection methods and frequency, in order to develop a sense of ownership and responsibility among the beneficiaries.

Residents and the business community should be asked about issues that affect them directly, such as regarding the type of containers that they would like to use, where these containers should be located, and the level of service that they are willing to pay for. Instead of expecting each of the bidders to consult the public in this way, it would be preferable for the municipality to contact local people and ask for their views (Photo 4.2), which would then be incorporated into the tender documents.

Questionnaire surveys are a useful means of consulting the public, and so should be undertaken at regular intervals. They can provide useful information about the level of satisfaction of the public, the operation of the complaints system, and the behaviour of labourers and other staff.

Public (NIMBY) opposition to the siting of landfills is common all over the world, and the best remedy for this opposition is often a good programme of public consultation, coupled with a carefully chosen site. There are instances where

the residents living near to a proposed site for waste disposal have sat down on the road to the site to prevent it being used, because they are so strongly opposed to the use of the site. There are various strategies for winning the agreement of the people who live nearest to a disposal site. The first requirement is that the site is carefully selected and does not threaten the well-being of neighbours. Residents have agreed to treatment and disposal sites after consultation and being offered jobs at the site or improved services such as a piped water supply. It would be wise to include some local residents in a committee that monitors the operation of a landfill or waste treatment site.

Photo 4.2
It is important to listen

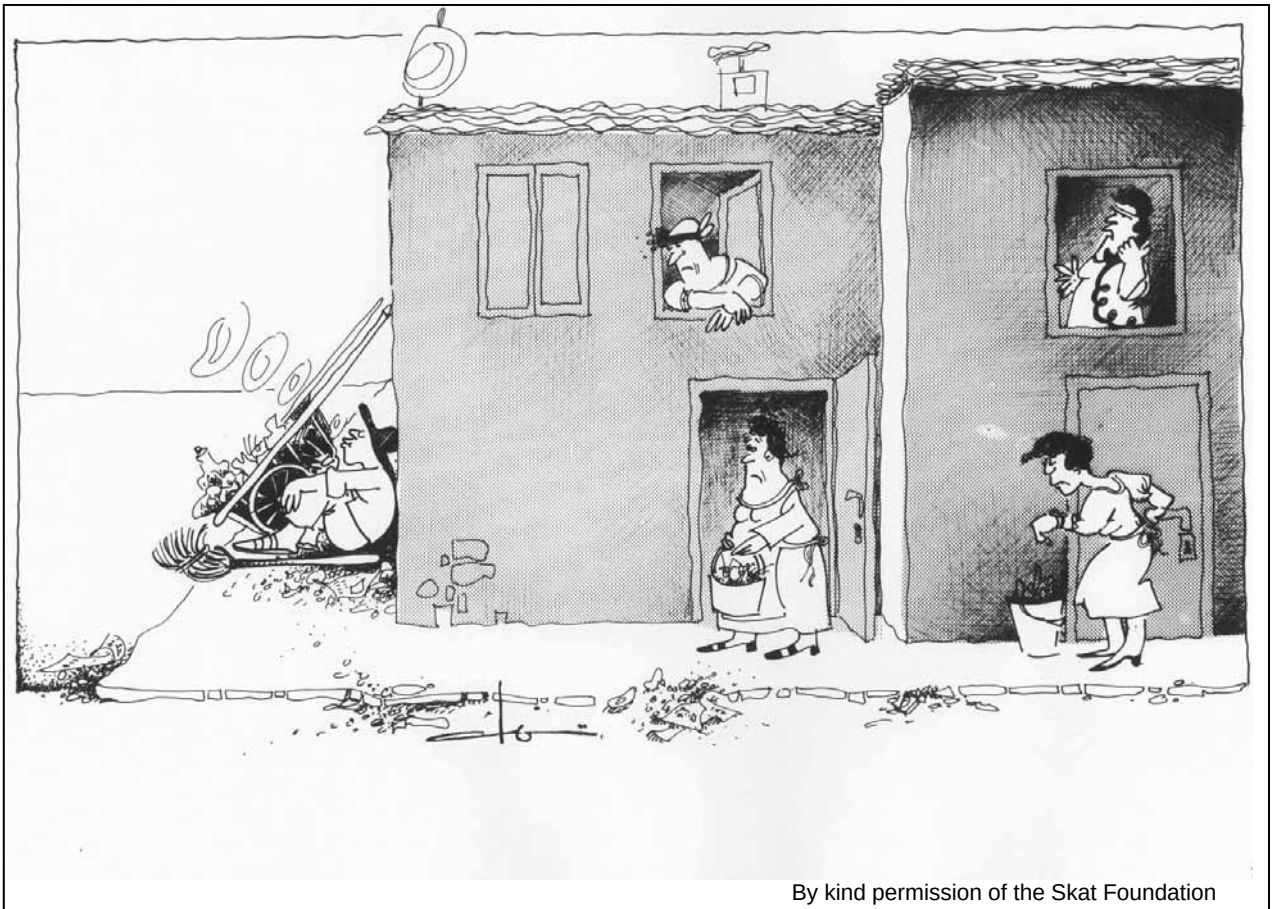
4.4 Empowering the public

Citizens can provide valuable monitoring of solid waste management services if they are given the means to do this, as illustrated in Cartoon 4.2. The main tool that can be used is an effective complaints system, which may be operated by the contractor or the client.

Complaints are not a completely negative phenomenon. Reports of shortcomings in the service are useful in monitoring. If complaints are followed up in a positive way, they can build useful bridges between the customers and the waste management service. The public must be informed regarding how to make complaints. The staff who receive complaints should be trained and supervised to ensure that they are polite and positive when dealing with the public. There should be a time limit for dealing with complaints and for reporting back to the person who made the complaint. A form should be completed for each complaint; this form should show the action that was taken in response to the complaint and the time when it was taken, preferably countersigned by the person who made the complaint. Brief reports based on these forms should be analysed at regular intervals. By developing and operating an effective system for dealing with complaints, the person who made the complaint can be changed from a critic to a friend. Reports on complaints should be required by the client. Unfortunately there are many cases when complaints are not valued, and Box 4.3 gives some examples of this.

In most cases it is probably preferable that complaints are received by the contractor, but the client should be given full access to the records. The contract could specify the responsibilities, the time frame for responding to complaints, and reporting requirements.

Residents and shop-owners can be empowered in a monitoring role, as discussed in Chapter 8.



By kind permission of the Skat Foundation

Cartoon 4.2 Community supervision

These ladies know when the waste collector is due, so if he is late, they take note. One lady is already on the phone to the complaints department

A common perception concerning private sector participation is that it is linked to corruption – a means for government officials to get unofficial payments. The formation of a broadly-based tender evaluation committee may help to counter this impression.

In many countries contract documents are freely available to the public, so that any citizen can check on the duties and responsibilities of the contractor, and the arrangements for monitoring performance.

A telephone hot line can be set up to enable residents to report incidents of illegal dumping of waste. This was done in London to report on the dumping of construction and demolition waste in urban areas, and it proved to be effective particularly because of the need to respond rapidly to criminal acts of waste dumping.

Box 4.3
Wasted complaints

Unfortunately some public administrations were neglecting resident's complaints. In some cases, the citizens did not know where to make their complaints or what telephone number to dial. Elsewhere the citizens were going to complain directly to the municipality. Even if the municipality was following up these complaints, there was often no result. No information was available regarding how the complaints which were received by the private contractor were being followed up – there was no regular feedback from the contractor to the municipality. Experience shows that this happened even when the contract required the exchange of all the information regarding complaints.

5. The tendering process

The selection of a service provider for a period of several years is clearly an important decision. It should be based on clear and comprehensive tender documents, and is improved by reliable data, transparency and confidence in the client organisation.

This chapter looks at the part of the process of preparing for private sector involvement that starts with the preparation of tender documents to be sold to enterprises that are interested in doing the work, and ends with the selection of the contractor. It includes prequalification and the work done by bidders to prepare their proposals. This chapter does not attempt to include all the factors and information that need to be considered, but presents some lessons from experience.

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5.1 Prequalification of bidders

The preparation of a proposal for a competitive tender for most waste management tasks requires a major input of expert-days. A wide range of data must be collected and presented in an attractive form. Only the enterprise that wins the bid receives any compensation for all this work. Assessing large documents to decide which bid will be successful is also a huge task. Therefore it is everyone's interest to reduce the unproductive use of time by excluding the firms that are unlikely to be successful. This is done at the prequalification stage, when only those interested companies that satisfy certain criteria are eligible to compete in the full tendering stage.

Typical prequalification criteria may include the following:

- Financial reserves sufficient to start and maintain the work: This requirement should be set after careful consideration of the potential roles of micro- and small enterprises, so that viable proposals are not excluded. (For more on this topic see Haan et al, 1998.)
- Relevant experience: This could be experience of similar types of work, or work in a similar location, or both. There should be evidence of ability to operate within the proposed form of partnership (i.e. as a contractor, concessionaire or franchisee). There is a risk that this requirement might exclude new enterprises from entering the particular field of activity if it is imposed too strictly, and the result can be a small group of experienced companies which charge high fees and prevent other, smaller firms from joining the "club". Whilst experience is of great value for all types of waste management services, there are particular cases where specific skills are required (for example establishing or operating sanitary landfills) and in such cases the requirement of specific previous experience is especially important. Forming a partnership or consortium with a firm that has the particular experience is one way of meeting this requirement. Another suggestion (Case Study B) is to focus more attention on the experience of the leading individuals in the bidders' proposals, rather than of the

company as a whole. Experience in informing and working with the public might be a key factor to look for in many cases.

- Limited involvement in similar work elsewhere: Such a requirement might be imposed to promote competition and avoid the creation of monopolies and cartels. Unfortunately it is still possible for outwardly distinct companies to be linked by family relationships or in other ways.
- Ownership of suitable vehicles, equipment or facilities: This criterion should be used only when it is clearly necessary, because it is usually possible for a successful bidder to acquire the physical resources that are needed after signing the contract. In the case of short-term contracts (less than three years in the case of motor vehicles) the successful bidder may not earn enough to finance the purchase of vehicles, in which case it would be necessary for bidders to own appropriate vehicles, meeting minimum standards in terms of condition and type, and with sufficient standby capacity. (Such standby vehicles may be used for other purposes [such as road works] when not required for contract work [Coffey et al., 1997]).
- Evidence of good conduct: This often involves certificates to prove the payment of taxes and to demonstrate that the owner or principal of the firm has not been convicted of any offence related to financial dealings.
- Academic and professional qualifications may be of significance in certain cases. Of more general relevance could be the experience and capability that enhance the client's capacity for operation and development.

The prequalification process is launched when the public sector agency concerned issues a Request for Qualifications (RfQ), which admits them to this first stage of the process and explains how enterprises can apply to be prequalified, so that later they may bid for this work. Often the RfQ document is sold rather than distributed freely. Selling the RfQ document achieves two purposes: (i) it discourages firms that realise that they have virtually no chance of winning the work from presenting their application, thereby saving the time of the committee that will assess these applications, and (ii) it provides some income to cover some of the costs of preparing the tender document. The price should not be set so high that it will discourage serious applicants. It is important that the work should be attractive to potential bidders so that the best firms are encouraged to bid and so that there is effective competition. More information about this process can be found in the USAID *Procedural Manual* in the accompanying CD.

5.2 Preparing the tender documents

Tender documents are issued to companies that are interested in providing the required services, and are judged to be competent to provide these services. These tender documents are expected to be the model for the contract that is ultimately agreed between the client and the successful bidder. As well as providing the pattern and basis for the contract, tender documents should also provide technical information that bidders will need in preparing their offers, and instructions regarding the preparation and submission of bids and the tendering process.

The tender documents are the main part of the Request for Proposals (RfP) (which is available only to prequalified firms if there has already been a prequalification stage). The RfP is usually sold, but may be issued free to prequalified firms who have already paid for the RfQ, especially in cases where the work and the method of working have been closely specified in the tender documents so that the main selection takes place at the prequalification stage, and selection from among the bidders is a relatively simple affair, based largely on price.

Some municipal officials consider that contracts for solid waste management services should be between one and five pages long. Indeed, many contracts of this length are in existence, used for small tasks when the contractor is very familiar with a given situation and with the officials in the client organisation, and in cases for which disputes are resolved without reference to the contract document. However, a formal contract for solid waste management services is generally a much larger document, often more than 100 pages long.[15] Such a contract is precise in its definitions of words, tasks, responsibilities, risks, allowances for variations and courses of action to be taken to resolve disputes. In some countries municipal officials have no concept of this type of contract, or of the way that a contract can be used

[15] Examples of contracts are included in the Guidance Pack authored by Cointreau-Levine (2000), and can be found on the accompanying CD.

to ensure smooth and continuing partnerships between a local government client and a private enterprise. Because of this low awareness regarding contracts and what contracts consist of, the process of preparing a satisfactory tender document can be expected to be a long one. External assistance and a wide base of local expertise should be involved.

The tender documents should not be finalised until all the issues discussed in Chapter 3 have been considered and the strategy for the involvement of the private sector has been developed and agreed.

A large city took two years to develop its tender documents. Unfortunately there are other cases in which very little time is allowed for the preparation of tender documents. If, as a result, the requirements are described in terms that are too vague and general, the resulting proposals from bidders will be difficult to compare, because each bidder perceives the tasks – and the opportunities for reducing expenditure in performing the tasks – in different ways. This can result in the need to rewrite the tender documents and to tender once more – entailing more work and longer delays than if the tender documents are written well the first time. Similarly, the contract that is based on hastily written tender documents may prove to be inadequate as a means for defining tasks and resolving disputes. Vague contracts will lead to many disputes, and many disputes result in additional expense, disrupted services, and bad relationships between the public (the beneficiaries of the service), the client and the contractor. Contracts that include many risks and uncertainties for the contractor result in higher bid prices.

Under such time pressure, a tender document may be written in a hurry, or another tender document may be copied. There are similar consequences when the expertise in writing such documents is not made available. Box 5.1 illustrates what can happen. In such situations the bidders make different assumptions about what services and facilities to provide, and so it becomes very difficult to compare the proposals of the various bidders.

Tender documents should be written in a way that facilitates the comparison of the resulting bids. For example, if the frequency of street sweeping is not specified, the variations in the bid prices will not reflect only value for money, but also the choice of sweeping frequency that is made. A bid may be cheaper because it offers an inferior service, not because it is more economical. Requirements may be left vague because the client does not know what is needed and prefers to rely on the expertise of the bidders. In such a case it would be much better to engage an independent consultant to advise on the level and nature of service that is demanded. Writers of tender documents may not specify their requirements because they wish to create scope for negotiation, but in doing this they are making the stage prior to this negotiation – the selection of the preferred bidder – more difficult. A better approach is to specify clearly the requirements for service frequency (so that bids can be compared effectively) and to require the bidders to indicate their unit costs for the services offered (so that negotiation for reduced service levels is possible, if necessary, after the preferred bidder is chosen).

Box 5.1
Hurried tender documents

Tender documents for a large coastal city had been prepared. Other cities wished to invite tenders for waste management services. The documents for the coastal city were copied to the extent that

- the tender document for an inland city included cleaning of the beach (seashore) as one of the required activities, but the nearest seashore was hundreds of kilometres away.
- the tender document for a city that already has a satisfactory disposal site a short distance from the city centre copied the clause that a new landfill should be constructed at a designated site more than 50 km from the centre (a requirement for the coastal city for which the documents were written).

Other cities tried to obtain electronic copies of tender documents, apparently so that they could simply change the names and otherwise reuse these documents as they were.

In another case, rapidly prepared tender documents that were copied from another city asked for mechanical washing of roads that were not even paved. If implemented, the roads would soon become muddy, rutted, eroded or waterlogged.

The tender documents should be prepared in reference to all the issues referred to in Chapter 3, and many other points in addition. Annex A10 of Part III of Cointreau-Levine (2000) is a checklist that suggests other items that should be considered in preparing the tender documents.

The local authority should provide data on the work that is required and the local situation. It is common to think first of technical data (such as waste quantities and composition) before other kinds, but social and financial information is also of great importance in preparing a bid. The necessary data would normally include a wide range of census data and detailed maps, as well as information about waste quantities and specifications.

Tender documents are usually prepared by the client and sold or distributed to interested or prequalified companies. Before this stage, there would be advantages in inviting comments on draft tender documents from potential bidders, especially when the client has little experience in the preparation of such documents. The local authority should not be obliged to incorporate any of the amendments that the private sector might propose, but it is likely that some useful improvements could be made at the suggestion of experienced contractors. It is advantageous to both sides that each has a clear understanding of the tasks that are to be undertaken and the way in which performance will be assessed. However, some potential clients are nervous about showing tender documents to anyone except bidders, perhaps because they are afraid of being accused of corruption or favouring a particular bidder. Full transparency can invalidate accusations of corruption and lead to better tender documents.

The experience and challenges of preparing a tender document provide useful training for the technical, legal and financial experts who will be involved in assessing the bids and working with the private sector. Simply taking a document from elsewhere not only results in a document that is probably unsuited to local conditions, but also denies experts within the organisation the opportunity for developing their skills and knowledge in the field of private sector participation.

5.3 Preparing the bid

5.3.1 Data collection

For all but the simplest services a considerable amount of data is needed to prepare technical proposals for how the service will be provided, and to estimate the price at which the service will be offered. Should the data be provided by the client, or collected individually by each bidder as part of the preparation of the bid?

If the data is to be provided by the future client, there will be several advantages for both parties.

- Bidders need to invest considerable effort and expense in the preparation of bids for all but the simplest contracts, and if they do not need to invest resources into data collection, their costs are reduced. This will encourage more bidders to participate.
- Tender writers may have better access to local data, because of their links to government offices and (in the case of international tendering) their more extensive local knowledge.
- If all the bidders are basing their bids on the same data, it will be easier to compare the various bids.

However, there are also some drawbacks in providing data to the bidders.

- The future client may be concerned that he will be held liable for any inaccuracies in the data that he provides, and that the future contractor will demand extra payments because of inaccuracies in the data. For this reason the tender documents may say that the tender writer does not guarantee the accuracy of the information that is provided, and that bidders use it at their own risk, and are invited to confirm its accuracy by means of their own investigations.
- The available data may be inaccurate. Collecting reliable social, financial and operational statistics is often a long and complex process, and if hurried, may furnish unreliable figures. It is always advisable to provide information about how data have been collected – rather than just providing the data in isolation – so that the user can assess the likely accuracy, perhaps discussing the method that was used with the person who collected the information. This issue of reliability will be discussed further with respect to particular types of data.

Some organisations appear to be very reluctant to release information, perhaps because of the belief that “knowledge is power”, but this attitude leads to extra costs for the bidders, and these costs are later passed on to the client.

In some cases local government waste management agencies have very little reliable data, and so private sector service providers should be required to collect and provide data to the client agency to fill in the data gaps for the benefit of those tendering for the next contract. This is one reason for starting with a shorter contract (Section 3.4.6). Contractors should be required to submit monthly reports that give information on tonnages collected, treated and disposed, unusual problems, numbers of containers damaged or stolen, complaints, leachate generation and other information that would help in the preparation of bids at the end of the current contract.

Some may argue that the preparation of a bid is like an examination, and that it should be used to test whether a bidder is aware of all the issues that should be taken into account. Whilst there is an element of truth in this idea, it may tend to favour small, local companies with good local knowledge, but which may not be able to deliver the required service for other reasons. It may be more helpful to review carefully the experience of each bidder than to see the tendering process as an examination. It is better to give the bidders as much information as possible so that their bids are of the highest possible quality and as comprehensive as possible. (This may be contrary to the instincts of university professors who are fond of setting exams.)

It appears that bidders often submit bids without a good knowledge of the service that is required and of the local situation. There is often a lack of accurate information about types of housing, the population of different districts, waste quantities and the attitudes and degree of awareness of the residents. Even overall census data may be out of date, and different extrapolations may be used for different purposes. In one large city the best source of information was the records of the electricity distribution company, which regularly sent meter readers to all parts of the city and was concerned to have up-to-date records to maximise its revenue. However, in many cases – especially in informal settlements – the information from electricity supply agencies is not accurate because of illegal connections which tap unmetered electricity.

a) Socio-cultural aspects

The impact of cultural aspects must not be underestimated - not only regarding residents, but also in connection with government organisations and private companies. The political background can be crucial, because the move away from socialism or a centralised dictatorship may proceed very slowly in some quarters. In such situations, government ministries and public authorities may be some of the most conservative elements because of their isolation from the influence of commercial trends and because of the culture of the civil service, especially in terms of bureaucratic processes and delays, and the exercise of arbitrary power by the most senior officials coupled with very little delegation of decision-making. Dealing with middle-ranking and even relatively senior officials can be a waste of time because they may be overruled – with no explanation – by the head of the organisation. It is also important for a bidder to ascertain the prevailing attitude to contracts and contractors – whether contract conditions and obligations are regarded as binding (see Chapter 6) – and to what extent a partnership relationship (Section 3.4.2) can be expected.

It may also be helpful to know the local history of solid waste management – including previous attempts at involving the private sector, the development of informal sector activities, and the successes and failures of the previous waste management system. It is also useful to understand the commitment of local decision-makers towards private sector participation - whether it is their own choice or a national policy that they are obliged to implement. This information, though perhaps difficult to obtain, will provide a useful understanding of the working context.

In cities where the residents are accustomed to a daily collection service, less frequent collection can provoke a wave of protest. Another cause of public hostility may be the use of street bins in areas where the residents are accustomed to a door-to-door collection. Not only might the residents be unhappy with the reduced service level, but the lack of house-to-house collection may provide an opportunity for informal sector waste collectors to short-cut the formal system and collect the waste, and a fee, from householders, in return for the familiar door-to-door service. The householders may object to paying twice for the waste collection

service and be unwilling to pay the official waste management fee, since this service is more distant to them and seems less necessary. (These possible difficulties underline the importance of an effective public information campaign to inform residents about changes and about the need for paying for a new service that causes less pollution.)

The presence of waste on the streets (in communal storage bins) creates an opportunity for waste recycling workers (scavengers) to sort through the waste, and they may leave a mess behind them. There can also be another problem in leaving containers on the streets – the containers may be abused, moved or stolen, and their contents may be set alight (causing corrosion of steel containers and destroying plastic containers). Containers – whether plastic or steel - may be taken for recycling.

The issue of waste collection frequency is also important here – if residents are accustomed to a daily service, they may not be willing to keep their waste in their houses if a less frequent service is offered, or if there is no collection on the weekly rest day. The timing of collection and the point of collection may also be important. A company which has international experience but lacks local knowledge may make some expensive mistakes by providing a service that costs less but does not meet the residents' demands.

In addition, there may be informal arrangements for collecting waste or allocating working areas among sanitation labourers, and any attempt to impose a new system may meet with opposition and conflict. Examples include attempts to impose a new collection and disposal system where there is already an informal collection and recycling system, and the transferring of sweepers or waste collectors from areas to which they have a special attachment, either because of informal payments or as a result of seniority. If these labourers have particular relationships with the local residents (for example, supplementing their income by doing additional work such as sweeping yards or stairs), or value the waste for recycling, or receive gifts of cash, food or recyclable items from the residents, they may not be willing to move to another area or change their way of working, and so be in conflict with those who want to change the arrangements (Mihsill et al., 1997).

In some societies waste collection is an occupation which is regarded as unacceptable to all but one social grouping, so sensitivity to cultural factors is needed when recruiting labourers. If the members of this social group see the incoming contractor as a rival to their own informal arrangements, they may not be willing to work for – or with – the contractor. If this social group is opposed to action that a contractor proposes to take, it may be very difficult to recruit labourers from other social groups. In some cases it has been necessary to bring labourers from towns and villages at some distance and to provide accommodation for them; they will also need considerable training and motivation if they are not accustomed to working regular hours.

Many large cities in middle- and low-income countries have highly developed recycling sectors, which provide a livelihood for tens of thousands, as well as reducing waste quantities for disposal. If the collection system proposed by the company in its proposal – or by the client in the tender documents – is likely to deny access to the waste for these informal sector recyclers, there may be conflicts and hostility between recyclers and collectors. It is important to meet with representatives of the informal sector (heads of co-operatives or associations, and community leaders) to understand their points of view and to develop compromise solutions.

Some social and cultural factors may be obvious to curious outsiders, but others can be subtle or hidden and only become apparent after some time. Too often the time allowed for preparing bids is too short to become satisfactorily acquainted with local customs, beliefs and expectations. Local experience and inputs from social scientists are important in reducing the number of unpleasant surprises that the contractor receives soon after starting work.

b) Financial information

Each bidder is required to estimate the amount that he wants to be paid to cover the

full costs of providing a service, and generate the profit that is the reason for doing the work and that will provide a reserve for emergencies. There are also other payments that must be made, such as taxes, duties and other charges. In one case a surcharge was levied to cover the social security costs of the workforce. (This charge was basically designed for temporary workers in the construction industry.) The bidder was not aware of it before submitting his bid, and was shocked to learn that he was required to pay nearly 12% of his monthly fee for this purpose. He was able to negotiate this fee down to a little over 5%. The lowest possible rate was less than 2%. Even if he had known about this charge when preparing his bid, he might not have known how much he would be required to pay. Such negotiations should be done by the future client and presented in the tender document, otherwise the well-informed bidder must still allow for the maximum value in his bid price, and so his bid price may be higher than it needs to be. Similarly, requirements regarding the payment of customs duties should be agreed before bids are invited, so that bidders can make a realistic allowance, and long negotiations with customs authorities do not delay the start of the contract. There may also be other taxes and fees that the contractor will be required to pay. If bidders are informed about these charges and their magnitudes, they will be able to produce proposals that have a lower bid price and are more easily compared with each other.

If the contractor will be required to use – or is offered the use of – vehicles and labourers who have been used by the municipal service, the full costs of each must be known. The bidders will also need to know the type, condition, age and size of all vehicles so that they can estimate the availability and productivity of each.

Employment legislation, affecting minimum wage levels, social security payments, sick leave requirements and dismissal procedures, should be known because of its impact on labour costs.

c) Technical and operational information

When thinking of data collection in solid waste management, many people immediately think of household generation studies and analysis of waste to determine its composition. Before beginning on investigations to determine either of these, the following points should be considered:

- In some situations domestic waste is less than half of the total waste, so consideration should be given to all sources, not just households. It is often better to weigh the waste that comes to the disposal site than to estimate quantities based on household level studies, provided that an allowance is made for uncollected waste.
- Waste quantities vary with season, particularly according to the growth of vegetation, the consumption of fresh fruit and in the case of food processing industries. Measurements made at one time of the year may not tell the whole story.
- Composition studies are not always necessary. When they are carried out, they should be designed for the specific purpose for which they are to be used, in terms of both the method of sampling and the selection of categories. If incineration is being considered, composition (including moisture content) at every season of the year must be known reliably. Recycling generally needs very detailed studies. Composting depends more on a supply of reasonably pure biodegradable waste than on the proportion of waste that is biodegradable. For designing collection systems, the density is more important than the composition, and much easier to measure reliably.

Another issue is the selection of the most appropriate approach. An international company may wish to use methods and machines that it has used effectively in other countries where conditions are very different, and this approach may be expensive and unsuited to some local conditions. The technical aspects that need to be considered include:

- the need to consider the density of the waste when selecting the design and type of container and lifting mechanism, and the selection and size of truck body,

- restrictions on the size and weight of collection vehicles imposed by the width and construction of urban streets, and
- the suitability of road sweeping machines in the light of road surfaces, traffic congestion and labour costs.

These factors seem to be overlooked surprisingly often, but there are also less obvious, non-technical considerations that can have a major impact on the success of a contractor.

A small company which is entering the market and which does not have the finances to involve and implement technical advice, may copy inefficient methods that have been used previously, and use equipment that is readily available on the market but unsuited to waste collection. Methods must be tailor-made to suit local conditions.

5.3.2 Clarifications and amendments to tenders

A meeting is usually arranged to allow bidders to all come together to ask the client to clarify any aspects of the tender documents that are not clear. This should be done in a very transparent and open way, and clarifications and amendments should be provided in writing to all bidders so that they have enough time to respond.

There are cases in which the tendering process has been aborted because the implementing agency has made changes during the middle of the bid process, rendering the project no longer feasible. This again shows the importance of the preparation phase, and the need to have tender documents that do not require significant changes when they are exposed to the scrutiny of experienced contractors.

5.3.3 Bid bond

In many cases the bid should be accompanied by a cheque or bank guarantee that is kept by the client if the successful bidder does not continue with the process of contracting. The purpose of this bid bond is to encourage all bidders to be serious and ready to commit themselves to providing the required service. All bid bonds should be returned when the contract is signed. If, after winning the contract, an enterprise decides that it does not wish to enter into a contract, this bid bond is forfeit.

This should not be used to force an enterprise to accept a contract that is not based on the tender documents (including any formally accepted amendments) and the winning bid.

At the signing of the contract the successful bidder is required to submit a performance bond, as discussed in Section 6.6. It is important that the sums involved should be in proportion to the contract price and that they should not exclude smaller or newer enterprises from bidding for smaller contracts for which they could provide a satisfactory service.

5.4 Submission of bids

The preparation of a bid for a complex contract involves a considerable amount of work, for which any well-managed firm allocates time and plans inputs. The work is organised according to the objective of having the proposal ready by the advertised deadline. This preparation work may involve bringing in experts from other branches of the firm, or from consultants, all of which needs to be scheduled. Companies that are able to organise their resources in an effective way are able to produce their proposal in time for the announced date for submission.

Unfortunately there is a tendency for bidders to ask, at the last minute, for an extension of the deadline for submission of bids. Too often, these requests are granted. In one case – not untypical – an extension of 46 days was granted when the initial preparation period that was announced was 49 days – almost doubling the time allowed for preparation of proposals. Worse than this, the extension was announced only one day before the deadline. In that particular situation, extensions would not be granted at the request of only one bidder, but requests coming from several bidders were likely to be granted. This practice has several negative effects:

- It undermines the bidders' confidence in the client, giving the impression that the client does not adhere to statements and standards, and can be influenced by pressure. This additional uncertainty increases the uncertainty in preparing proposals, replacing planning and calculation by guesswork.
- It favours enterprises that do not plan their work effectively and do not involve external expertise. When poorly organized enterprises ask for, and are granted, an extension, they may gain an advantage over enterprises that

have planned and budgeted their preparation work and may not be in a position to involve experts for additional time at short notice. The quality of most proposals can probably be improved if more time is devoted to them, so firms that can dedicate more time to their proposals can benefit from last-minute extensions.

- It also encourages bidders to form links so that they can jointly request an extension to the deadline. The bidders that collaborate in this way put other bidders at a disadvantage, and co-operation in this way is a significant step towards collusion and away from free and fair competition – a level playing field. Competition between independent bidders is one of the essential prerequisites for successful private sector participation.

One condition for which an extension of the tendering period can be justified is when fundamental questions are raised by one or more bidders, and the resulting decision by the client has a major impact on the services to be provided, requiring, therefore, significant modifications to the proposals. In such a case the extension should be announced well in advance of the original submission date.

There are cases where bids are received, but there seems to be no intention of choosing the best bid and moving ahead with the proposed activity or project. Case Study A provides some examples. This results in the wastage of a large amount of work by the bidders and reduces the credibility of the organisation that invited the bids. Such cases might arise if central government is keen to promote the private sector, but local government is not convinced or does not have the financial resources to engage a contractor.

The requirements and conditions for the submission of bids for services are generally similar to those for the more conventional construction contracts, and will not be discussed here.

5.5 Selection of the contractor

Even if the tender documents are well written, the evaluation of bids requires a good understanding of solid waste management and of contract management. Evaluation criteria must be prepared and each bid must be assessed in a fair and transparent way. The selection of the contractor is a very important decision because of the cost involved and the long duration of many contracts. Whilst the evaluation of proposals can be done only by experts, the process should be observed by independent officials and representatives of the community, so that there is general acceptance that the decision was based on merit and price, not on corruption. Local regulations on the selection process differ from place to place; where regulations allow there is an advantage in negotiating with the firms that submitted the two best bids, provided that the prices are realistic and close.

5.6 General comments

Sometimes clients ask for changes to the arrangements in the tender documents just before the contract is signed. This is bad practice and can cause delays in the signing of the contract, while further negotiation takes place, or unforeseen financial problems for the contractor who signs without taking further consideration. An example of such a situation is given in Box 5.2.

Box 5.2
Last-minute change of location of landfill site

There was a case of a client who changed the location of a landfill site just before the signing of a contract. Such a change could involve considerable extra expense, not only in the preparation of the new site, but also in extra transport costs if the site is further than the site mentioned in the tender documents, or access to it is more difficult. Last-minute changes of this type cause delays in the start of contracts (with potential negative reactions from the public) and put the contractor under pressure.

Managers of solid waste management enterprises in one country identified the following issues as causes of the most problems in the tendering process:

- short time allowed for the preparation of bids (sometimes only two weeks),
- lack of consistent information,
- inadequate terms of reference,
- excessive demands or lack of technical requirements, and
- lack of transparency.

The coming chapter goes to the next step – the preparation of the contract.

6. Contracts

A contract, like a human being, stands on two legs. One leg is the precise definition of the work that is to be done and the action to be taken in the event of poor performance. The other leg is the attitude of both parties and of the judiciary towards the contract – it should be regarded as binding on both sides, in terms of obligations as well as rights.

This chapter discusses the way in which contracts are used and suggests ways in which contracts can help to avoid some of the problems encountered in the case studies.

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6.1 The role of the contract

Attitudes to contracts vary. There are different perceptions about the role of the contract. Some regard a contract as an infallible guide that defines what the contractor and client must do, and the essential reference point for deciding any dispute. Others consider the contract to have much less significance, and rely much more on power, control of finances, and their personal connections to define what is done and how the relationship between the parties works. When the two parties to a contract have very different views on the role of the contract and each party assumes that the other has the same understanding as itself, difficulties and conflicts can be expected. For example, it has been said that in China it is usual to sign a contract first and then discuss and negotiate the terms later. Box 6.1 offers two other examples. In other countries a contract is seen as a binding agreement which determines liabilities in a court of law, so all negotiation must be completed before the contract is signed. International companies moving into a country where they have not worked before are advised to check on attitudes to contracts and to determine if they should regard the contract as a legal commitment or a vague indication of intent. Serious problems can arise when one party regards the contract as a binding agreement and the other has a more casual approach. Though a contract may state that no change is valid without the written agreement of both parties, there is often the misconception that the client can make unilateral changes to it. There are also cases where one party does not understand parts of the contract (particularly the technical

and performance requirements) or does not even attempt to read all of it.

Sometimes the problem is that the courts are not able or prepared to challenge senior government administrators or powerful companies, and in such cases the law provides no backup against abuse of the contract. The ultimate test of the attitude towards contracts is whether the courts are ready to order the administration of a large city to pay damages to a contractor because the terms of the contract have not been honoured.

Box 6.1
Attitudes to contracts

One example of the inadequate authority of the courts took place in West Africa some years ago. A major international financing institution invested heavily in preparing for a large-scale involvement of the private sector. In one city it all started well – the contractor gradually initiated the service and improved efficiency so that he started to make a profit. However, when the governor saw that the contractor was reaping the rewards from all his previous efforts he decided to cancel the contract and give the work to a relative. Effort and investment were wasted as the service deteriorated.

It should not be assumed that officials in every country regard a contract as binding. There are wide international variations in the importance attached to contracts and the role that contracts play. An illustration of this was provided by a middle-ranking government official in a middle-income African country who was asked why he was doing nothing of what he was required to do according to the relevant contract. He replied that the contract was in the drawer of his superior, so that even if the signature cried out, no-one would be able to hear it. Therefore it was of no relevance.

6.2 Preparation of contracts

Contracts are usually very similar to the part of the tender documents that refers to the duties of both sides. There may be considerable negotiation to reduce the price (by reducing the scope or coverage) and changes and additions to the conditions in the tender documents, at the request of either side. One contractor complained that contract negotiations took seven months, and that several times an issue had been finally agreed upon in a meeting, but the decision of the meeting was later ignored in the preparation of the contract.

This chapter does not attempt to provide all the information that is needed to prepare a contract. Much can be learned from the study of contracts that have been successfully operated for some years and that have been modified according to experience, from contracts that are used in other sectors, such as construction (provided that careful account is taken of the factors that require differences in approach, according to the nature of the work to be done and the time and resources needed) and from literature, such as Cointreau-Levine (2000), which is available on the CD. Appropriate legal expertise and a practical knowledge of the relevant operations are both essential.

Box 6.2
Examples of short contracts

The contract conditions for contracting vehicle and driver for collecting waste in Mumbai (India) in the period 1994-5 were only five pages long. These contracts had been in operation for some years and seemed to be working effectively, even though some of the requirements were ignored. The contracts defined penalties and action to be taken when contractors failed to meet some of the required conditions. However contracts of this length would not be adequate for more complex tasks. (Pawar et al. 1997) The contract conditions for similar work in Rajkot (also in India) were only two pages long, and bids were submitted on only one piece of paper (Coffey et al. 1997). Municipal authorities that are accustomed to using contract documents of this size might not readily understand the need for documents that are 30 to 200 pages long – the size of the contracts usually found in industrialised countries.

6.3 Shortcomings in contracts

Many contracts are much too short and their vagueness results in a great deal of misunderstanding and conflict. Both sides can feel insecure and uncertain; either side tries to wield power and influence that are not related to the agreement and other legal factors. Either side may try to use connections to influential officials and the client may withhold payment or impose unjustified penalties. Vague contracts open the door to dispute and increased costs.

6.3.1 Brevity

Some would argue that contracts are often too long. This may be the case if it is possible to refer to standard conditions of contract and general legal procedures and requirements. If the attitude to the contracting process is casual, and it is common for one party not to even read the document, one could argue that contracts could be very short. Even if one party has signed without reading the contract, in many countries and cultures the document would still be considered legally binding. If the contract is regarded as the guide and map for the relationship between client and contractor, it should be precise, comprehensive and practical, and therefore it cannot, in most cases, be short.

There is no benefit in length for its own sake. The heads of small enterprises may be almost illiterate, and so be unable to read a contract, and others may not have the patience or motivation to read a contract before signing it. However, this is not a reason for writing short and inadequate contracts; rather it suggests that ways should be found to involve legal advisors to guide the heads of enterprises and authorities.

6.3.2 Excessive detail

Contract documents may be regarded as too long and too detailed for three reasons:

- If a person is accustomed to very brief documents, any contract that is much longer may be regarded as excessive by comparison.
- If it is known that contractors do not read their contracts (perhaps because of poor literacy or language difficulties), if decisions are made without reference to contracts, and if judges in the law courts regard contracts as having no value, it can be argued that nothing is gained by writing a long and carefully constructed contract document.
- The contract may contain details and requirements that can be left to the responsibility of the contractor. The example of preventive maintenance is discussed briefly in Box 6.3. If the failure to perform a task results in an additional cost to the contractor, it may be better to leave the responsibility for performing the task to the contractor, rather than adding unnecessary requirements to the contract and additional burdens to the monitoring inspectors.

Box 6.3
Who should worry about preventive maintenance?

A contract may specify that preventive maintenance should be performed regularly on all vehicles and fixed machinery, and penalties may be specified to ensure that regular preventive maintenance tasks are undertaken to ensure that the vehicles and machinery are maintained in good condition. This may be justified if the vehicles are owned by the client and will revert to the client at the end of the contract, with no financial penalties if they are returned in poor condition, but such an arrangement for return of resources cannot be recommended. If the vehicles are the responsibility of the contractor, so that he will incur extra costs if the vehicles are in bad condition – for example because he needs to hire extra vehicles to replace those that are inoperative, or because he pays additional penalties if the service is late or incomplete – then it is clearly in the contractor's interest to maintain his equipment in good condition. Furthermore, it is easier to subject vehicles to annual (or more frequent) roadworthiness checks than to monitor that all necessary maintenance tasks are carried out to a satisfactory standard whenever required. (Case Study M refers to this issue.)

6.3.3 Vagueness – lack of clarity

If a contract does not describe the work clearly, there may be frequent disputes and arguments about what work should be done under the contract. Box 6.4 gives some examples of vague clauses in contracts. The duties of the client should also be clearly defined, as has already been discussed in Section 3.6.

Disputes may arise if the definition of waste, or the right of ownership of the waste, is not defined. One example of such a dispute is the case in which informal sector recycling workers collect "waste" materials that have been segregated from other waste before being passed to the contractor. If the waste collection contractor is granted ownership of materials when they are put into a container provided by

the contractor, then at-source segregated recyclables that are not put into such a container can be legally collected by another party.

Box 6.4
Examples of vagueness

- ". . . sweeping teams should *immediately* remove the carcases of dead animals that they find in the streets." Does this mean within one minute or one day? It would be better to define a time interval and the start of that time interval (e.g. within four hours of the carcase being reported).
- "If collection tools and materials are not cleaned, a fine of US$ 100 will be applied for each violation." This would allow a penalty to be imposed for every broom and shovel that was not clean, even while it is being used. It would be better to specify what items of equipment (handcarts, collection vehicles, street containers) and the frequency at which they should be washed (e.g. daily, weekly).
- "The leachate shall be treated." It would be better to specify the standard to which the leachate should be treated and how the quality of the effluent should be tested. "Treatment" could be interpreted as five minutes' retention in a "sedimentation basin" – a process that would cost very little and cause virtually no improvement in the quality of this wastewater.
- " . . . if the gases generated from landfilling are not controlled and environmentally treated . . . " - which gases (carbon dioxide is also generated by landfilling), how should these gases be controlled and treated? Passing them through a thin layer of compost could be claimed to be treatment, but it might have little effect on their composition.

Contracts should be clear about measures that will be used to monitor the performance of the contractor. Procedures for determining, imposing and disputing penalties should all be included in the contract. This point is emphasised in Case Study M.

Contracts that aim to encourage composting should be written in a precise and careful way, since the costs of composting are often more than the costs of landfilling.

Box 6.5
Sharing the burden of risk (taken from Case Study A)

A major point of contention between the public and the private sector in private sector participation is the issue of risk. Project risks must be allocated properly between the parties and be minimized. Risks that are normally shouldered by the private sector are related to project completion, quality, performance and cost guarantees. Additional risks to be considered include the country's economic and political stability, the soundness of its legal environment, and the fairness and timeliness of its judicial system. Private proponents must allocate additional sums to cover country and project risks in proportion to the assessed level of risk. The higher the perceived level of risk, the higher the contract price.

There are, however, factors that cannot be predetermined, such as increases in the costs of land, rights of way and squatter relocation, foreign exchange (for both equity and loan components), costs related to changes in state policies and laws, and costs related to labour strikes based on unreasonable demands. Since the costs related to such factors cannot be calculated before the actual event takes place, the public sector must shoulder the increased costs in such cases.

The Foreign Currency Exchange Risk In many countries where the development of the environmental sector is at an early stage, there are not many qualified local private sector companies that can undertake the design, construction and operation of large or complex facilities, or provide services on a large scale. In such cases local companies are obliged to partner with foreign operators to qualify for the project. Foreign equity and foreign financing are tapped for the project. Adjustments for movement in foreign exchange rates are very important in such partnerships, and if insufficient allowance for changes is permitted by national policy or incorporated into the contract, foreign companies may not be interested in participating or may raise the price considerably to accommodate such risks.

6.3.4 Allocation of risks

Uncertainties and risks in a contract cause higher bid prices to cover the risks, or – if they are not sufficiently allowed for in the contract price – may result in a contractor trying to save money to cover unexpected obligations by reducing the quality or coverage of the service.

Risks can be reduced by defining the work precisely, and sharing risks between client and contractor (Box 6.5).

In addition to social unrest and other disruptive situations that can delay the implementation of contracts, there are some risks related to public opposition which may impede the execution of a contract. This may take the form of unwillingness to pay newly introduced fees for waste management, public opposition to the selection of a site for a waste treatment or disposal facility, or a demonstration to prevent access to a waste disposal site. It is reasonable for the client to bear such risks. It is very unreasonable for the contractor to be penalised because of delays caused by such risks.

a) Responsibility for delays

Delays in contract implementation can be caused by many factors – some being the responsibility of the contractor, some of the client, and others caused by third parties. It is wise to decide who is to be held responsible for the various reasons for delays and to include these considerations in the contract. A contractor may be late in starting collection operations because he needs more time to employ and train the workforce and plan the operations, in which case it is reasonable to penalise the contractor. However, if the delay is because of unforeseeable delays in customs procedures for the release of vehicles or equipment, it may be unfair to penalise the contractor. Unfortunately there are cases where contractors are penalised when they are not at fault – some are described in Case Study J.

There are many factors that can cause delays in the start of treatment and disposal operations. Some, such as delays in making land available or delays in obtaining permission from environmental authorities, are generally the responsibility of the client, and the contractor should not be penalised for these, but rather, in many cases, compensated for loss of income or additional expenditure.

b) Preparing the contract

The local government body that is preparing the contract may think that it is being strong, free of the taint of corruption, and protecting the interests of its citizens, by writing a contract that loads most of the risks onto the contractor. Such an opinion would be misguided. By placing an unreasonably high burden of risks on the contractor, the client is

- either forcing up the contract price that will be paid whether the risks materialise or not (if the contractor is experienced and so concerned to take reasonable care to avoid failure)
- or greatly increasing the probability that the contractor will default, either by reducing the service or even failing completely to continue as service provider. This may happen if the contractor does not increase his price to cover the risks because he is willing to gamble that the risks will not at any time result in extra expenditure, or that he can renegotiate the contract when he needs more money to pay for risks that he has accepted as his own responsibility.

So the team that is writing the contract on behalf of a local government client is not helping anyone by loading all the risks onto the private sector partner. Unfortunately, it may be difficult to convey this message to the responsible local government officials. Effective private sector participation requires that both sides must bear some risks.

6.4 Accommodating changes

Some changes can be foreseen during a contract period. The increase in the number of people to be served can be extrapolated from census figures. The phased introduction of new regulations allows planning of new techniques. But many changes cannot be forecast, particularly cost inflation, increases in the per capita generation rate, and changes in transfer and disposal arrangements. For example, the contractor in a large city built a sanitary landfill at the site designated by the local authorities. A short time later, the contractor was informed that

this site would be closed because of objections from influential local residents. The extra and unforeseen expenditures were not only the construction of a new site and the closure of the old one, but also the extra costs necessitated by the longer distance to the new disposal site – extra fuel costs, the purchase of new vehicles (since each truck would be able to do fewer trips each day) and extra wages costs for the drivers.

Inflation and population growth can be very significant over the duration of a long contract (10 to 20 years), and so contracts should include mechanisms to compensate contractors for these changes. It may be possible to increase payments to the contractor according to an inflation index or a cost of living index, or link part of the fee to a foreign currency. One contractor tried to get a clause inserted into the contract to cover unforeseen financial circumstances, but, in a contract lasting 15 years, devaluation and inflation beyond a fixed rate were regarded as totally the responsibility of the contractor. This is a high risk which should be shared by both parties, rather than loaded onto the contractor alone. If such an arrangement were made clear at the tendering stage, the bidders would need to increase their prices to allow for it. Imposing this risk burden at the contract negotiation stage is bad practice and may damage the relationship and good faith between contractor and client.

Official population figures could also be used as a basis for calculating increases in payments. Another option is to weigh the waste that is collected once a year and use these figures to calculate increased payments to the contractor (but one should not forget the drawbacks of weighing mentioned in Section 3.6.2). A contract may allow an increase in payment of up to a certain percentage (in one case 5%), and for larger increases renegotiation is necessary.

It is normal for a contractor to be paid for extra work outside the scope of the contract. The extra payment is normally computed using unit rates that are specified in the contract. If the tender documents do not require bidders to submit unit prices, this may be a sign that the client expects the contractor to do extra work for no extra payment.

6.5 Transfer arrangements

6.5.1 Transfer of staff

Public sector solid waste management workers often expect – or are promised – that they will be able to continue in their jobs until they retire. This often results in municipal workforces being old and lacking in motivation, so that their productivities are very low. For this reason, a contractor may not want to employ them. If a new contractor takes over waste management, the municipality may not be able to find jobs for all its former solid waste management workers, so arrangements are made for the contractor to take them on. Often the contractor expects more work (compared to local government) and does not provide pensions and allow sick leave, so labourers are not happy to be transferred and would prefer to stay with the municipality. If unsatisfactory transferred workers cannot be dismissed by the contractor for poor performance, the overall efficiency of his operations will be adversely affected, and if they are dismissed (either for poor performance or at the end of the contract), they have lost the job security that they had expected. This is clearly a difficult situation requiring careful planning and negotiation. If municipal labourers must be dismissed, it may be necessary to pay them severance pay, and this requirement could adversely affect the financial feasibility of private sector involvement.

A study of private sector involvement in a number of towns found that in all except one, the involvement of labourers who had previously worked for the municipality was seen as a major hindrance to successful implementation of the contracts. The town where the private sector had been most successful was the exception because no labourers had been transferred from the municipality to the enterprise that was working there. In a regional scheme in another country, a change of service provider was agreed subject to the understanding that labourers and drivers would be seconded from the municipal workforces, but could be returned to the municipalities if they proved unsuitable. One by one drivers and labourers were returned to the municipalities because their working practices were incompatible with the new organisation (Case Study D).

The formation of a company as a result of a management buy-out (senior municipal officials raising loans to buy public assets and form a

company which they own in order to exploit these assets), or the formation of a commercialised utility, can result in all managers and technical staff with knowledge of solid waste management leaving the public agency to work with the service provider, with the consequence that the public agency has no remaining senior staff who are competent to prepare, monitor and manage a contract.

In certain situations the responsible administration may wish to ensure that there are continuing income-generating opportunities for informal sector collectors and recyclers who will be displaced by the planned system. Their knowledge of residential areas and their readiness to work with waste, and the humanitarian concern that they are not forced into poverty may all motivate the administration to require the inclusion of a certain number of such people in the workforce of the future contractor. If this condition is to be included in the contract, it will be necessary to also include requirements regarding the wearing of uniforms, informal recycling activities undertaken during working hours, the role of informal sector leaders, and procedures for disciplining and dismissing unsatisfactory labourers. Informal sector workers may so value the feeling of being their own boss that they are reluctant to follow orders (Case Study R), and the same case study gives examples of informal waste collectors and recyclers who earn several times the minimum wage. Case Study S describes experiences of integrating informal sector labourers into a contractor's operations.

6.5.2 Transfer of facilities and equipment

There are also challenges associated with the transfer of vehicles and equipment to the contractor. One of the reasons for poor performance by the local government workforce may have been that the vehicles were not suited for the work, or inefficient or unreliable because of age or poor maintenance. If this is the case, the contractor may not want to take over this equipment. However, if the municipality no longer needs it, the contractor may be obliged to take it on, either by purchasing or by leasing it.

Municipal vehicle depots are often congested with abandoned vehicles which cannot be repaired but which have not been disposed of because of the complexity of the bureaucratic procedures for selling municipal property. Transfer arrangements for vehicle workshops should include the removal of vehicle wrecks and other junk so that the vehicle depots are not obstructed.

Referring to the leasing of vehicles and facilities, contracts often stipulate that they should be returned to the client in the same condition as when they were initially leased to the contractor. This is feasible for buildings, but not for mechanical equipment, which must be expected to suffer considerable wear and tear over a period of five or more years. Some arrangement for buying back vehicles for a price determined by an independent inspector may be more appropriate. There have been cases in which private sector operators have allowed publicly-owned solid waste treatment plants to deteriorate drastically because there was no mechanism to penalise such neglect, and this allowed the operator to save expenditure on maintenance and the purchase of spare parts. One composting plant, after operation by one contractor for six months, needed extensive repairs and rehabilitation. Elsewhere, a contractor is believed to have supplemented his income by selling spare parts or parts of machines or to have neglected the security of these machines so that others could steal valuable parts. In another case, a local government garage neglected the maintenance of its vehicles because it knew that they would soon be taken over by an inter-municipal utility. These examples show the need for financial incentives that encourage maintenance of assets by both parties, and careful writing of contracts so that neglect or vandalism of machinery is penalised.

6.6 Performance bonds

It is normal for a contractor to be required to provide a performance bond that can be cashed by the client if the contractor stops working – or works so badly – that another contractor must be brought in to remedy the situation. This bond should be cancelled automatically at the end of the contract. There are cases where this is not done and the client can use the threat of not returning this bond to force the contractor to continue working beyond the period of the contract (as in Case Study O). Alternatively the client may simply retain the bond until being forced to return it.

If part of this bond is taken it should be replenished by the contractor within a specified time.

6.7 Welfare

The contract might include provisions that guarantee labourers basic employment rights, including some form of annual health check-up and immunisations, but consideration should be given as to how this can be verified.

Contractors often prefer to keep most of their labourers as temporary (or casual) workers, with fewer rights than permanent staff. They do this by ensuring that no labourer is employed for the minimum time needed for permanent status.

6.8 Duties of the client

Some clients appear to believe that the contract is only concerned with the duties and responsibilities of the contractor, but in the spirit of partnership, the contract should also define the duties and obligations of the client, and the penalties that may be imposed if the client fails to fulfil his obligations. The obligations on the client typically include at least some of the following:

- Obtaining land, arranging environmental impact assessments and obtaining permission from environmental and other authorities for the use of sites for waste treatment and disposal.
- Defining the status of the contractor in relation to tax and customs concessions, and in relation to social security and other payments.
- Payment of contractors' invoices within a specified period after receiving the invoices. The contract should specify the maximum time within which the invoice of the contractor will be paid. (It may also specify a time limit within which any queries on the invoice shall be raised.) If payment is delayed beyond this period the client should become liable to pay interest to the contractor. Small enterprises, that do not have financial reserves and cannot get a loan from a bank, may be forced into bankruptcy if their payment from the client is delayed by several weeks.
- Guaranteeing the monopoly rights of franchisees, so that no other unauthorized company can provide waste management services in the area where there is an official franchisee. Local authorities should also support franchisees in their work of collecting fees. Unofficial operators who are dumping their waste illegally should be prosecuted by the client.

Box 6.6 gives some examples of clients not fulfilling their obligations.

6.9 Provisions for resolving disputes

Even when there is a good partnership between public and private sectors, there will always be occasional disputes regarding payments, interpretations and performance. It is in the interest of both parties that these disputes are resolved quickly, and do not result in bad client-contractor-community relationships. If disputes cannot be solved internally, it is necessary to appoint a panel of arbitrators to reach a decision, or to take the dispute to court. However, these processes take time.

Delayed access to the courts is sometimes equivalent to no access to the courts. If disputes between partners cannot be resolved quickly, for the time being the contractor effectively has no rights and is at the mercy of the local government client. Delays in access to a court decision may be the result of the general backlog of work in the courts, or the long process of moving up from the junior courts which are afraid to rule against local government to the higher courts which are less intimidated. The cost of this process may also be a consideration. Smaller or weaker companies may not survive financially the long delay before justice is granted. Access to independent arbitration is a common way of arriving at a decision, but the panel of arbitrators should be truly independent and the decision of the panel should be binding on both sides. Furthermore, in some cases the arbitration process is expected to last one year, and it is not cheap.

6.10 Who does public awareness?

Public education has a vital part to play in the improvement of solid waste management, but often insufficient attention is given to it, or the public information campaign does not start soon enough. An example of this is the removing of awareness activities from the tasks to be undertaken by the contractor, in order to reduce the bid price. In this case very little was done by the client to provide the public with information and improve co-operation. Public awareness has been discussed in more detail in Chapter 4.

Box 6.6
Contractual obligations on clients

Some experiences suggest that some clients are not taking their own responsibilities seriously:

- No access to landfill site: A contractor has been refused access to the designated landfill site, although he himself arranged for an environmental impact assessment to be carried out and approved. The client appears to be inventing excuses for delaying access to the site. One explanation is that someone in the client's administration is waiting for a bribe.
- Idle equipment: Another contractor has not been given land for the construction of a composting plant (as promised in the contract) and is refused compensation for being unable to use the composting equipment that he has already purchased.
- Prompt payment: A contract stipulates that payment should be made within 15 days of receiving the invoice, but payment has not so far been made within this time at any time during the 18 months during which the contract has been in operation.
- Control of illegal dumping: A contractor who has a contract for collecting domestic and commercial waste also has the right to contract with industries for cleaning and the collection and disposal of industrial waste. Another contractor (who has individual contracts with a few large-scale generators) had been photographed dumping waste illegally, but the local authorities took no action and did not seem to regard this as important. The lack of environmental awareness of the client and the lack of the political will to prevent illegal dumping of waste are hampering the main contractor's efforts to achieve his goal of getting extra work outside the main contract.
- Protecting contractor's rights: A contractor has a right to charge for waste brought for disposal to his landfill site. Not only was this right ignored by the client, but worse, the local administration gave written permission to some companies to tip at the contractor's landfill but required these companies to pay the fees to themselves (the local government administration) in clear violation of the contract.

6.11 Transparency

Contracts should be made available to the public. Perhaps some administrations realise that their contracts are not well written and so do not want them to be made available to the public. If the decision to make documents available is known from the start, the writers may take more care to produce documents that they are proud of. Many administrations make their contracts available to the public. Some examples of contracts that are freely available can be found in Part V of Cointreau-Levine (2000) on the accompanying CD.

6.12 Other miscellaneous points for inclusion in contracts

Some other points from the case studies for consideration when preparing waste management contracts and other agreements are mentioned in Box 6.7. Other points can be found in Annex A10 of Part III of Cointreau-Levine (2003), on the accompanying CD.

Box 6.7
Some further detailed points for consideration when preparing contracts

The case studies mentioned a range of practical issues which were included in contracts. The following points were among them. Clearly, this does not represent a comprehensive list, but the points listed below may be useful to some readers who are preparing contracts.

Methods

- Sweeping – not sweeping waste into drains, when to use mechanical sweepers, procedure for the contractor to follow in locations where parked cars prevent effective sweeping.
- Storage – who is responsible for cleaning around containers, washing and maintenance of containers (including painting and repair of wheels).
- Collection – measures to minimise the escape of dust during loading, responsibility for cleaning up residues after loading, requirements and enforcement measures for covering of loads, requirements for condition and cleanliness of vehicles, including regular inspections.
- Transfer stations and points – at what time each day they should be free of waste.
- Prevention of sorting through waste, except in authorised locations.

Health and safety

Contracts normally state that the contractor is responsible for conforming with all legislation and regulations concerned with working practices, exposure to health hazards, reporting incidents, provision of sanitary facilities, protective clothing etc. There are also requirements that protective clothing should be worn, and cleaned and replaced at regular intervals. However, there are many instances where overalls and boots are not worn because they are too hot, and gloves are not worn because they are uncomfortable or prevent workers from picking up plastic bags. It follows that requirements should be feasible, acceptable and effective; if not they should not be included.

Working hours

The contract should specify the working hours for service provision, access to the landfill, staffing of the complaints office and staffing of the administrative office. There should also be a means of contacting the contractor outside office hours.

Public relations

Information should be displayed on vehicles and on signboards outside facilities showing the official status of the service provider as the authorised provider of services, and the name and contact phone number of the service provider. Any requirements for colours of containers, vehicles, uniforms, buildings, gates etc. should also be specified.

Employees should not be allowed to ask for tips.

Suspension and termination of contract

If the contract is suspended because of the failure to the contractor, the equipment and workforce of the contractor may be taken over by the municipal authorities who can charge all costs incurred to the contractor.

7. Inception Phase

Mobilisation and the start of the private sector operations should not be seen as the first battle in a long war, but as the first steps in learning to work together, with the realisation that both parties are in the same boat – that a successful partnership benefits both parties.

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7.1 Introduction

When the contract has been signed, the contractor is allowed a period for preparation and mobilisation. This period is one of intense activity, involving recruitment of staff, establishment of offices and facilities, acquiring vehicles and other equipment, data collection, establishing of relationships, developing operational plans and undertaking preliminary public awareness activities. The construction of landfills and treatment plants may extend beyond this stage, especially if environmental impact assessments are still to be conducted and approved. The time allowed for this mobilisation typically ranges from three to six months, but in many cases services cannot realistically be expected to start until nine to twelve months after signing the contract.

During this period the contractor is often required to prepare an operations schedule that defines the timing and deployment of sweepers and collection crews. The contractor should take account of all available experience in the preparation of this schedule and will need to revise it from time to time in the light of experience. It is advisable to get written approval of the initial outline schedule and subsequently on more detailed schedules. The client may be particularly sensitive towards changes in the equipment used or the number of employees. The contractor should provide the resources listed in his tender unless he can show clearly that the changes will lead to improved performance without any reduction in investment. In such negotiations with the client it may be necessary to "trade" increases in one aspect against reductions in another, such as more containers for fewer labourers. Such matters come to the surface after the signing of the contract, resulting from detailed planning and new experience. In this situation the contractor may need to take quick decisions and maintain a flexible approach. Because of the lack of local experience the initial emergency plan should therefore be rather pessimistic or conservative, to allow for unforeseen delays and obstacles.

If possible, it is preferable to start operations in a phased manner, beginning in one district or area and extending to the next after (say) four weeks of operations. Often no penalties are imposed for an initial period, to give time for the contractor's staff to learn about the new working situation. Nevertheless, it is useful for both the contractor and the client's staff if the contractor is informed about the penalties that would be enforced at a later stage, after the "honeymoon" period.

7.2 Acquiring data and maps

The data and maps included in the tender documents are usually rough or preliminary in nature because of the limited time and effort that client and bidder can devote to the tendering stage. Bidders should verify crucial data during their bid preparation. After winning the bid, the contractor must spend more effort in acquiring detailed maps and filling in all necessary information on them. In complex urban situations it is advantageous to use digital maps and database overlays, provided that the necessary expertise and equipment are available. If the

digital maps that are available on the market are not to the level of detail that is needed and much data remains to be collected, entered and checked, the preparation of the maps can be a major task.

The data that are needed for the initial planning of the operations can include

- estimates of numbers of residents and waste quantities, perhaps on a street-by-street basis,
- characteristics of the streets (one-way or two-way), width, surface, congestion,
- locations of markets and major shopping areas, industries, hospitals and sensitive locations,
- planned infrastructure projects, and
- many more features of the area that should be identified and located as accurately as possible.

7.3 Acquiring equipment

It often happens before the introduction of private sector service provision that the equipment has been allowed to deteriorate and has not been replaced, because of the anticipation that a private enterprise will soon take over this responsibility. The contractor may be required to purchase or lease the existing equipment, but usually there are not enough vehicles, or they are in a bad condition because they are old or have not been maintained well, or they are not the type that the contractor wishes to use. Therefore one of the first actions that a successful bidder must take is to acquire more equipment. In some cases the contract may require that only new equipment be introduced. So, in addition to all the other costs of mobilisation, the contractor may be required to invest heavily in vehicles. In many cases it is necessary to import most of the vehicles. Central government may decide to encourage enterprises to participate by reducing the import duty which is levied on vehicles and other types of specialised machinery. However, customs formalities are often not simple (Box 7.1).

If the contractor is to purchase or lease vehicles or machinery from the previous public sector service provider, a long delay may result in a rapid deterioration of this equipment as the public sector operator stops maintenance activities. This reaction to an expected handover to a private sector operator has been observed in connection with collection vehicles, landfill plant and composting machinery, and the deterioration in the serviceability of the equipment can be quite dramatic in such circumstances. It is therefore preferable to assess the condition and value of the machinery as close as possible to the time when it is handed over to the new contractor.

Box 7.1
Delays caused by customs

There was a case of delays of more than six months to the start of waste management contracts because the customs department was unwilling to implement a reduction in import duties which had been promised by the central government. Finally, after many long meetings, the customs department agreed. Such delays further drained the capital resources of the new contractors, attracted "late start" penalties and damaged the reputations of the new initiative and of the contractors.

7.4 Developing facilities

It is generally the responsibility of the client to provide the land for transfer, treatment and disposal operations, and to arrange permission for the sites to be used for the intended purpose. Interim measures, for use before the sites are available, should be provided. The contract should specify arrangements for compensating the contractor or concessionaire if access to the site is delayed resulting in a loss of income for the enterprise. It is totally unjustified – indeed it could be described as outrageous – for a contractor to be penalised for not providing a service (such as sanitary landfilling) when the responsibility is with the client for not providing the necessary site or permissions to use the site, but this has occurred.

It is usually easier for local government than for private enterprises to be able to use plots of land for waste management purposes. Local government may be able to build without a formal building permit, have easy access to water, electricity and drainage connections, and even be able to locate facilities such as kiosks and stores on sidewalks. Municipalities may be able to use sites on a temporary basis with informal permission of the owner or without clarifying ownership if it is not clear. A contractor is likely to enjoy none of these benefits and may not be able to use sites which have been previously used for waste management by local government. A site

that has been used informally may be handed over to the contractor, but soon it becomes clear that the owner does not wish to allow a private company to use it, or wishes to charge a high rent. Requirements for building permission may be imposed. Especially in highly populated areas, renting the ground floor of a building to be used as a depot could be more feasible than taking over an existing depot site that is disputed.

Legalising an informal water or electricity connection may require lengthy negotiations with the respective authority unless the contractor is prepared to pay for accumulated consumption that took place before the site was handed over.

A considerable amount of rehabilitation work is usually needed for old facilities. No records of construction or design drawings may be available. If the contract period is long enough, it could be preferable for the contractor to demolish any existing substandard buildings and rebuild them again to a good engineering standard and in a style that presents a good image for the company. This may be particularly true for vehicle workshops and depots, where there may be a large amount of scrapped vehicles and unusable vehicle parts, a lack of paving, no drainage that allows vehicle washing, inadequate shelter, insufficient facilities for maintenance in a relatively dirt-free environment, and a lack of secure storage for spare parts (Photo 2.1). If land is available, a contractor may prefer to build his own facilities on a new site, but the client may wish that the existing site is rehabilitated as part of the contract.

7.5 Clearing the backlog

If there has been no collection service before the start of the contract, or the service was inadequate, there will be accumulations of waste that need to be cleared. These may be in urban areas – in the streets, on vacant plots and open ground, or in the spaces between buildings, or at dump sites. Much of this work will require front loaders and open tipper trucks, which may play only a minor role in later operations, so it may be necessary to hire these machines. The contract should make provision for this extra work, but because the amount of waste depends on the time taken to implement the contract – which cannot be foreseen, and in one case stretched to three years (Box 7.2) – there should be a mechanism for paying for this operation according to the amount of waste that is to be removed.

Box 7.2
Moving a mountain

A proposed contract required the service provider to be responsible for removing waste from a temporary dumpsite close to an urban area. At the tendering stage the amount of waste that had accumulated there was reasonably small. However, as contract negotiations dragged on, the amount of waste increased relentlessly, and, at the time of writing, four years after submission of tenders, the clearing of this site had become a huge operation and payment for this work was a major issue that was impeding progress in finalising the contract.

7.6 Developments in the public sector

During this inception phase, the local administration should be refining its monitoring work and skills, observing the working of the contractor. As well as providing the opportunity for further and more practical training for monitoring inspectors, this period will also allow development and trial implementation of the reporting systems that collect information from daily monitoring reports.

7.7 Exchange of information and experience

The early stages of the implementation of a new partnership between public and private sectors are normally times of rapid learning – each partner learning about the management style and expectations of the other, and the service provider learning about the physical and social aspects of the area being served. In many cases there are other cities or districts that have recently undergone the same process, or that are going through similar experiences at the same time. There would therefore be great value in sharing experiences and discussing issues, to learn from the experiences of others. Unfortunately this rarely takes place, often because of rivalries or unwillingness to admit to having difficulties. One means of sharing information that might be possible for the local government sector would be for several cities at similar stages to engage the same consultant, so that the consultant could discreetly apply lessons learned in one location to similar situations in other places.

Private companies are generally unwilling to share what they have learned with competing companies, but one case was reported in which this initial reluctance to sharing information was overcome (unfortunately because of the magnitude of the problems they were all facing with their local government partners) so that they began to meet together to compare experiences and discuss strategy.

8. Monitoring and penalties

The goal of monitoring is to ensure a consistent and satisfactory service.

The importance of monitoring is often not realised at the preparation stage. Whilst it is a significant cost and responsibility that remains with the private sector, the monitoring of the service provided by the private sector partner is essential to ensure value for money, environmental protection and good public relations. This chapter suggests how effective monitoring can be ensured.

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8.1 The purpose of monitoring

Although some contractors seek to maintain high standards purely for the sake of their own reputation, in most cases it is necessary to encourage contractors to maintain agreed standards of working by monitoring their performance and penalising shortcomings. This monitoring is one of the functions of the public sector in a partnership with the private sector for which resources must be allocated and management effort dedicated.

A good contract defines precisely the services that the contractor is engaged to provide, and also presents in a clear way which shortcomings shall attract a penalty and how much that penalty should be. The contract should also specify which shortcomings are given time to be rectified (for example 24 hours to empty a missed container) before a penalty is charged, and which actions are to be penalised immediately (such as illegal dumping and infringements of safety regulations).

Monitoring the operations of a private sector service provider involves much more than the supervision of a public sector workforce. When a contractor is involved, the inspectors are concerned about penalties as well as service standards. In places where private subscription arrangements are in place, service standards are maintained because customers do not pay if they are not satisfied with the service they receive. If such a system is replaced by a contractor, the responsibility for ensuring an acceptable standard of service passes to the inspectors of the client.

The beneficiaries can make an important contribution to monitoring, as discussed in Section 4.4. The general public are more likely to report failures of the service if there is a system for reporting complaints which is convenient and has the confidence of residents and business people. Complaints can be cross-checked with the reports of monitoring inspectors to get a more accurate picture of the activities of both inspectors and service providers. The inspectors may also be involved in following up on complaints – checking that the situation has been rectified and reporting back to the person who made the complaint. Personal contact between beneficiaries and inspectors can help to develop a spirit of goodwill, mutual understanding and co-operation.

Experience shows that monitoring is a very important issue. The primary function of monitoring is to encourage good performance, not to look for and punish failures. Monitoring should motivate, not frustrate. Monitoring should be seen more in terms of parental discipline than a baton charge by the riot control police. The aim should be to help the service provider to develop good

working habits and achieve high standards so that it will provide a good service in a sustainable way. However, it appears to some contractors that monitoring inspectors are more concerned to impose penalties rather than to ensure good standards. Unfortunately, too often, monitoring is used as a means of repression – of keeping the contractor weak and at the mercy of the local government client.

The goal of monitoring is to ensure a consistent and satisfactory service.

8.2 What does monitoring involve?

Monitoring normally involves working outside an office, observing what is achieved and the methods used to achieve it. Some monitoring can be done from an office – for example monitoring vehicles entering a disposal site from an office at the gate, or monitoring collection vehicles reporting to a supervisor's office at the beginning and end of a shift – but otherwise it is necessary to be moving around, so consideration needs to be given to the method of transportation, communications, and problems caused by the weather. By training, discipline, incentives and supervision, monitoring inspectors must be encouraged to spend their time outside and following operations, not sitting in an office or teashop.

Monitoring inspectors should be familiar with the contract that they are enforcing and the agreed operating schedules that the contractor is expected to follow.

Difficulties arise when the operations schedule is insufficiently detailed, or when it is not provided at all. In one case there was a delay in delivering the operations schedule and this caused ongoing confusion to the inspectors who were obliged to make daily changes in their monitoring plans (because of the changes of areas and routes taken by the waste collection vehicles). As a result the monitoring was inadequate and the service became inefficient and irregular. The inspectors were not able to impose fines in a fair manner and the residents became unhappy about the service level provided by the contractor, some refusing to pay the fees.

The operations schedule enables the client's staff to check that the services are being provided according to the contract. This is their basis for evaluating the contractor's performance and determining objectively if fines should be imposed or not. When street sweeping is being monitored, it is necessary to know when a street will be swept, so that it is possible to check soon after that the work has been done. If the monitors come several hours after the scheduled sweeping time and the street is dirty, it is possible for the contractor to claim that the street was indeed cleaned as planned but the wind or a crowd of people have later spread litter. The truth of this argument cannot be verified. The same applies for monitoring the solid waste collection from street containers. If the inspectors come several hours after the container should have been emptied and they find it full, again it is possible for the contractor to argue that the container was emptied on schedule but was subsequently refilled. When the contract specifies certain street sweeping and container emptying frequencies, it is important that the local governments are capable of checking the performance.

The operations schedule is essential also for the contractor for internal supervision of the performance of his workforce. The initial operations schedule may require subsequent revisions in the light of experience and increased local knowledge, and so interim schedules can be used for monitoring in the early stages of a contract. The contractor may adjust the schedules if some areas are not cleaned adequately or if containers (planned on the basis of a certain amount of waste) show insufficient or unnecessary storage capacity.

The shortcomings in the performance of the contractor's staff that should be penalised by a monitoring inspector should be mentioned in the contract, and the contract should also specify whether time will be allowed to rectify the shortcoming (and if so, how much time), and the penalty that should be imposed if the shortcoming is not rectified within the prescribed time. Shortcomings may be

- a failure to provide a particular service (such as sweeping a street or emptying a bin),
- a deficiency in the equipment or personnel (such as a truck load not being covered, or a truck not displaying a prescribed sign, or labourers being drunk or abusive or not wearing prescribed protective clothing or uniforms), or
- unauthorised actions (such as depositing waste at an unauthorised location, open burning of waste, accepting unauthorised waste at a treatment or disposal site, careless driving or unsafe working practices).

In addition, if tasks are defined by the contract in terms of output rather than input – keeping an area clean rather than sweeping it regularly – penalties should be enforced according to the requirements of the contract, bearing in mind the time allowed by the contract to remedy the situation and with realistic consideration of what is possible. It is not realistic to expect that a busy street or market area can be kept spotlessly clean every minute, especially on a windy day, so monitoring inspectors should be realistic in their expectations and demands, imagining what they would do if they were responsible for providing the service. Above all, inspectors should be aware of the exact requirements of the contract (Box 8.1).

Box 8.1
Client appears to be unaware of contract requirements

Operational schedules and frequencies were specified in the working plan prepared according to requirements in the tender documents by the contractor after signing the contract. However, it seemed that monitoring inspectors were not aware of the agreed timing of services. In this particular instance, the client complained that a market was not cleaned during the day. The contractor pointed out that the working plan stated that the market area should be cleaned at night because it was too congested to clean during the day. The client's representative did not accept this, so the contractor took him to visit the market place. While their vehicle was unable to move in the market area because of the congestion, they (including the client's representative) observed an inspector writing out a penalty against the contractor for failing to clean the area. The contractor's complaint was validated completely, because it was clear that the congestion did not allow sweeping and that the monitoring inspector was writing a penalty when the contractor was not at fault.

Case Study M provides detailed information about a monitoring system that was successfully used in Peru.

Regrettably, some clients, or their monitoring teams, have developed monitoring systems that are not related to the contract and so have no legal basis. The fact that they are imposed shows that the client feels that he is the master and the contractor is the slave, without rights or even a voice. Box 8.2 illustrates this, and Cartoon 2.3 in Section 2.3 illustrates how the fees paid to a contractor are reduced for reasons that have no contractual basis.

If there are regular disputes between monitoring inspectors and the contractor, it may be appropriate to invite one of the contractor's supervisors to accompany an inspector. Cameras that superimpose the date and time on photographs may be a useful tool for verification. Two-way radios or mobile phones (perhaps with restrictions on which numbers can be dialled) are another useful tool because good communications are useful for summoning witnesses and asking for corrective action. The contractor should have the right to contest or verify the claims of the client's monitoring staff.

Although the normal situation is that contractors are penalised more than they deserve, one case was reported of assessments being falsely upgraded. This may have been because the senior inspectors realised that the assessments of the field inspectors were too low and so should be raised to give a more realistic assessment, or because of bribery. Box 8.3 gives more details. Community members who monitor the work done in their own neighbourhoods would be less likely to be involved in fraudulent activities because of their concern for their own local environment and their closer relationships to community members. Transparency is a deterrent to this form of corruption. One monitoring system required the monitoring workers to take their reports directly to the computer operator who was entering the data. If these monitoring workers are given a printout of the data as it appears in the computer record, they can check that the computer operator is not modifying the records. However it is difficult to stop corrupt practices if there is not the political will at the top.

A major challenge in many cases when the private sector is involved is to ensure that all wastes are taken to the official disposal site. This has been a particular problem with enterprises operating an open competition system. Even if the official policy of a waste management company is to dispose of all collected wastes in the correct way, individual drivers may prefer to save time by unloading wastes at a location that is more convenient than the official disposal site.

Box 8.2
Unauthorised monitoring systems

The administration of a city that was contracting the private sector for solid waste management services for the first time developed its own system for monitoring. This system was completely different from the system that had been specified in the tender documents and contract, and it was introduced without the knowledge of the contractor. Instead of basing deductions on the requirements of the contract, an arbitrary scoring system was developed, points being awarded for each item on a list of activities. By adding these points, a percentage figure was arrived at. When the contractor found out about this method of assessment, he discovered that some percentage figures were as low as 12%. There was a reluctance in principle (a trait that is often observed in teachers) to award full marks for any activity, even if the contract requirements were completely fulfilled. By negotiating with the municipalities, the contractor was able to convince the local authorities to award performance points that gave overall percentages in the range of 80 to 90%. Payments to the contractor were made according to these percentages, not according to the penalties specified in the contract. (It is interesting to note that another contract in the same country considers collection from 95% or more of the containers to be a complete and satisfactory performance.) As a further example of the arbitrariness of this arrangement, points were awarded for "collection from apartments" (involving collecting waste from each floor), whereas the contract does not require this level of service.

This reliance on subjective, arbitrary figures, and the reluctance to accept that the contractor can achieve the required performance, suggest that the local administration is unable to form a sustainable partnership with the private sector. This behaviour is reminiscent of teachers and university professors who enjoy their position of authority and refuse to give top grades on principle. A different approach, based on precise contracts, is required.

Box 8.5 gives another example of how penalties were determined without reference to the contract or any concept of fairness.

In some cases this problem can be solved by paying a contractor according to the number of loads that are registered at the official disposal site. There remains the challenge of ensuring that records at the landfill gatehouse are not falsified.

Box 8.3
Inflating assessments

A serious threat to good solid waste management was posed by the informal arrangements between the local government staff (particularly executive staff) and the contractor. These personal "arrangements" result in changes to the monitoring sheets, so that they stated a cleanliness level that was higher than what was actually being achieved. By providing false information they were hampering the waste management processes and are thereby reducing the willingness of citizens to pay for the service provided. It is recommended that all inspectors are required to sign their sheets, thereby accepting responsibility for them, and that these monitoring reports are checked regularly for alterations and for accuracy by inspectors in the field.

A further, different aspect of monitoring may be related to upholding the monopoly held by a franchisee (who is granted a monopoly to provide a defined service in a defined area for a specific time and may collect fees for this service). An example of where such monopolies needed to be upheld was in Dar es Salaam, where small- and microenterprises had franchises for the collection of domestic wastes and for taking these wastes to the official disposal site. Some unauthorised individuals were collecting wastes from some households in return for a fee, but dumping the waste they collected at the transfer area used by the official franchisee. (Because they paid neither the cost of transporting the waste to the disposal site nor the fee for disposal, they were able to provide a collection service for a fee that was less than the fee charged by the official franchisee.) This hurt the franchisees in two ways: (i) by reducing their customer base and therefore their income, and (ii) by obliging them to transport to the disposal site waste that they had not been paid for. To some extent this abuse can be reduced by publicising the official status of the franchisee, but it may also be necessary to take action against the unauthorised waste collectors, if the law allows.

8.3 Inspectors for monitoring performance

8.3.1 The roles of monitoring personnel

There is a need in each situation to find a fair and effective way of monitoring the performance of the service provider and of imposing penalties in such a way that good performance is rewarded and penalties are imposed in a way that both parties understand and accept. There are two levels involved in monitoring and control

- the inspectors on the ground who are observing the work of the private sector workers and checking on the condition of the streets, the collection of waste from containers, the operation of a disposal facility etc., and
- their managers who compile reports based on the inspectors' observations and decide what action to take, including imposing penalties and taking action to improve the situation.

Both levels need to function effectively if the monitoring system is to operate optimally. It is important to consider how to motivate the inspectors to do their work well. Their work can be hard, and involve them in being outside in unpleasant conditions – hot, cold or wet weather, exposure to dust and odours, and sometimes facing the anger of local residents. They may be put under pressure by the contractor's workforce to ignore or underreport shortcomings. They may be tempted to write fictitious reports while sitting comfortably in a café, at home or in a friend's office, rather than observing realities on the ground. They may believe that it does not matter how they do their work – that nobody pays attention to their reports. It follows that it is important to consider carefully the selection, training, motivation and supervision of the inspectors. Superiors should occasionally discuss reports with field staff, to show that the reports are read and appreciated. The managers of these inspectors should devise and implement methods of checking that the monitoring inspectors are doing their work conscientiously and according to the requirements of the contract. This will involve unannounced field visits and careful review of the reports of the field staff, correlating them with complaints and information from the contractor.

Whatever arrangements are made, the role of every citizen should not be forgotten. Monitoring inspectors may need training in dealing with the public so that they can also take opportunities to inform residents and business people and to motivate them to co-operate more with the collection service. Complaints from the general public are a very useful means of monitoring the activities of the service provider and the perceptions of the beneficiaries. Inspectors are often made responsible for following-up complaints. Residents who are concerned about the condition of their neighbourhoods and that their money is spent wisely are often the best monitors. Efforts should be invested in setting up a complaints system that is convenient to use, in informing citizens about how to make complaints, in responding to each complaint in a timely and effective way, and in recording both the complaints and the responses to them. Complaints may provide a useful means of checking on the accuracy of inspector's reports.

Monitoring inspectors may also be given authority to enforce laws regarding littering and the dumping of waste in unauthorised places. For example, in cities where individuals sort through waste in street bins, looking for materials that they can sell, the inspectors can play an important role in ensuring that waste is not scattered on the ground.

Monitoring of solid waste management operations can be extended to cover other aspects of the urban environment. Inspectors who are monitoring sweepers and waste collectors can also look out for and report defects in the road (potholes, trenches not properly filled in and reinstated), graffiti, abandoned cars, illegal dumping, tree debris on the road, burst water mains, damaged road signs and many other deficiencies in the local infrastructure. If such reports are taken seriously and acted upon, this can help to upgrade the municipality, and the political administration can thereby gain the respect and approval of the citizens.

There are many additional roles that monitoring inspectors can fulfil, but it is important to ensure that the inspectors are not distracted from their main task to the extent that they cannot do it properly.

8.3.2 Who does the monitoring?

Inspectors may be recruited in at least four ways, as described below.

- Monitoring inspectors may be drawn from supervisors and other staff who were previously working in waste management

when the service was provided by local government. Experience suggests that such staff may be prejudiced against the private sector service provider, and not report objectively and accurately what is actually being done. This prejudice may be based on a resentment of the private sector and the changes its involvement has caused, or because of envy, believing the enterprise to be very wealthy. In some cases local government supervisors may have developed casual working habits, so that poor timekeeping and laziness cause them to write reports that are based on imagination rather than observation.

- New staff can be recruited specially for this task, training them and setting high standards of discipline. This requires careful preparation, but can be very effective with good supervision and management. In one case, recent graduates were employed for this work, as discussed further in Case Study L.
- A third option is to invite residents to become part-time inspectors in the neighbourhoods where they live. If carefully selected, these inspectors will be concerned about the condition and cleanliness of their neighbourhoods, and they can be a valuable link between the local administration and their communities, and may also be effective in facilitating public awareness events and advising their neighbours. They may be given responsibility for an area – as described in Case Study G – or just for a container that is outside their house or shop, as in Windhoek, Namibia, where *community waste control volunteers* are recruited to supervise the use of containers that they can see and monitor from their homes (Joubert, 2003, on the accompanying CD).
- A fourth alternative is to engage consultants to undertake the monitoring. This is likely to be an expensive option, so, in most cases, it would be better to use consultants to set up a monitoring system and train public sector staff to do the monitoring, with perhaps annual reviews of performance and needs also undertaken by the consultants.

If the top administrators in the client organisation do not understand the importance of monitoring, or believe that fines should be determined by an official sitting in his office on the basis of the available funds and a general impression of the contractor, it is possible that sufficient funds and personnel will not be allocated to the work of monitoring, as in the example in Box 8.4. This arrangement is not necessarily good for the contractor, since it may mean that penalties are based on prejudice rather than performance.

Box 8.4
Lack of monitoring

After the private contractor had established his operation system, it was observed in some cities that the number of supervisors – originally foreseen by the state administration to monitor the contractor's services – was reduced considerably. This happened in one city where the administration kept only two supervisors from the original 15. As a consequence, the head of the Solid Waste Management Unit and the head of the Monitoring and Evaluation Unit were now obliged to assist in monitoring and could no longer fulfil their management tasks. So the contractor concentrated the services in the limited areas where monitoring was taking place, leaving the other areas without a cleaning service.

This problem was aggravated by the frequent change of the assignments of the monitoring staff, on the orders of the municipalities. For example, after receiving intensive training, some heads of the Monitoring and Evaluation Departments in certain cities left to take other assignments. Some supervisors who were qualified in monitoring were assigned to work as fee collectors. This policy led to a serious lack of experience because most of the monitoring staff had been only recently appointed. The result of this situation was inadequate monitoring, less control of the contractor and unsatisfied citizens.

There can be benefits in occasional external monitoring – engaging consultants or competent officials from other cities to review progress at intervals between three months and two years. One of the reports reviewed in the preparation of these guidelines was written by a team of experts who visited a number of towns about two years after private sector operations had begun. Not only were they able to draw general conclusions and share useful experiences, but they were also able to propose a revised form of contract, based on these experiences. If such a team is independent and well qualified, it should be able

to propose significant improvements. This approach is strongly recommended for other countries in the early stages of public-private partnerships.

However, apart from this occasional external review, there should not be multiple monitoring. The client should ensure that only one local government department is responsible for monitoring the work of the contractor and issuing instructions to the contractor. Unfortunately there are cases where several parties impose penalties and issue instructions – in one city where there is a waste management department as the official client, the mayor and even the police chief impose penalties on the contractor and issue instructions. This multiple monitoring leads to confusion and bad relationships. Unfortunately, in some cultures senior officials are not accustomed to subjecting themselves to any such discipline or restriction.

8.4 Collection and management of monitoring information

In preparing the monitoring system, as in preparing the contract, the client should be careful not to become too involved in the details which should be the concern only of the contractor. It is possible to ask for all sorts of details every day, but it is better just to ask for only the information that will be used and is needed to indicate if the contractor is providing the services as required in the contract. The contractor might be asked to provide information about machinery available and manpower deployed, any accidents to vehicles or personnel, and perhaps a record of complaints, but not much more. One authority requires the inspectors to collect daily information about minor operational details such as brooms and other cleaning tools that are issued, and the distances covered by each vehicle. The contractor should keep this information for his own management, but he should not be required to pass all this information on to the client. A lot of time can be wasted preparing reports that are not read or even referred to.

Monitoring forms can be developed to standardise the inspectors' reports and to avoid collecting unnecessary information. One approach is to use the symbols: "✓", "X", "XX" or "XXX" to express the monitoring inspector's opinion of a situation:

- ✓ signifies an acceptable performance
- X indicates that a warning should be given
- XX is used when there is a shortcoming that should result in a penalty
- XXX indicates a serious violation requiring immediate remediation and a penalty.

The criteria for deciding which symbol is appropriate can be explained on the back of each form. Monitoring forms were prepared in this case using a participatory approach involving various groups with an interest in waste management. It is important to avoid subjective assessments, so these criteria should be clear and objective, and consideration should be given to reporting numerical data when this is possible. A space should be left for comments. Some of the forms are used daily and others weekly or irregularly. These forms were used for a while, but unfortunately, when the Head of the Waste Management Authority was changed, the use of these forms was discontinued and a non-standardised and subjective method of reporting was introduced.

An overview or summary report of the observations of the inspectors can be prepared using special computer software or by manual methods. Inspectors should each be required to sign the reports that they prepare each day, to emphasise their personal responsibility for their work and to provide a means of auditing or verification in the case of disputes or allegations of corruption against senior officials.

The completed forms from the inspectors should be reviewed each day by the Head Inspector. Case Study M describes how the forms are sent to the private sector service provider for his response before being sent on to the contract management department for payment calculation.

8.5 Corruption and pressure

Local government staff who are engaged in monitoring may fail to do their work well for two different reasons. In some places it is common for a monitoring inspector to be assigned to work with a truck and its crew, travelling in the truck with the collection workers, in order to report on their performance. It is easy to imagine the pressure that an inspector would feel to overlook shortcomings when this is demanded by a crew of five people with whom he works every day and on whom he depends for transport.

A contractor may find it cheaper to bribe monitoring inspectors rather than to pay fines or provide a full service. One attempt at avoiding to

this problem involves rotating the staff and monitoring complaint levels for each inspector (so that inspectors who overlook shortcomings can be identified by a higher level of complaints from the public).

Delegation of responsibility can also be used to fight the fear of being accused of being bribed by the contractor. There are monitoring inspectors who refuse to sign their own reports because of fears of being accused of corruption. Managers should insist that each inspector signs his own reports. Facts that are disputed can often be checked if action is taken quickly.

8.6 Partnership and penalties

The relationship between the local government and the private sector contractor should be a partnership based on mutual appreciation and a respect for the conditions and spirit of the contract. It should not be seen as a contest to see who is stronger, or as string of attempts to cheat the other partner or win victories over the other. It should not be used by one party to promote its image at the expense of the other. Penalties or fines should *not* be imposed to the greatest extent possible, but as corrective measures in relation to operational shortcomings where the contractor was clearly at fault. The imposition of penalties should not be seen as an indication of good monitoring and supervision. In many ways it is a sign of the failure of both sides if a penalty must be imposed. If relationship between public and private sectors is working well there should be little need of penalties.

Mistrust between the client and the contractor is often observed at the beginning of the private sector's activities in waste management. This mistrust hampers the processes of private sector participation. The lack of a constructive partnership is sometimes clearly demonstrated in a strict application of fines for non-compliance at the very beginning of the service provision – it hinders the learning process of the contractor, discourages the initial enthusiasm, and sends a clear signal that the local government side expects a struggle, not a partnership.

In the first months of the full operation of the contractor, there should be generosity on both sides, particular attention being paid to developing effective communication links between the client's administration and the contractor. It is strongly recommended that regular meetings are established to discuss problems and concerns in order to facilitate the process of working together, with the minimum of paperwork.

8.7 Payments and penalties

Because of the competitive nature of the bidding process, enterprises are concerned to offer prices that are as low as possible. Bidders generally expect that they will be paid the full fee each month if they meet the contract's requirements, and so they price their bids accordingly, aim to provide a service that meets contract specifications, and expect that they will be paid according to the contract at the end of each month.

If a contractor fails to provide the service that he has contracted to provide, it is right that he is penalised by deductions from the monthly fee that is paid by the client. Such penalties motivate the contractor to provide a service of the agreed standard, provided that they are directly linked to a particular incident of failure for which the contractor is responsible and administered in a fair way, according to the contract. Unfortunately there are cases (examples can be found in Case Study J) in which contractors are penalised for reasons that are not their fault, and the penalties are administered in an incorrect way.

Some senior public sector officials think that they have the right to impose penalties for any reason. Testimony to this was given by a contractor's reaction to an opinion survey, as described in Box 8.5.

Box 8.5
It is good, but don't tell the client

A survey that had been carried out in the city where a contractor was providing the solid waste management services indicated that 86% of the population had appreciated an improvement in waste management since the contractor had taken over. In most situations this would be regarded as a good result, and one that should be communicated to the client and the public. However in this case the contractor wished to keep it secret because he feared that the percentage figure would be taken by the client as another method of reducing the fee to be paid to the contractor – whatever amount was to be paid for the month's work would be reduced by multiplying it by 86%. His experience taught him that the client was always looking for reasons to reduce the monthly fee.

Penalties can have a very negative impact on the partnership between client and contractor, if they are imposed in an unreasonable way. The approach to monitoring and the penalties that are enforced should both be according to the agreed contract. The inspectors who monitor the performance of the private sector should have a sufficient understanding of solid waste management, so that they do not penalise a contractor for situations that are beyond his control. The inspectors should also be familiar with the contract, especially the sections that refer to monitoring and penalties. An example of an unjust penalty is given in Case Study O which reports how a contractor was penalised because Customs officers were not following the directives of their Prime Minister. The imposition of unjust penalties rapidly destroys any respect that the contractor has for the client and reduces the partnership to something between a struggle for survival and warfare.

Penalties are imposed on contractors in a harsh way to demonstrate that the responsible authority is not receiving bribes or favours from the contractor, to gain a reputation as a strong and incorruptible servant of the public. There is also indication that, in some cases, penalties are used to reduce the payments to the contractor because the client is not able to pay the full monthly fee.

In situations where clients never pay the full monthly fee, local enterprises who understand the mentality of the client are likely to post higher bid prices than international competitors who do not expect such treatment. If the lowest price bid wins, the consequence may be that the contractor is not able to cover his costs because of the penalty deductions. He will be forced to reduce the service he provides because of a shortage of cash, so more penalties are applied and the service spirals downwards. As a result the client may gain such a bad reputation that companies are no longer interested in bidding for future contracts.

The contractor should never be penalised for delays that are the result of the client's failure to meet his own obligations, but there are cases where this has happened. There is no justification for imposing a penalty on a contractor for a late start that was caused by the failure of the client to obtain the necessary permission for the use of a site. Instead, there may be a case for awarding a compensatory payment to the contractor. Some contracts specify that if the penalties imposed on a contractor in a year add to more than (say) ten percent of the annual contract value, this gives the right to the client to terminate the contract if he wishes. Whilst such a clause may be reasonable if the penalties are administered according to the contract, it gives excessive power to the client if penalties are imposed in an arbitrary fashion. This limit should not be enforced for an initial period (perhaps the first six months) of a contract.

A fair and transparent way of imposing penalties gives the contractor an opportunity to respond, either by rectifying the shortcoming (for example, emptying a bin that was missed in an earlier collection round) or by explaining why it had not been possible to perform a task (such as sweeping in a market when it is very congested or using a mechanical sweeper in a street that is blocked by parked cars). Even if there appears to be no possible remedial action or explanation, the contractor should be informed of the intention to impose a penalty to give him a chance to explain, and also to maximise the motivational impact of each penalty because a list of penalties at the end of a month provides less incentive to improve performance than a notification of a shortcoming soon after the event, in a way that focuses attention on each particular failure. Local government officials who wield considerable authority over their subordinates and are not accustomed to being challenged or contradicted may prefer to use the same authoritarian approach with contractors, not allowing them an opportunity to question any decision regarding penalties.

Especially the first time a task is contracted out, both client and contractor need to learn, and develop their methods. It is therefore wise to allow a "honeymoon period" at the beginning of the operations phase, such that, for a period of perhaps six months, penalties are not charged, but the contractor is informed of each shortcoming that would normally attract a penalty, or penalties are charged at a reduced rate (such as 25% of the full payment). After such a period, the contractor can be expected to provide a service according to the contract and the monitoring staff can be expected to understand how to do their work.

9 Summary of experience

It sometimes seems that the only thing that we learn from experience is that we do not learn from experience.

This chapter summarises much of what has already been written by briefly drawing from many experiences to list some of the problems that have been encountered in efforts to involve the private sector in the provision of solid waste management services. In most cases there is a solution, either implicit or explicit. It also presents recommendations from some of the case studies.

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9.1 Obstacles and challenges

9.1.1 Contract preparation and inception

Inadequate local knowledge

Some areas in which a lack of local knowledge causes difficulties for private sector operators are:

- the expectations and preferences of residents regarding the timing, frequency and other arrangements for the collection service, including attitudes to street bins;
- an understanding of the reaction of the informal sector that has already been working in waste management to the changes that are proposed;
- variations in waste composition and quantities during the year, resulting from seasonal, dietary and cultural factors, tourism and festivals;
- the generation of construction and demolition waste;
- deductions from monthly fees for taxation, social security and other factors.

Need for confidence

There is the very real fear in some business circles that long term concessions have a particularly high financial and business risk profile because they may be revoked by changes in political will. Consequently, short term recovery of investment is built into the cost recovery models used by the private sector with the result that the cost of the private sector involvement to the local authority will be higher than if the companies had the confidence to recover investment over the full length of the contract or agreement.

Problems from inadequate definition of the tasks

One common problem of task definition relates to the point of collection of household solid waste. In most cases waste is collected either from a shared collection point, from the kerbside or from each residence. The failure to clearly specify in the tender documents the type of collection service that is expected can lead to misunderstandings, retendering, disputes and public hostility.

Another common problem relates to street sweeping. It often happens that the tender documents suggest the requirement that streets and public places are swept at a predetermined frequency, but the client expects that the service provider is responsible for keeping the areas

clean at all times, which can involve a much bigger input of resources.

These misunderstandings and difficulties can both be avoided if the tender and contract documents are carefully written and are respected by both parties.

Inadequate contracts

Contracts are often inadequate either because of the lack of knowledge and experience of those who draw them up or because the preparation process is rushed, and insufficient time is available to discuss the conditions and write the document.

In one of the case studies from Germany (Case Study N3) contracts were awarded without a competitive bidding process, and fees were based on the expenditure of the contractor. Because of the complexity of the accounts of the contractor and the possibilities for creative accounting, it was necessary to trust the contractor to a considerable extent. Many would judge this dependence on trust to be unwise. There was also a case of a rushed selection process resulting in un-necessarily expensive technology being selected. This case study also recounts how failure to negotiate fully when the contract was being prepared led to three years of subsequent negotiations.

Personnel issues

The cultures of local government and the private companies that compete for business are usually very different. It is generally not a good idea to transfer staff from government service to a commercialised utility or a private company. Managers from the public sector may lack commercial sense and the drive for efficiency, and municipal labourers and drivers may not be accustomed to working hard for a full day and may reject the employment conditions offered by private companies. Nevertheless, at least for the first stage in private sector participation, it is common for the private sector to be obliged to take on a significant proportion of workers from the public sector. Strong labour unions may make this transfer even more difficult.

In the opinion of some, it is better to recruit monitoring inspectors from outside the industry than from within. Public sector supervisors who are redeployed as monitoring inspectors may display a hostility to the private sector service provider that results in excessive and unjust penalties, or they may show a careless attitude.

Timing and delays

A common problem is that decision-makers do not allow enough time for the processes involved. If insufficient time is allowed for the development of strategy and the preparation of tender documents, the result is likely to be that the tenders are cancelled and the work is retendered, but if the process goes ahead, there may be ongoing problems throughout the duration of the contract. There are many cases in which too little time has been allowed for the preparation of bids, and sometimes the consequence is an extension of the deadline for submission of tenders, with potentially undesirable results. The time needed for the whole process – from the decision to involve the private sector until the start of operations – is usually much more than anticipated. In the case of a small city in Peru (Case Study B) it was only two years, but in this case there was considerable external assistance and few unexpected problems.

9.1.2 Public awareness and behaviour

Ignorance, apathy and opposition among the public can make waste collection much more difficult and expensive. There are cases of contractors' employees who have faced hostility because of the local government's method of collecting user fees – an issue that was not the responsibility of the contractor. Opposition to new systems can result in refusal to pay fees, even to the extent of taking legal action against the imposition of fees. Another manifestation of public opposition may be the vandalism and theft of containers.

Often the beginning of private sector service provision coincides with the introduction of a waste fee. The willingness of householders and business people to pay the fee depends not only on the magnitude of the fee, but also on perceptions of the service, including the point of collection (at the door, in street bins, etc.) and the frequency of the service. If residents are not prepared well in advance for the requirement to pay and for the changes in the service, their willingness to pay can be seriously affected. If the charges are regarded as unfair there may be powerful opposition to the new developments, including a strong reaction from the media. It follows that public awareness and public relations are crucial to the success of such initiatives.

Apathy results in the throwing of waste from upper storeys and into the spaces between buildings – which makes the work of waste collection more expensive, and the littering of streets – which adds to the costs of street sweeping, especially if the client expects the streets to be kept clean at all times.

Ignorance, perhaps aided by apathy, results in the mixing of wastes which should be segregated. Hazardous healthcare and industrial wastes are mixed with general wastes, increasing both the risks to health and environment, and the costs of treatment. Construction and demolition wastes are mixed with municipal wastes, adding to the costs and difficulty of collection, as well as nuisance in the streets, and leading, in many cases, to more hostility towards the service provider.

9.1.3 Attitudes and training in public sector

Inadequate training

Even if training in private sector participation is provided to the public sector client, the senior managers may not take part, perhaps because they believe it to be a sign of weakness to indicate that they need further knowledge, or because the training would put them on the same level as their subordinates. In other cases it may be that they are not willing to spend their time in this way. The consequence is likely to be that the junior staff, who understand the contractual requirements and the client's duties, are overruled by senior staff who do not. Strategies are needed to provide the necessary training to the senior managers; often this can be done in small groups comprising only senior staff, in attractive venues away from the officials' day-to-day responsibilities.

There may be cases where specific training is not available. The issue that is perhaps the most important – the attitude to the contract – may be similar for water supply and some other public services, so there may be opportunities for basic training together with other sectors. However, some aspects of training should be provided by experts with specialised knowledge of solid waste management.

Need for persuasion and dialogue

It can generally be expected that not all managers support initial moves to involve the private sector. Some may oppose the process because of political opinions, because of resistance to change or because they were not consulted. The process of establishing successful private sector services takes time and may attract some opposition among the population or in the media. Political support is essential and so it is important for the private sector to maintain close links with supporters of private sector involvement. Even successful programmes may be stopped for political reasons. We need to learn to advertise our successes, to develop links with political leaders, and to prepare as much as possible for political changes.

Many authoritarian regimes are unaware of the importance of public awareness and of keeping government officials informed, but private sector companies and experts must not be deterred from giving high priority to informing the public and administration officials regarding their responsibilities, the progress that has been made, and the benefits that can be expected.

It is widely acknowledged among experts that transparency and competition are both of great importance in ensuring successful private sector participation. Both of these characteristics are often not well appreciated or understood in governmental administrations. Efforts must be made not only to inform government officials about these two issues, but also to convince them of their value in ensuring sustainable and affordable services.

9.1.4 Institutional factors

Inadequate delegation

There are cases where a powerful regional government body designates a particular department to be responsible as client for contracts or other private sector arrangements, but then overrules and interferes to the extent that the private sector partner is given contradictory instructions by the two bodies. Such an arrangement can quickly lead to serious problems.

Institutional co-operation and co-ordination

In may cases there will be several national ministries or authorities involved in a process leading to private sector participation, as well as regional agencies. Attention should be given to keeping them all informed and involved. Within the client body the legal, financial and technical departments and experts will be involved in the preparation and evaluation of tenders, and so it is necessary that steps are taken to keep them all informed about progress and to ensure their participation whenever their inputs are needed.

Box 9.1
Breakdowns in communication

When a waste management contractor tried to send a letter to the client, the client refused to accept the letter. So the contractor was forced to involve the courts, using the legal authorities to require the client to accept the letter and to certify that the letter had been delivered.

A contractor claimed that he had been paid only 20% of the fees due for services provided over the previous six months. The client claimed that the reason for this shortfall was all the penalty payments that were due (after just over a year of operation). The contractor claimed that the client had never responded to his request for details of these penalties.

Less serious, but another example of poor communication, is when the environmental organisation that is responsible for trees and parks, and is also the client for solid waste management, fails to tell the waste collection contractor when it is undertaking major pruning of roadside trees. A little co-ordination on this issue could avoid serious road blockages.

Arrangements that combine institutions

In the context of associations, joint ventures and councils representing several communities, conflicts of interest can arise. There is always the risk that politicians and representatives will favour their own community at the expense of the interests of the collective body. This may particularly affect the transfer of assets and resources from the individual member for joint use. Political changes and changes in leadership in a community may change the policy towards the joint body, causing individual members to withdraw unless they are bound by a contract. The support of a higher organisation (such as a ministry) can be very important in such a situation.

It may often be preferable to base all arrangements on financial conditions rather than obligations, goodwill or trust – for example allowing a community to withdraw from a collective body, but only on the basis that a financial penalty is paid. If a landfill or waste processing facility that is owned by, and located in, one community is to be used by other communities, there should be benefits for the host community (such as a fee payable per ton of waste received, additional employment opportunities or infrastructure improvements) so that all participants benefit from the arrangement. (These issues are illustrated in Case Studies N.)

An association of heterogeneous communities should be carefully negotiated. It may cost more to collect and transport waste from a small community than from a large one. The costs of transporting waste from different communities depends on the distance between each community and the disposal site. Should each community pay the same rate per ton delivered (as was agreed in Case Study D) or should tariffs be based on actual operational costs?

Joint ventures that are formed by public and private entities joining together may suffer from conflicts of interest, and it may be difficult to impose penalties and other corrective measures on a body that is partly governmental (Case Study N3).

9.1.5 Issues of implementation

Problems caused by lack of authorisation

The most common manifestation of the NIMBY[16] syndrome is opposition to the location of a landfill site, expressed particularly by those who live nearest to the proposed site. It is more appropriate for the local government partner (than for the private sector partner) to take responsibility for finding a disposal site because of the long duration of the process and the need for co-ordination with other governmental bodies for the necessary planning and environmental permissions. Therefore the risks associated with access to the site should be borne by the client. There are cases in which the contractor has been penalised because of the lack of access to the designated site – sometimes because it is necessary to transport the waste to a more distant site and sometimes by the imposition of actual financial penalties, even though the contractor is not at fault.

Lack of partnership and integration

Sometimes the relationship between the client and the contractor can deteriorate very seriously. When the "partnership" deteriorates to the level indicated in Box 9.1 there is a big need for serious steps to solve problems and improve the relationship.

[16] Not In My Back Yard. This phrase is used to describe the general unwillingness to agree to the siting of waste treatment and disposal facilities and other industrial plants near to one's house.

The informal sector

The informal sector is often the focus of attention because of the poverty and difficult living conditions of the people concerned. Another reason for attempting to modify the behaviour of the informal sector is that many of their practices may cause nuisance and pollution – such as scattering waste when they are sorting mixed waste in their search for recyclables, using unsafe or polluting vehicles for transporting waste, or polluting air and water by their simple methods of processing secondary materials. One difficulty is that when the practices and lifestyles of one group are upgraded, another group may appear, to cause the same problems as those previously caused by the group that has just been upgraded. An example of this is provided by Case Study W.

If an informal system of waste collection is replaced by a large, formal system, there can be pressure to provide employment for the displaced workers, which can be difficult if the new system is capital-intensive and demands a smaller workforce. The displaced workers may be reluctant to change their working habits (and even to wear a uniform) to suit the new contractor. If the previous, informal sector workers used to sort the waste they collected to earn money from the sale of recyclables, they may keep collecting as they used to, timing their collection rounds so that they get the waste before the formal contractor. If the informal sector used to provide a better service (in the eyes of the residents) then the residents may continue to use them, ignoring the new contractor. Often the informal sector can provide a less costly service because the waste is not taken to a distant landfill and disposed of properly, but is dumped or burned nearby. If proposals are developed without taking into account the local situation and the existing arrangements, the first years of a new contract will be a bumpy ride.

In some Latin American countries there are strong informal “bosses” who control waste collection and recycling, and any attempt to displace them from their positions of power may attract opposition, and perhaps even violence and vandalism.

Whilst some practices should be stopped because they are unhygienic or anarchic, in other cases it is wise to work together with the existing informal service providers, and to find ways of incorporating them into proposals, and so avoid duplication, disruption and littering. The need for this approach provides one reason – among many – for starting on a small scale and building up gradually.

Delays in decisions

Many administrations suffer from a lack of experience of private sector participation, and so it can take an "inordinately" long time to obtain a decision and get implementation moving. The fear of being accused of corruption is another reason for slow or ineffective decision-making.

Problems related to payments

If the client organisation does not have sufficient income to pay the contractor in full, there can quickly be a rapid deterioration of service standards and of the quality of the relationship between client and contractor. As soon as it appears that the client is unable to pay the contractor there should be urgent renegotiations to define a revised level of service that is compatible with available resources. Attempting to reduce payments to the contractor by increasing penalties is a strategy that will lead to failure. The client should also have sufficient funds to support its own contract management activities, particularly the monitoring of the private sector’s activities.

Monitoring

Monitoring inspectors are responsible for ensuring that the services are provided as specified in the contract, but unfortunately the demands on contractors and the imposition of penalties are sometimes not according to the requirements of the contract. In some cases it appears that inspectors are not aware of the demands and provisions of the governing contract. In cases of franchises and private subscription arrangements, it is important to check that the waste is unloaded at the authorised treatment or disposal site, and not dumped illegally to save money or time.

Arbitration, courts and legal aspects

Disputes cost time and money and cause bad relationships and delays. Prevention is better than cure. Disputes can be prevented by a well-written contract and by respecting the contract. When changes in the contract are needed they should be negotiated and agreed by both parties, not imposed unilaterally. Where there is mutual respect and a sense of partnership there are fewer disputes and there is a greater chance of finding a compromise that both sides can accept.

Taking a dispute to court or arbitration is usually time-consuming and expensive.

9.1.6 Problems related to community-based and NGO schemes

Volunteers and perseverance

Community-based waste collection and recycling schemes are often set up and run by one or more community members on a voluntary basis. These volunteers are very important to the success of these schemes because they are concerned with achieving results (a cleaner, healthier environment) and are closely linked with the rest of the community. The fact that they are volunteers has positive and negative aspects. The positive side is that their inputs are free of cost and they are unlikely to be looking for bribes or personal gain. The negative side, as mentioned in Case Study V, is that motivation may depend on personal status and relationships within the community, and reduce with time if there are conflicts or unpleasant duties involved, or if the ongoing demands for time and leadership become more onerous. The profit motive (in other words, the desire for a regular income) is often more sustainable, motivating individuals to continue in spite of stress and frustration. The failure of many community schemes supports this view. Reports about community schemes are often reported soon after they are started, before volunteer fatigue sets in. For this reason it is useful to take the longer-term view.

Obstacles facing pilot projects

As discussed in Section 3.4.7 and elsewhere, it is advisable to start small and gradually build up, rather than to attempt to operate the full service from the beginning. Innovative technical and administrative approaches should be developed and demonstrated on a small scale (the "pilot" scale) before an attempt is made to introduce a new approach on a widespread basis. Attempts to initiate pilot scale interventions often run into some significant problems that cause delays and frustration. Some of these obstacles are discussed below.

- Delays in obtaining the necessary permits – The right to collect or process waste is usually the subject of legislation, and so some form of permit is generally needed before a company or NGO can begin a pilot project in this field. This permit may take a long time to get, for one or more of the following reasons:
  - The cautious, *play safe*[17] attitude and approach of many bureaucrats makes them reluctant to do anything out of the ordinary. If an unprecedented request arrives on their desks, their first reaction is to postpone taking action, perhaps in the hope that the decision can be avoided. The request may be passed on and meet with the same reaction by a superior.
  - In some cases bureaucrats may be hoping for a personal payment as an inducement for granting a permit.
  - Overloading or underfunding of government offices causes all processes move slowly simply because of poor organization or a high workload.

  When permission has been given, it is important to keep the local administration informed (and, if possible, enthused) about the progress of the project, so that the permission is not suddenly withdrawn, as happened in one case after one year when the responsible official thought that one year was more than enough for a pilot project.
- Opposition from current stakeholders – In most urban situations there is already some form of solid waste management, so any proposal for changing the arrangements may attract the opposition of those who have a

[17] The desire to keep away from risks and to avoid the opportunity for making mistakes, in the hope of being promoted on the basis of seniority alone, has led to the following cynical sequence of logic, which contains more than a grain of truth in the context of many government administrations:

People who do lots of work make lots of mistakes.
People who do less work make fewer mistakes.
People who do no work make no mistakes.
People who make no mistakes . . . get promoted.

An important, but often ignored, aspect of capacity building is the establishment of a management environment in which mistakes made honestly in an effort to innovate or develop are tolerated (if they are made only once) and seen as a means of personal and professional development.

The story is told of a young merchant banker who lost $2 million of his bank's money as the result of a bad decision. He was called into his boss's office, believing that he would be expected to offer his resignation. When he offered his letter of resignation his boss refused it, with the words: "What, let you go now? The bank has just spent $2 million on your training. Why should I waste this money and let you go now?" Mistakes are often our best way of learning.

Unfortunately many government administrations prefer inactivity to innovation, and safety to progress, and so try to avoid any risk of making a mistake. Doing nothing and postponing decisions should also be seen as making a decision.

stake in the existing system, even if it is informal with and they have no legal rights in relation to the system. Local mafias are often involved in solid waste collection and do not tolerate the possibility of a diminution of their profits.

- Seeking to sell the waste – If owners of waste (caretakers of residential buildings and offices, and staff of shops and offices) sense that someone is interested in taking their waste and recycling or composting it, and if they believe that the waste or its products can be used to earn a profit, they may wish to gain a share in that profit. After the initial pleasure at having their waste taken away (perhaps at no cost) they start to ask for payment for the waste itself.[18] If a small payment is made, there will soon be a demand for a larger payment. Such an attitude can seriously threaten the financial viability of resource recovery schemes in some places.

  Because of these obstacles, it is important to set up pilot projects in areas where the community leaders have a real desire for a waste-free urban environment and a good understanding of the aims and means of the proposed pilot project.

- Provision of land – Pilot projects may also look to local administrations to allow them to use suitable land for the purposes of storing or treating waste. This can be another cause of delay. As discussed in Case Study U, the shortage of land can be one of the main problems with decentralised waste management systems. In some cases local government officials may be reluctant to release land because they fear that the solid waste project is just an excuse and that the land is being requested for another, commercial purpose.

9.2 Recommendations

The factors that discourage and favour private sector participation can be summarised in the following way. (These observations in Sections 9.2.1 and 9.2.2 are based on the contribution of Lorenz in Case Study A.)

9.2.1 Practices that discourage participation by the private sector

- Non-implementation of tendered projects and long delays in the tender process: Bidders must invest considerable time and effort in the preparation of their bids. If all this work comes to nothing because no contract is offered, or there is considerable delay or uncertainty, enterprises may prefer to use their resources in more productive ways.
- Proper qualification of private proponents: The prequalification stage is intended to select bidders that have the experience and resources to undertake the work. If this initial selection is not done carefully, the work may be awarded to a company that is not capable (in terms of finance, expertise or equipment) to undertake the work. As a result, the work done by capable enterprises in preparing their bids is wasted.
- Bid rigging: Enterprises will participate in bidding processes only if they believe that they have a reasonable chance of winning. If they have no confidence in the fairness of the competition for the contract, they will not participate. The lack of confidence can be for real or imagined reasons.
- Inequitable and unclear contract conditions: Inequitable contract conditions (for example placing a heavy risk load on the contractor) can make a contract unattractive or exclude external support. If contract conditions are unclear, the preparation of the bid becomes a gamble and there is a risk of repeated, major conflicts and claims throughout the tenure of the contract.
- Different understandings of the role of a contract: In some countries a contract is regarded as a legally binding definition of rights and obligations, and the procedures that are to be followed to resolve uncertainties and conflicts. In other cultures, power is the factor that governs actions and sets standards, and much less importance is given to the demands of the contract that both parties have signed. When the client has one view and the contractor has the other, it is likely that, initially, each party assumes that the other has the same view as itself, but when conflicts or claims show that

[18] An example of this was given by a story told about a national airline that had built up a huge stockpile of used aircraft tyres. At one stage a few of the tyres had been sold for a small sum (less than US$1) for a specific purpose. Hearing of this, the management decreed that no worn-out tyres should leave the storage yard unless the same sum was paid for them. Since no-one wants to pay for a large quantity of used aircraft tyres, they remain in the airline's storage yard, occupying valuable space and presenting a fire hazard.

the two parties have very different understandings of the role of the contract, there is likely to be a very negative reaction that will discourage further participation in new tenders.

9.2.2 Good practices that favour effective private sector participation

- Good governance: This includes the absence of demand for unofficial payments that add to the costs of the contract. Good governance also means that the government officials that are responsible for the operation of the contract are able to fulfil their role and are concerned to work well. It is also important that environmental standards and contractual obligations are enforced and upheld.
- Public awareness and involvement: In many ways the foundation of any good solid waste management system is public demand. It is not a simple thing to change the habits of the public. Public awareness activities require effort and finance. Because of the need for co-operation in handling of the waste and for regular payment of fees, little can be achieved without the positive involvement of the citizens and the business community. Citizens should be involved in decisions that affect them. Complaints should be encouraged and taken seriously. Ordinary citizens can also provide effective supervision of collection services and motivation for higher disposal standards.
- Developing the capacity of the public sector client: Urgent consideration needs to be given to capacity building within the local governments. It is often assumed that contracting out solid waste collection and disposal tasks totally relieves local governments of their responsibility for the service. Experience has shown that this assumption is false – contracting out the service requires the development within local government administrations of many new skills and functions that are related to preparing documents, and regulating, monitoring and financing the services pro-vided, rather than providing the actual services. If they do not develop and exercise these new skills effectively, the results will certainly include wastage of money, unhappy contractors and angry citizens.

  It is often better to start with smaller contracts (for parts of the service or for smaller districts) and gradually increase the value and scope of contracts, rather than to begin on a large scale. A gradual build-up allows both public and private sectors to develop their skills and resources, and gives opportunities for learning from experience.

9.2.3 Other observations on factors favouring success

A study of private sector participation in a number of towns identified one town as particularly successful and ascribed the success to the following points:

- The charges for waste collection were among the highest in the country.
- The contractor was not obliged to take on the workforce from the local administration.
- The town was relatively well managed and organised in comparison with other towns.
- There had been an effective public awareness programme.

10 Discussion and conclusions

It is a time for pioneers, not followers – pioneers who listen well and step carefully.

Much of what is written appears negative, warning of problems, telling of disappointing experiences. In fact there are many successes and improvements, but it is likely that at least some of them could have been even better if the experiences and warnings contained in this publication had been heeded.

The experience collected for this publication suggests that success in private sector participation depends more on the local government client than on the private sector service provider. This may come as a surprise to those in government circles who regard private sector participation as a means of getting rid of the responsibility for solid waste management. It is true that there are companies that fail because they take on commitments that are too big for their resources (either financial capacities or human resources), but even in this case the responsibility rests at least partly with the local government client for not sizing the contracts according to local capacity and for selecting an unsuitable private sector partner. Whilst it is true that the number of municipal labourers and vehicles involved in solid waste management (and the associated problems of management and maintenance) can be dramatically reduced by involving the private sector, there are new tasks and challenges which come instead. These new tasks require reorientation, administrative changes, capacity development and a willingness to make mistakes and learn from them.

After considering these chapters, some readers may feel that the risks associated with involving the private sector are too great, and that it is better to leave things as they are. The following two-part cartoon (Cartoon 10.1) is dedicated to such people.

We take risks every day, often because the alternative to taking the risk is unacceptable or undesirable. This publication has described and discussed many problems and difficulties which are possible risks inherent in involving the private sector in solid waste management. Some risks may be judged as unacceptable and a good reason for a contractor to refuse to become involved, of for a local government body to decide not to involve the private sector.

A company may judge that a one-sided or vague contract suggests a risk that is unacceptable. However, within the framework of a reasonable contract that is backed up by an effective judicial system, a private sector operator may decide that the risks are worth taking, after consideration of the opportunities and likely benefits. In preparing a bid and negotiating a contract, the potential contractor is well advised to be aware of the risks and problems that are discussed in this review of experience.

National and local government officials can also learn from these experiences. An unsuccessful relationship with the private sector affects the standing and reputation of the government partner, so it is also very much in the interest of the public sector to find ways of developing mutually beneficial and sustainable partnerships with the private sector. The following recommendations can help local government agencies to become successful clients.

- Develop public sector capacity: Private sector participation demands new skills on the public sector side, so time must be allowed for developing capacity, and competent advisors and trainers should be engaged.
- Develop a sound strategy: There are many options in terms of the nature of the client and the private sector service provider, the nature of the relationship and the scope of the tasks included. Opportunities for stepwise growth should be considered.
- Allow enough time: The preparation of a strategy and the tender documents, the preparation of bids by prequalified companies, the preparation of contracts and the mobilisation stage before full implementation all take more time than is normally allowed, if they are to be done well.

Cartoon 10.1a Taking reasonable risks

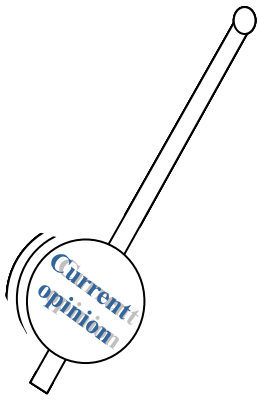
(Above) The lady who is travelling home with heavy luggage is reminded of the risks of travelling by road and so becomes worried about riding in a vehicle.

Cartoon 10.1b Taking reasonable risks

Because she has heard about the risks of travelling in vehicles she tries to walk all the way home, carrying her heavy load. Whilst she is probably wise to refuse the offer of a ride on the back of a motorbike, the risk of riding in the minibus is small compared with the difficulty and risks of walking all the way

.

- Financial resources should be realistically assessed. It may not be possible for a local government administration to do all that it would like to do with the financial resources that are available to it. It is essential, before a contract is signed, for the administration to be sure that it will be able to pay the contractor in full and on time.
- Public awareness is not an optional luxury, but an essential component in any successful private sector participation. There should be an effective programme for gaining the co-operation and support of the public.
- Monitoring is not a means for showing that the public sector is the stronger partner, but is to motivate the service provider to operate according to the contractual agreement.
- Competition, transparency and community involvement are essential components in any strategy to ensure value for money and to minimise the effects of corruption. If a public administration is not prepared to embrace these characteristics, it is not ready to consider any kind of partnership with the private sector.



Private sector participation

Service provision by local government workforce

The pendulum swings slowly, between the extremes of dependence on local government for the provision of public services and the contracting of all operations to private sector service providers. In many places and contexts, it appears that the pendulum has gone as far as it can towards the private sector, and is now beginning to swing back towards a more favourable attitude towards the involvement of public sector labour under public sector management. The reasons for this change of direction away from private sector participation could be summarised as follows:

- Local government agencies have discovered that working with the private sector is not as simple as they had anticipated. Having discovered that their tender and contract documents were inadequate, that the process took longer than they anticipated, and that managing the process was more complicated than they expected, they are now thinking about returning to what is more familiar to them.
- Contractors have found that local governments are often difficult partners to work with. Their income was less than expected because of inflation and high penalties, and payments were delayed. They had not anticipated the difficulties they experienced in working with the public and the extra work that was necessitated by a lack of co-operation.
- Citizens were never enthusiastic about private sector waste collection services, and their experience has confirmed their opposition. Concerned with the level of fees that they are required to pay and with the convenience of the service, they are not interested in what happens to their waste after it has been carried around the corner, and the more prosperous and influential residents are not concerned to know whether the poorer districts get a reasonable service. They resent that the new fee and the changes in the waste collection service were imposed without consulting them, and they believe that the companies that provide the service are making huge profits at their expense.
- Some development co-operation agencies were convinced that private sector participation was the right approach for upgrading services and improving the living conditions of the poor. They have been frustrated by the lack of interest in their advice and the influence and interference of political leaders in matters which should be resolved according to contracts or in law courts. Training has not had the expected impact.

Because of these factors and experiences the pendulum is now swinging away from private

sector participation and back towards service provision by municipal agencies.

However, this analogy of the pendulum may not be correct. The movement from one extreme to the other may not be so relentless and universal. Perhaps a different illustration shows us the way forward. The picture is of a skilled carpenter, making a high-quality item of furniture – one that will last. First, he must have a clear idea of what he wants to achieve, the style, the structural aspects and the anticipated price range. Then he must carefully choose the wood that his will use, ensuring that it is the right size, condition and type for the job, and that its cost is commensurate with the price range for the final article. Then he must use his skill, selecting the right tool for each job, and ensuring that the tools are kept sharp and in good condition. In the same way a local government manager who is considering involving the private sector should consider the objectives that are to be achieved, and the financial resources that are available. The next step is to select the most appropriate form of enterprise or utility, and select from a wide range of options the most suitable way of working with that partner – the form of the relationship and all the details of the contract or agreement. Steps must be taken to ensure that the tools that govern the relationship are used well and kept in good condition. There are many possibilities and many choices – skill and experience are needed to achieve the best results. And is it hardly necessary to add that the skilled craftsman did not learn his trade in one day, but started on small projects, learned from his mistakes, and gradually moved up to larger and more complex assignments as he accumulated confidence, skill and experience.

This comparison with the craftsman applies mostly to the public sector side as it develops its capacity and skills and chooses the right tools and approaches, and selects its private sector partner. But what is the message from this study for potential private sector partners? Perhaps it is a piece of advice that is also useful in the marriage partnership – *it is better to listen than to assume*. This is especially important where the potential private sector partner comes from a different culture or background than the public sector client. The outsider should not assume that the potential client regards contracts and other official agreements in the same way as he does, but listen and learn from the local private sector how contracts are managed, whether contract clauses are followed or ignored, whether to expect a partnership or a struggle, and what support can be expected from higher authorities and the judiciary. A prospective service provider should listen to the perceptions and expectations of the community to be served, rather than assuming that a particular type of service will be acceptable to the beneficiaries. Perhaps, in the end, it is the cultural differences which have the greatest impact on the success of private sector participation, not the technical, demographic, spatial or legislative factors.

Recent experience has shown that private sector participation is not as simple as many had anticipated, but it does offer many advantages, particularly as we become more aware of the need for improved environmental standards, and as the continuing growth of cities places demands on solid waste management services that local administrations have not been able to meet. Changes always expose difficulties and challenges, but successful societies are those that are ready to turn their backs on stagnation and face the new challenges of change and growth. In this area especially we can see the difference between cities that have strong and visionary leadership and cities that have political leaders who are only concerned with short-term issues and popularity. We should not be quickly discouraged, but do all we can to learn from experience in order to improve the partnership between private and public sectors.

Part II
Summaries of selected case studies

Brief comments to introduce the case studies

Most readers will not have time to read all the case studies, and this is unfortunate because there is a wealth of experience and wisdom within them. As a means of providing some guidance to the reader, a very brief introduction will be given for each case study, together with an indication of its length (as a number of notional pages, actually the number of pages in a draft version). At the end of Part II there is a table showing the main features of each case.

Case Study	Title and introduction	Page
A	**Large-scale private sector participation in the environmental sector** Drawing on experience from the water sector as well as from waste management, this paper provides useful guidance regarding options for involving the private sector, and the benefits and problems that are associated with private sector participation on a large scale. Much useful advice. (Length 6 pages)	135
B	**Developments in a small city in Peru** This report describes how the private sector was brought into waste management, with assistance from a national agency, an international development co-operation agency and a consultant. Practical and positive. (Length 5 pages)	140
C	**An unsuccessful attempt** A short summary and explanation of why an attempt to involve the private sector failed. Many of the problems here are echoed in other case studies. A useful checklist of dangers to avoid. (Length 1.5 pages)	144
D	**A commercialised public sector unit serving 11 communities** An excellent example of inter-municipal co-operation and external assistance, presented with a useful degree of detail. This utility provides secondary transport and disposal to communities of different sizes, and describes a model that has been reproduced elsewhere. Clear and positive. (Length 19 pages)	145
E	**Further implementation of the commercialised joint council concept** Comments on the replication of the model discussed in the previous case study, with comments about the difficulty of providing services in an emergency situation. (Length 1.5 pages)	150
F	**Establishing a waste utility company for a large metropolitan council** Some pros and cons regarding the formation of a “private” utility with staff from a municipal administration. (Length 1 page)	151
G	**Private sector participation with the assistance of a donor project** Inputs from a technical co-operation project assisted in the preparation for private sector participation. This paper focuses particularly on the monitoring system that was developed to include community participation and the financial preparations needed for sustainable private sector participation. Some instructive experiences. (Length 10 pages)	152
H	**Intercommunal solutions in Chile** A council with 16 members was formed for organising disposal. Elsewhere 11 communities joined together to benefit from a concession signed by one of them for a sanitary landfill. Useful insights into the dynamics of such associations. (Length 3 pages)	160

Case Study A Large-scale private sector participation in the environmental sector

contributed by Juergen Lorenz

This paper is concerned with experiences of large private sector participation projects in the fields of water supply, wastewater, solid waste management and urban development.

Embracing private sector participation – an example

The Philippine government recognizes the *"indispensable role of the private sector as the main engine for national growth" through private investment in "infrastructure and development projects normally financed and undertaken by the government."* Legislation relating to private sector participation in the country helped to resolve its power crisis in the 80s, and in the 90s allowed for the fast track privatisation of the Metropolitan Water & Sewerage System (MWSS), considered the largest of its kind in the world.

In the National Development Plan of 2001, the Philippines government recognized *that "both the public sector and the private sector have certain advantages relative to the other in the performance of specific tasks. By allowing each sector to do what it does best, public services and infrastructure can be provided in the most economically efficient manner."*

Concession arrangements

There are a number of variations of contractual arrangements possible under the BOT Law, such as build and transfer (BT), build-lease-transfer (BLT), build-operate-transfer (BOT), build-own-operate (BOO), build-transfer-operate (BTO), contract-add-operate (CAO), develop-operate-transfer (DOT), rehabilitate-operate-transfer (ROT), rehabilitate-own-operate (ROO).

Infrastructure and development projects are generally characterized as having the following main parts: 1) engineering design and supervision; 2) procurement and construction; 3) financing (equity and loan portions); 4) operations and maintenance; and 5) monitoring and audit.

Proposals are either "solicited" by the national government through its attached agencies, or through local governments, in which case the contract is awarded to the qualified proponent with the proposal that is most responsive and most advantageous to the government. Alternatively, if the initiative is from the private sector, it is classified as "unsolicited" and is then subject to comparative proposal (Swiss challenge system). National and local priority projects (as identified by the government) are required to go through a public tender process; unsolicited proposals for such projects may not be entertained.

Institutional arrangements and approving agencies

The projects may either be national government or local government projects. The Philippines has a Co-ordinating Council for Private Sector Participation (CCPSP), which is the government agency mandated to oversee and monitor private sector participation in public infrastructure and services programmes.

Approval levels are based on contract values. For example: in the Philippines approval for a small local project valued at up to US$ 350,000 can be granted by a Municipal Development Council. At the other end of the scale, large national projects costing more than US$ 5 million require the approval of the Investment Co-ordinating Committee, which is at the level of the cabinet. Projects undertaken under a BOO scheme require Presidential approval.

Pitfalls in the implementation of the BOT law

Normally when the project approval and implementation are acquired according to the requirements of the legal framework, there should be no hitches. However, political instability, the lack of political will to institute the appropriate user fees (such as tariff rates or tipping fees), and corruption are among the pitfalls in private sector participation. At the local level, the lack of the capability of local government to undertake all the tasks involved – from the first stage of planning to the last stage of monitoring – is also a major problem.

Controversies and disputes do occur. In one case in the water supply sector, the operator, wished to return his water distribution franchise to the client

based on his claim that the company was forced to subsidise the water of its customers and that the government's regulatory environment was non-supportive and hostile. Another example comes from the bidding for a BOT contract for the bulk water supply, which failed because the implementing agency instituted changes during the middle of the bid process, rendering the project non-bankable.

Controversies are not unique to the environmental sector. In the sphere of transportation, the BOT contract for a major airport terminal was nullified due to contract amendments. In the power sector, a responsible department recently re-evaluated contracts of the independent power producers and made amendments to provide more competitive power rates. Meanwhile, the first major BOT project implemented in the country is having financial difficulties due to the drastic devaluation of its currency against the dollar.

At the local level, local government units (LGU) often lack the technical, financial and legal expertise to undertake major infrastructure projects, let alone BOT projects. Furthermore, the term of office of LGU officials between elections is often not long enough to see a major project through, given that preparation and tendering for major infrastructure projects, financial packaging, environmental clearance and higher government agency clearance can take even longer than an executive officer's term in office.

Where LGUs are undertaking such infrastructure projects, this is normally with the assistance of the national government, and/or with the assistance of an international institutional donor; such donors most often assist LGUs – financially and technically – in the preparation of the project feasibility study and tender documents.

Practices that discourage participation by the private sector

At both national and local levels, numerous international and local private sector proponents have shied away from private sector participation because of negative experiences. The following difficulties have contributed to the slowdown in private sector participation in the country and are, in effect, tantamount to a form of economic sabotage:

- Non-Implementation of tendered projects and long delays in the tender process: Project Terms of Reference include a standard clause that the government has the right to reject any and all bids. This clause is sometimes enforced even if there is no case of a failed bidding. Substantial costs are incurred by the private sector as early as the pre-qualification stage where the proponents already send out their technical teams to make initial investigations regarding the project, and during the tendering stage for major infrastructure projects – for which proponents invest in technical, legal, and financial studies – plus in other tender related costs.

  The government's implementing agency must act in good faith, clearly acknowledge its contractual responsibilities through the bid process itself, and should strictly commit to bring the project to fruition. Numerous projects have been tendered, yet never implemented. This connotes lack of sincerity, diminishes the country's credibility and discourages private investor interest.

  A clear example of this is a large water supply project, for which a public invitation for submission of Letters of Interest and Pre-Qualification Documents was issued in April of 2001, proponents who signified their interest and submitted pre-qualification requests never received any response to their submissions. In March 2003, another public invitation for the same project was issued. From 2001 to 2003 proponents who had submitted their Letters of Interest and Pre-Qualification Documents were in limbo, not knowing if their applications had been discarded or would be honoured.

- Bid rigging: Proponents must be assured of a level playing field and the government officials should refrain from any attempt to rig bid procedures. "Contracts" linked to such activities should not be entertained at all. This bid rigging causes delays due to the filing of court cases against the government by the other bidders. When the bidding process is transparent and all the proponents are assured that it is devoid of any back room negotiation, and the proper bid evaluation is undertaken, the proponents participating in the tender will accept the bid committee's decision. Delays caused by legal suits not only cost money for both parties, but also delay the delivery of the public services that are to be provided by the project.

- Proper qualification of private proponents: Despite rigorous qualification requirements, there are cases wherein unqualified proponents are allowed to participate and are even awarded the contract. There have been cases in which the unqualified proponent is then unable to secure the appropriate financing to implement the project or is unable to sustain the project. The losses and delays caused in such cases can have a high human and economic cost.
- Inequitable and unclear contract conditions: Contract conditions must be such that the project is bankable and economically viable, otherwise, there will be no interest from the private sector if they do not see a fair return on their capital. Also, project financing may depend on the contract conditions. If the financial institutions deem it risky, there will not approve a loan for the project. Most often the bidding process must be repeated, which again causes delay in the delivery of service to the public and wastes the financial resources of both the government and the private sector.

Another crucial pre-condition is to define the project's requirements and specify all factors in great detail. Vague project details and loose contractual terms at the onset result in conflicts and controversial contract amendments during project implementation and operation, when conditions allow for enhancement of contract terms to increase profits, enable illegal pay-offs and bring about dubious deals. All contract agreements and following arbitration or negotiations should be transparent and open to public scrutiny.

Key factors for successful private sector participation are the sustainability of the project, and the existence of an open market with sufficient, wide and fair competition. If such conditions are not present or are eliminated before, during or after the bidding process, the results will be inefficiencies and more costs for the user.

Good practices that favour effective private sector participation

Good governance, corporate social responsibility and public awareness are three elements that must be present for private sector participation to succeed. They will ensure that the proper service is being provided, and that the users are paying the appropriate user fees.

- Good governance: The cost of corruption either by extortion on the part of the public sector or by bribery on the part of the private sector is added to the project cost, increasing user charges needlessly. A lack of ability on the part of government officials to implement projects and programmes leads to their making the wrong decisions, the cost of which becomes a burden on the public. Officials should be made accountable for their decisions. The government must also have the political will to enforce environmental laws and must put an adequate monitoring and enforcement system in place. Without these, private sector participation in the solid waste management sector will not prosper.
- Corporate social responsibility: The private proponent on the other hand should have a high sense of social consciousness and clearly understand the meaning of public service from the perspective of the government and the users. They must ensure the project's technical soundness, operational efficiency, proper cost control and effectiveness in environmental protection, and be able to provide and deliver service at the least cost to the public user.
- Public awareness of user fee or polluters must pay system: The public user's responsibility meanwhile is to understand that the service is not being provided free of charge and to be willing to pay the appropriate charges. Enforcement of fee payment for waste management is more difficult than for water and electricity, because there is no convenient direct way of charging for the service, and the benefits are less tangible and individual.

Advantages of partial private sector involvement compared to full privatisation

Full privatisation carries with it a problem in the sense that a public trust is being surrendered to the private proponent who may not have the social conscience to balance capital return against the concept of public service. The government tries to address this through limiting the return on investment to those projects that have a monopoly of the particular service. On the other hand, private proponents are at risk when government does not make the upward

adjustments in user charges that are promised in the contract, or even when government delays such adjustments, due to the government's fear of a backlash from the users – who are the very same people as the voters that elect them to office.

Partial private sector involvement provides an opportunity for the public and private sectors to have an equitable sharing of risks, responsibilities and rewards. Even if the private sector provides not only capital but also access to financing, and the necessary technical, financial, management and operational expertise to ensure sustainability of the project, the involvement of the public sector can ensure that proper regulation will occur (i.e. excessive user charges and increases are not imposed) and that transparency is upheld. At the same time, the involvement of the public sector should assure the private sector that it will uphold its commitments under the contract and co-operate towards the economic sustainability of the project.

International agencies can assist in the implementation of private sector participation.

The criteria for the selection of a private sector partner are:

- good track record,
- regional history and experience,
- technical/scientific capability to handle the project,
- financial backing/access to financing,
- project start-up and delivery experience,
- demonstrated ability to work within the PPP process,
- technology transfer and capacity building capability, and
- evidence of proven technology or services.

The burden of risk and risk sharing

A major point of contention between the public and the private sector in private sector participation is the issue of risk. Project risks must be allocated properly between the parties and be minimized. Risks that are normally shouldered by the private sector are related to project completion, quality, performance and cost guarantees. Additional risks to be considered include the country's economic and political stability, the soundness of its legal environment, and the fairness and timeliness of its judicial system. Private proponents must allocate additional sums to cover country and project risks in proportion to the assessed level of risk. The higher the perceived level of risk, the higher the cost.

There are, however, factors that cannot be predetermined, such as increases in the costs of land, rights of way and squatter relocation, foreign exchange (for both equity and loan components), costs related to changes in state policies and laws, and costs related to labour strikes based on unreasonable demands. Since the costs related to such factors cannot be calculated before the actual event takes place, the public sector must shoulder the increased costs in such cases. If these risks are loaded onto the private sector it will result either in an over-estimation of the contract price so that the user pays more, and providing the private operator with unexpected losses or windfall profits, or under-estimation of the contract price. If the cost estimates are too low, this could cause financial difficulties leading to either a contract recession or to a lengthy litigation or arbitration. These results are not desirable. Factors that cannot be calculated must be covered by a price adjustment immediately upon real occurrence of such events for sustainability of the project.

Points of contention may be eliminated, or lessened considerably, when descriptions of the scope of work and the project terms and conditions that are provided at the outset are both detailed and accurate, and where both parties have a clear understanding of their responsibilities. If such conditions are not established, conflicts will certainly occur. If conflicts or disputes are not controlled and managed properly, one or the other party is disadvantaged. Or, worse still, the consumer is disadvantaged when neither party can be held to be ultimately responsible.

The foreign currency exchange risk

In many countries where the development of the environmental sector is at an early stage, there are not many qualified local private sector companies that can undertake the design, construction and operation of large or complex facilities, or provide services on a large scale. In such cases local companies are obliged to partner with foreign operators to qualify for the project. Foreign equity and foreign financing are tapped for the project. Adjustments for movement in foreign exchange rates are very important in such partnerships, and if insufficient allowance for changes is permitted by national policy or

incorporated into the contract, foreign companies may not be interested in participating or may raise the price considerably to accommodate such risks. One does not need to look far to find recent incidents of large currency devaluations. The effects of such devaluations depend on the proportion of the contract costs that are expressed in foreign currency, especially debt repayments. Failure to make allowances for foreign exchange rate fluctuations greatly discourages foreign investment.

Environmental projects are marginally viable

Although in many developing countries the appropriate environmental laws may be in place, complete enforcement and provision of the appropriate facilities are often a long way off. Strong political will, public awareness and substantial investments are needed to protect a country's environment from further deterioration.

Many countries are still at a stage where the total cost of environmental pollution has not been valued and therefore the decision makers have not prioritised the environment sector in the national economic programme, nor has the public been made fully aware of the impact of environmental pollution. The majority of the public may oppose the polluter-must-pay system even if they can afford to pay, while those that live below the poverty line cannot afford to pay for the service. This makes environmental projects marginally viable.

Soft loan financing may be used for government infrastructure projects with private sector participation to allow for the implementation of marginally viable projects. The lower interest rates will allow lower user fees to be set. Such financing is more appropriate for large, capital intensive projects rather than for integrated solid waste management projects that involve a high proportion of operating costs, but it may be suitable for major capital projects such as large landfills with transfer stations and waste processing plants.

A drawback associated with some soft loans may be that they have attached conditions, such as requiring that consultants, bidders and suppliers must be the nationals of the donor country. The private sector will not participate in marginally viable infrastructure projects, nor will they acquire funding from commercial lenders, unless national government guarantees are provided. Government's access to soft finance rates, limited subsidy and grants combined with the private sector's financial resources, technical skills and efficiency in operations can reduce costs and maximize the benefit to the public user. If the necessary charges are not affordable for certain groups, aside from a socially oriented structure for charges, limited government subsidy should be granted.

There is no question that lower user charges can be achieved by private, specialised infrastructure companies, by eliminating the bureaucratic process and through utilisation of improved technical and management systems. The public's fear that user charges may become unaffordable when the private sector is involved must be corrected. Overpriced infrastructure and services subsidized by government and enjoyed by the public user today have to be repaid sooner or later by this generation or by its successors.

Governments and their ODA providers need to fully realize that a market-oriented, yet socially committed capitalistic system is more beneficial to society than a controlled and over-regulated government system. Public spending is rarely enough to fuel a lagging national economy. Governments need substantial private investment in public infrastructure and services to fuel the desired level of economic growth. Private sector participation will not reach the necessary level unless it is given the opportunity to tap cheaper sources of funding.

Case Study B Developments in a small city in Peru

contributed by Teony Alva Vives,
Luis Lozada Mimbela and Stefan Ziemendorff

Introduction

This Case Study describes the introduction of private sector participation to a small coastal city in the North of Peru. The name of the city is Paita and its population was around 57,000. Previously there had been no private sector provision of waste management services in Peru, apart from in the capital. The introduction of private sector waste management in provincial Peru was spearheaded by the Special Committee for the Promotion of Private Investment – CEPRI PAITA – with assistance from the governmental agency PROINVENSION and the support of the PROAGUA Programme for German Technical Co-operation. This process began in January 2002 and the operations contract was signed in March 2004.

Background

In 2002, the solid waste management service in Paita was inadequate because the vehicles were over 15 years old, and the collected waste was dumped in an open field a few kilometres from the city. There were frequent complaints about the unreliability of the service, such that many residents stopped paying for the service – more than 75 percent of monthly invoices were overdue. This was not an isolated case.

The private sector had been providing waste management services in more than half of the districts of the capital, Lima, since the 1990s. However, in the other cities of the country, private sector participation was not perceived by local authorities as a viable solution for solid waste management problems. It is important to note that this distrust of the private sector applied not only to solid waste management, but also to other services offered by local government, such as markets and ports. In addition, municipal leaders were simply not aware of this option and their general perception was that the population would be against it.

In order to decentralise private investment in Peru, the government passed a decree that designated the Commission for the Promotion of Private Investment (COPRI) – now the Agency for the Promotion of Private Investment (PROINVERSION) – as the body responsible for offering support through advisory services and financing of decentralised projects handled independently by the municipalities. To access these support and advisory services, the municipalities had to meet certain requirements, including the preparation of feasibility studies to show COPRI that the proposed projects would be attractive to private investors. COPRI signed an agreement with the PROAGUA/GTZ Programme for assistance in meeting these requirements.

Preparing for private sector participation in Paita

Several municipalities in northern Peru requested PROAGUA/GTZ and PROINVERSION to make presentations on private sector involvement to the local authorities and municipal councils. Among the first municipalities to request this support was the city of Paita. Various presentations were made between December 2001 and March 2002; these were attended by journalists from the local media, and representatives from civil society and from the Municipal Council. At these encounters the advantages of private sector participation were presented, the steps that would be taken in order to achieve this participation were explained, and the possibilities of receiving support in the implementation of the process from both the PROINVERSION Agency and the PROAGUA/ GTZ Programme were discussed. Thanks to this information, the Provincial Council of Paita unanimously decided in March 2002 to involve the private sector in four projects, priority being given to solid waste management.

The Municipal Council empowered the Provincial Mayor's Office to sign an agreement with the former COPRI to establish CEPRI PAITA to oversee the project. At the request of the Provincial Council of Paita, the PROAGUA/GTZ Programme prepared a feasibility study on the city's needs for solid waste management. As a result of this report, the municipality requested advisory services and financing from PROINVERSION. Funds were approved to finance consulting studies and part of the expenses of the bidding process for operators. With the help of PROINVERSION, CEPRI PAITA drew up the first Work Plan and a Process Schedule.

All related events – the signing of the agreement with PROINVERSION, the establishing of CEPRI-PAITA and the introduction of the Work Plan – were conducted at public ceremonies. The events were attended by authorities and municipal officials, the local press, and others. Documents were published to inform the public.

In conjunction with CEPRI/PAITA, PROAGUA/GTZ conducted an opinion survey among residents to understand their expectations and fears regarding the process, both before and after the involvement of the consulting firm (see Section 4 below). The survey showed that the population expected a much-improved service in many aspects, but many residents also feared a reduction in the number of municipal personnel and expected an increase in fees. It is interesting to note that even the residents who opposed private sector involvement believed that a private firm would improve services. However, their main concern was the fee.

The main factors that made this preparation a success were identified as the following points:

- Unlike earlier processes for involving the private sector in the supply of electricity and potable water, which kept the public and local authorities in the dark – and failed, as a consequence – this process was handled in an open and decentralised way.
- The involvement of the PROAGUA/GTZ Programme, which was viewed by the local governmental authorities and by residents as an independent entity without specific interests.
- Without the proactive work done by the PROINVERSION Agency and the PROAGUA/GTZ Programme to promote the private sector as a viable solution to municipal problems, the provincial municipality of Paita would never have found out about private sector participation nor taken the decision to adopt it. This assistance was also invaluable in the preparation of feasibility studies.

Consultancy input

To design the framework for the transfer to the private sector, it was deemed necessary to hire a specialised consultant. The goal was to offer answers to some key issues that had been raised by the feasibility study, such as:

- A disposal site that would be the most feasible in environmental, economical, and legal terms.
- The arrangements for municipal workers who would no longer be needed by local government.
- The type and timeframe of the contract with the private operator, to ensure that the project would be attractive for private investors (and economically feasible for the municipality).
- An economic study that would help to determine and define the quality of service in different scenarios.
- Environmental aspects.
- The demands and perceptions of the beneficiaries.

Ten specialised firms and NGOs were invited to bid for this consultancy. Six requested the bidding forms and two submitted proposals. A consortium of national experts was selected as the preferred bidder. The contract was signed in September 2002 in another public ceremony.

It was planned that the studies would be completed within three months. However, municipal elections and the change of municipal administration that occurred during this period forced an extension.

The results of the study included the following:

- An environmentally acceptable site for a sanitary landfill was selected. Since the preferred site was owned by the municipality, there was no risk of a long delay in acquiring the site.
- A legal formula was unveiled to solve the problem of the existing municipal workers. The consultant suggested that they be hired as part of a management contract under the supervision of the private operator. The workers hired by the municipality would have the first option to apply for a job with the private operator, though the private operator would not be obliged to hire them. The consultant's proposal to solve the labour problem was feasible because there was not an excessive number of employees. Had there been any excess, it would have been necessary to obtain additional funds to cover severance pay for these workers, and this could have endangered the financial feasibility of the project.

- It was determined that a 10-year period for the contract would be a reasonable timeframe for the operator to recover his investment. A longer time period was rejected on financial grounds.
- It was determined that the income from fees would not alone be sufficient to allow the operator to recover his investments and costs. So a decision was made to opt for co-financing, by which the municipality would continue to subsidise the service for the first five years. In addition, it was determined that this solution would be more viable than if the municipality decided to execute the project itself.
- Through surveys conducted in different areas of the city, it was discovered that there was an important contrast in service demands. For example, there were some areas that preferred a daily service, whereas other wished for a service every other day, or twice a week.

Preparation of tender documents

It was proposed that local microenterprises be created because of the small size of the city, but because the Peruvian experience of such enterprises has not been encouraging CEPRI PAITA surveyed a number of national private firms with the assistance of PROAGUA/GTZ. The survey confirmed that these firms were willing to participate in a bid for waste management services in Paita, since they considered that it could lead to other contracts in the northern area of Peru. So CEPRI PAITA decided to continue with the tendering process, with the assistance of PROINVERSION and PROAGUA/GTZ. The documents that were prepared included regulations, a plan and the contract. The public bidding process began in September 2003; the call for bidders was published in three Lima newspapers and in one local newspaper.

This experience teaches that, if a doubt exists regarding whether the tender will be attractive to the private sector, it is advisable to interview possible bidders – especially experienced, specialised, firms – and gauge their interest. In the case of Paita, several private firms (both national and foreign) visited and made presentations to the authorities to confirm their interest in participating. These expressions of interest can be much more significant than the opinions of external advisors or consultants.

The tendering process

Six firms – all being national companies – requested the tender documents. Three sought qualification, but one was ruled out for lack of experience. Use was made of the registry of firms rendering solid waste services at the Health Ministry, which had more than 70 firms on its books.

The following recommendations can be made on the basis of this experience

- The time allowed for the preparation of bids (seven weeks) was too short and did not allow foreign firms to bid; one of these firms, from the United States, had even visited the municipal authorities to express interest. International firms need more time for travelling, communication, familiarisation with local aspects and planning.
- The minimum requirements were considered to be too high for the national enterprises, and so had to be readjusted.
- Essential requirements are that: (i) companies must be solvent financially and have technical experience and (ii) a sufficient number of companies should bid in order to ensure effective competition. The second factor is frequently ignored. It is important that the process is as competitive as possible, to help the local and national private sector to develop. To do so, it may be necessary to reduce requirements for the minimum experience required. A recommended approach for countries and sectors where there is no national private sector is not to evaluate the companies' experience but rather to evaluate the experience of the professionals that the company will commit to the project. This could be a way of avoiding the growing monopolisation of public services in the hands of a few multinational enterprises.
- It is suggested that the bidding process be conducted without a prequalification phase. Prequalification is used to ensure that the companies that are allowed to bid (i) have relevant experience, (ii) are financially solvent and (iii) do not have any pending or current legal disputes. However, if only two or three companies remain for the later presentation of the technical and financial envelopes, it is highly probable that these companies know each other and so they may

have agreements affecting the bidding process that prevent free competition. Therefore it is proposed that the prequalification and bidding stages are merged into a single submission, in order to discourage collusion or price fixing between bidders. The uncertainty regarding which other companies are bidding could protect competition. It is also useful to retain the rectification phase for the documents presented in envelope 1, to avoid having to reject bidders for formalities regarding the presentation of the documents, rather than for shortcomings in the content of the proposals.

The selection of the preferred bidder

On November 17th 2003, CEPRI PAITA presented the results of the technical proposal of the two qualified bidders in a public ceremony. Both bidders had been approved having surpassed the minimum of 70 out of 100 points, and so the financial envelopes of both were opened.

This result was not disputed through written request of the runner-up, so the official acceptance was granted. After delays in the Public Registries and in customs formalities, the operations began immediately, with the successive implementation of household waste collection and the other services. (For these services, the operator employed two new compactor trucks acquired in Brazil at a comparatively lower cost than that obtained by municipalities via a bidding process.)

The achievements of this process can be summarised as follows:

- Although it was still too early to prove that the service had improved, and without any empirical analysis, it could be affirmed that the service had improved considerably in the most vulnerable parts of the city.
- The investment schedule had been adhered to. In fact, investments were ahead of schedule after the first two months of the contract.
- The cost of service was low enough that it had not been necessary to increase the fees which was the principal concern of residents.
- These public cleaning service fees will remain stable as long as the main costs (labour and fuels) do not increase substantially, since the co-financing amount will be adjusted to reflect these costs.
- Other services are now being considered for private sector participation by the Municipality of Paita.

Concluding comments

- The participation of the private sector in cities similar in size to Paita is feasible, especially if there is a well-developed national or local private sector.
- The participation of the private sector does not necessarily involve fee increases as long as investment requirements are handled in a responsible manner and the private sector resolves technical issues. Advantage should be taken of the private sector's expertise and ability for establishing reasonable quality milestones that reflect the real needs of residents.
- The success of this process of private sector participation in the provincial municipality of Paita has created new possibilities for other municipalities in Peru. Many other municipalities have now begun similar projects.

Professionals and institutions interested in receiving more information on this type of process can visit the website of PROINVERSION www.proinversion.gob.pe or request the necessary documentation for private sector participation in solid waste management from PROAGUA/GTZ (this documentation includes all documents relevant to the Paita process) at: lima@proagua-gtz.org.pe or by contacting the Technical Secretary at CEPRI PAITA: lor.lozada@yahoo.es.

Case Study C An unsuccessful attempt

This Case Study recounts experiences of a capital city that tried private sector participation and later rejected this approach as a failure.

Having had little experience in solid waste management, many cities in this country were supported by donors, who introduced modern methods and modern equipment. When the local administrations took over the projects that had been previously established and managed by international agencies and experts, problems of administration led to a rapid deterioration of service standards. This was attributed to a number of reasons and factors, the most important of which were:

- The progressive increase in the quantities of solid waste.
- The limited technical and administrative experience of the young local administration.
- The failure of communication between the implementers and the decision-makers.
- The small monetary allocations to operations and maintenance and a rapid deterioration in the operation and productivity of the equipment.
- The lack of sense of accomplishment with regard to improving and beautifying the cities because of the deterioration of the sanitation situations within them.

An international agency was approached for assistance, and one of its recommendations was that the private sector should be invited to provide some public services, including solid waste management. So, in 1995, the Prime Minister issued a decree that opened the way for contractors to take over the solid waste management services.

Three contractors were appointed to serve the four districts of the capital city. The contractors started with enthusiasm and energy, determined to set a good standard and show a big improvement to the residents. There was a clear improvement during the first few months, but the standard soon started to deteriorate to levels that were close to those that had existed before they had started, and even worse in some cases.

In the final months of 1999, the government decided to cancel its contract with the private sector. Early in 2000 the municipal authorities repossessed their equipment (which had been leased to the contractors) and started to provide the services once more.

The decision of the government to cancel its contract with the private sector can be attributed to a number of reasons, the most important of which are:

- Excessive haste in contracting the private sector, and omitting a number of important stages in the process because of this haste.
- The incompleteness of the contracts, such that they omitted many details and important technical, professional, financial, and legal issues.
- The lack of expertise and financial aptitude in the contractors.
- The dependence of the contractors on government equipment.
- The inability of the municipal finances to consistently make the monthly payments to the contractors.
- The failure of central government to cover the monthly deficit in the municipal budget.
- The delays in payments to the contractors, for more than a month in many cases.
- The inability of the contractors to prepare daily work programmes, as agreed in the contracts.
- Inadequate understanding of the costs involved in providing the required services.
- Ineffective management of the labourers seconded from the municipality to the contractors.
- The growing problems of the contractors with the banks, property owners, drivers, workers, fuel stations, car wash stations, and others.
- The quarrels that occurred between the employees of the contractors because of the lack of trust between them.
- The delays (often of several months) of the contractors in fulfilling their financial commitments towards others or towards their employees (since they linked these payments with the receiving their payments from the municipality).

- Delays in repairs and regular maintenance of the equipment, resulting in the inability to provide the required services and rapid deterioration in the condition of this equipment.
- The attempts of the municipality to monitor and follow-up of the activities of the contractors without clear standards and depending on subjective ideas, estimates and guesses.
- Insufficient equipment.
- A lack of co-operation from municipal officials.
- The deterioration of the appearance of the city.

These and other reasons were enough to convince the Council of Ministers to order the municipality to cancel the contracts with the private sector and to take back the responsibility for providing the service.

Case Study D A commercialised public sector unit serving 11 communities

contributed by Manfred Scheu and Salah Borno

Introduction

A commercialised public sector unit is not in the private sector, but it has many of the features of the private sector, and is, in many cases, worth considering as an alternative to the private sector. The unit is called commercialised because it operates in the same way as a commercial entity – a company – although it is owned by local government. In England, for example, commercialised public sector units compete against conventional private companies. This case study describes the experience of a commercialised unit that was set up to provide solid waste collection and disposal services in the central region of the Gaza Strip. A more complete account is given by Scheu and Borno (2001). This unit, known as the Solid Waste Management Council (SWMC), provides solid waste collection and disposal services for 11 towns and villages with a total population of about 270,000.

Context

Following return to Palestinian self-government in 1994, communities in the Gaza Strip faced the immense task of developing the infrastructure and public services which had been neglected for decades. Solid waste management equipment was very old or non-existent, and cities and towns were surrounded by numerous dumpsites. Solid waste collection - on whatever limited scale - was traditionally a municipal affair. Each municipality was operating its own collection and disposal system. Tractors with trailers were used in villages to collect and transport solid waste to a nearby dumpsite and tipper trucks were employed in larger towns. In those days, the Gaza Strip was probably one of the dirtiest places on earth.

Since then, significant progress was made. Regular collection services were put in place, and uncontrolled dumpsites were closed down following the construction of a sanitary landfill.

The priority of municipal staff and mayors was clearly to get as much waste as possible out of the town centres. In the absence of regulations and standards, disposal was given the lowest priority. Therefore suggestions to close down dumpsites and to implement a central, controlled landfill site were initially quite unpopular. The consequences of switching to one central disposal facility were clear to the mayors: longer transport distances, higher costs, lower vehicle productivity, and therefore more waste remaining uncollected in their towns. Towns with tractor and trailer systems would be particularly disadvantaged since this type of vehicle would be unsuitable for longer haulage distance. Hence the provision of additional and larger collection vehicles was considered a prerequisite to the closing down of uncontrolled dumpsites and the introduction of a central landfill site.

In addition, they realised the need to address institutional, managerial and financial considerations such as

- how to operate a fleet of more sophisticated and larger collection trucks,
- who would be in charge of operating and managing the central landfill site,
- how could the costs incurred by such operations be recovered, and
- what form of institutional set up would allow the creation of adequate institutional and managerial capacity.

In discussions of these challenges with the municipalities concerned, the idea of joint operations outside the traditional municipal set-up was considered to be the most feasible approach.

Commitments

Following intensive discussions between the donor agency (GTZ) and the municipalities, one of the mayors became a driving force and assumed the role of a speaker for most of his colleagues. A joint workshop, involving the mayors, donor agencies and NGOs, was arranged and the following commitments were made:

- 11 mayors agreed to establish an independent public agency for solid waste management (i.e. the SWMC),
- the donor agency agreed to provide technical and financial assistance to this agency,
- both parties agreed that the SWMC should be the implementing agency of the project.

In addition, the following basic principles regarding the formation of the independent public agency or council were agreed upon:

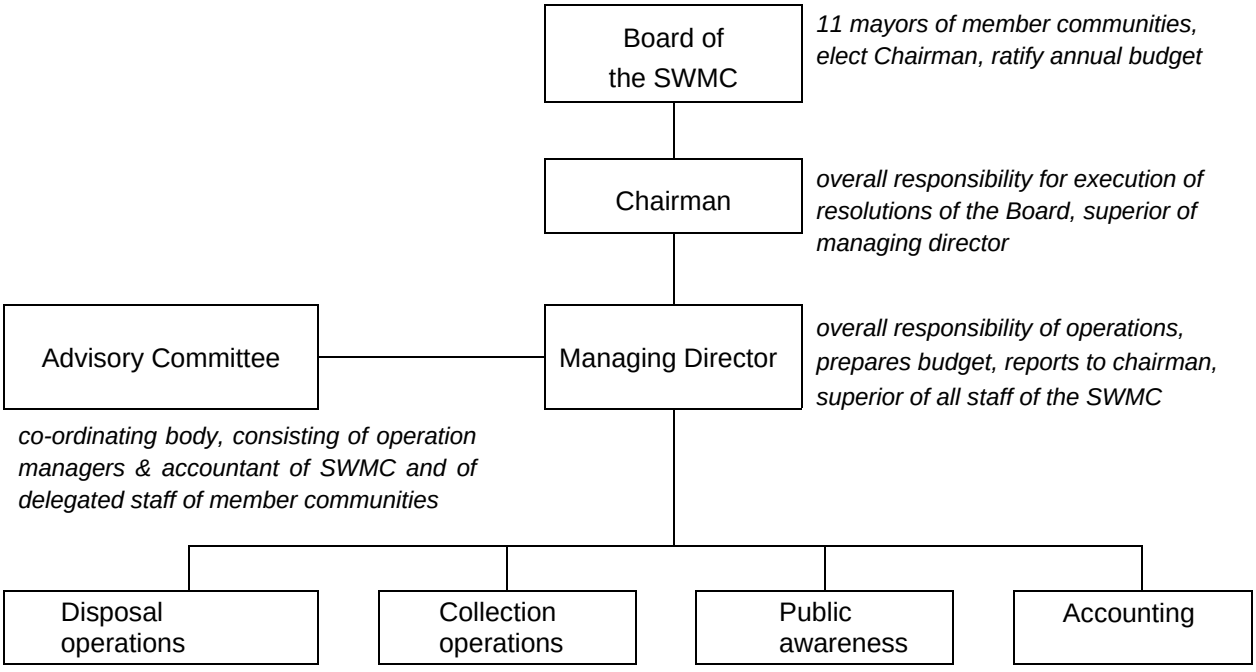
- there should be only one landfill for all the communities,
- a constitution for the agency should be formulated,
- the chairman of the council should be elected by the mayors of the member communities,
- voting rights would be based on the populations of the communities,
- a disposal fee on a cost per ton basis should be introduced, and
- the principle of sharing refuse collection equipment would be adopted.

Furthermore, it was agreed that refuse collection equipment, which had been procured by a UN agency, should be handed over to the SWMC, rather than to individual municipalities.

Set-up of the SWMC

Constitutions of existing water councils in Palestine were reviewed and compared with arrangements for joint councils in Germany. Most importantly, the local situation had to be taken into consideration, and the draft constitution was discussed with the mayors again and again. A lawyer was appointed to check legal aspects, the newly created Ministry for the municipal sector (the Palestinian Ministry of Local Government) become involved, and the constitution was finally approved by all of the 11 mayors in June 1995 and subsequently endorsed by the Minister of Local Government.

Figure D1 Organisation chart of the Solid Waste Management Council (SWMC)



As shown in Figure D1 the Solid Waste Management Council (SWMC) is governed by a Board, comprising the 11 mayors of the member communities. The Chairman and Deputy Chairman are elected by majority voting. The Managing Director is in charge of executing the tasks of the Council and reports to the Chairman.

It was discussed whether representatives of the private sector should be included in the Board of the Council. However, this idea was rejected.

To avoid the dominance of large communities, a voting system in favour of small communities was proposed but it did not materialise. However, the maximum number of votes per community is 35 %. Most decisions of the Board are open, on a one-person-one-vote basis. Therefore small communities enjoy favourable conditions.

Some of the reflections and considerations with regard to the constitution are set out below:

Degree of centralisation

Municipalities are reluctant to give up responsibilities. Therefore the tasks of the joint Council are limited to operations which benefit from a certain economy of scale (i.e. operation of the secondary collection system and of the central landfill site). Primary collection and public area cleaning (sweeping) remain with individual municipalities.

As a minimum requirement one central agency should be in charge of secondary collection and disposal. This is considered necessary to allow for effective operation and maintenance of the vehicle fleet and for provision of standby capacity. It is also required to control the crews in order to ensure that the waste collected will be disposed at the central landfill site only. In other words: if collection were to remain with individual municipalities, the communities might prefer to use their own dumpsites because this would allow savings in disposal charges and avoid longer transport distances. This is understandable in a situation where municipal funds are scarce and where environmental regulations are non-existent.

Management

As in many places, municipal regulations in Gaza are complex and bureaucratic. The delegation of power is virtually impossible and even minor decisions must be made by the Mayor, and quite often require Ministerial approval. Therefore the introduction of modern approaches to management require the setting up of a more independent structure outside the traditional public sector.

In the SWMC, the Managing Director assumes the overall responsibility for the services provided by the SWMC and is given sufficient power to run the Council operations with a minimum of bureaucratic procedures. This key position has been awarded to a manager with private sector experience.

Commercialisation

Municipalities are reluctant to contract out services unless this is clearly cost-effective. This is difficult to prove because costs for particular services are unknown and any estimated value appears to be expensive. It was therefore considered that assigning a real cost tag to particular services was a key target.

Unlike municipalities, the SWMC is obliged to apply commercial bookkeeping principles. Accounts have to be audited by private sector accountants and are open to Board members of the Council.

Employment contracts are generally without permanent tenure. Compared to the municipal sector, where dismissal is virtually impossible, this is regarded as a major step towards commercialisation.

Contracting out to the private sector is permitted. In theory, the constitution allows the privatisation of collection and disposal operations. However, it may be more realistic to gradually increase private sector involvement, than to make a dramatic change.

Financial independence

The budget for collection, disposal, and management is estimated on an annual basis and ratified by the Board. The budget must cover all of the operating expenses and should allow the building up of a reserve fund for the replacement of vehicles and equipment.

Based on the budget and on the estimated solid waste quantity, the Board ratifies collection and disposal charges on a cost-per-ton basis. These charges are applied throughout the fiscal year. Member communities are charged on a monthly basis according to the weight of waste collected from each community, using truck scale (weighbridge) records from the landfill site.

The mandate for setting tariffs, billing and for revenue collection remains with the municipalities.

Hence, the SWMC is not required to collect charges from solid waste generators. This is considered of utmost importance since joint billing with the municipal electricity or water bill is probably the only feasible way to collect SWM charges.

Attempts to include amortisation have been rejected and a reserve fund was created instead. Provided that the international community continues to provide equipment free of charge, or on the basis of long-term loans through the central government, amortisation may not be an issue. It is hard to convince mayors who are struggling to cover their day-to-day running costs to set aside funds for future sustainability.

Transition to the joint Council

The constitution allows member municipalities to delegate existing staff to the SWMC. This particularly applies to drivers and vehicle attendants. Personnel costs of delegated staff are deducted from the monthly bill of the respective municipality. This was a hard-fought decision and proved to be quite problematic. However, the bulk of the municipal expenditures are made up of salaries, and municipalities did not accept that the Council should hire new staff if, as a result, their own personnel would become jobless but could not be dismissed.

Delegated municipal staff proved to be very difficult to control. The chain of command cannot be clearly defined as long as municipalities remain the employer. This was discussed and municipalities agreed not to employ additional drivers until all of the delegated staff has been returned. Currently, only 2 out of 15 drivers remain delegated to the SWMC.

It was further considered in the constitution that existing refuse containers and collection vehicles of member communities should remain the property of the respective municipalities, but should be transferred to, and operated by, the joint Council. This was to ensure that all existing equipment in reasonable condition would remain in service. However, the transfer of trucks to the joint Council did not materialise, and two of the smaller municipalities decided to continue to operate their own trucks and to use SWMC services for solid waste disposal only. With hindsight, it appears that it might have been better to allow the SWMC to purchase the existing equipment from member communities.

Uniform charges

All member communities are charged at a uniform rate, regardless of the distance to the landfill site. Centralisation of disposal leads to higher transport costs for the more distant communities. However, the issue of charging higher rates to these communities was never raised since this was considered to be unfair.

In addition, charges are uniform regardless of the size of communities. Collection vehicles can achieve higher productivities in larger communities than in small villages, and therefore costs for collection in small towns are higher. Again, the Board did not raise this issue and it was commonly accepted that the rates are favourable for smaller communities.

The above flexibility demonstrates a high degree of solidarity and fairness within the SWMC.

Achievements to date

Looking back on 5 years' experience, the SWMC has managed to establish reliable and cost-effective collection services and to operate a regional landfill site. The set-up chosen avoids most of the disadvantages associated with the public sector (such as extensive bureaucracy and municipal employment policies). At the same time, institutional capacity, good service standards and affordable service costs have been established. The achievements are described in more detail below.

Joint SWM Council established and recognised

The SWMC is registered as a non-profit public enterprise under the jurisdiction of the Ministry of Local Government. Recently, two additional SWM councils have been established in other areas of Palestine (namely in the Jenin area of the West Bank and in the north of the Gaza Strip – see the next case study). Both are supported by international agencies. This may help to further consolidate joint councils in this sector.

Reliable collection services in place

Scheduled collection services are in place, covering all of the communities. Refuse containers in urban areas are emptied daily and in rural areas at least three times per week. About 1,750 communal containers are distributed at strategic locations throughout the service area. On average, one container serves about 140 people. In most areas, people are required to carry their waste to the containers. Some areas,

such as high-density residential areas with narrow roads and central business districts, are served house-to-house, using municipal tractors with specially designed attachments that pick up containers.

A truck scale (weighbridge) at the landfill site is a very effective and simple tool for performance monitoring. Codes are used to identify each vehicle, its load and driver, and the collection area on a permanent basis. Combined with date and time, these data are used to monitor, control and optimise collection operations.

Community participation and awareness campaigns form an integrated part of the programme. Two teams of female public health officers are employed for this purpose. They work hand in hand with the operation managers and are responsible for advising the public according to situation.

Following implementation of the landfill site all previous dumpsites have been closed down (i.e. they are no longer used for solid waste disposal).

The service is affordable

The UN agency, Habitat, recommends, as a guide to affordability, that no more than 1.5 % of household income should be paid for solid waste management services. On this basis the fee needed to cover SWMC charges (allowing full cost recovery) should be acceptable and affordable.

Cost recovery is well under way

From the very beginning, contributions of member communities have been sufficient to cover all of the operating costs of the SWMC (about US$ 470,000 in 1999). In addition, about US$ 440,000 was accumulated in the reserve fund.

The policy of the Council was to gradually increase member contributions to full cost recovery rates. Since this required municipalities to increase their revenues, a tariff study was conducted jointly with each of the municipalities and adequate SWM tariffs were introduced in all member communities.

Although the above results were encouraging a subsequent drawback threatened severe consequences. Initially, solid waste management charges were collected as a surcharge on electricity bills. However, when the electricity supply was privatised, joint billing was no longer practised. This caused municipal revenue collection rates to drop to an all-time low - and, due to the resulting financial constraints, arrears of member communities accumulated steadily. It was hoped that this decision would be reversed and joint billing reintroduced.

Outlook

No doubt, at the beginning of the joint project, municipalities regarded the joint SWM Council as a donor-driven affair which had to be accepted as part of a deal to receive the hardware and infrastructure linked to the project. Risks were considered limited since the international agency would not stay forever and decisions could be reversed.

As time went by, member communities and sector ministries came to regard joint councils in the solid waste sector as an alternative to the traditional municipal set up. There are no guarantees that the SWMC will survive in its current structure; the desire to impose more control and political influence remains as a threat to this type of organisation.

However, the SWMC has managed to gain strength and influence. The vehicles and containers are owned by the Council and registered in the name of the Council, the landfill site is owned and operated by the Council, the reserve fund continues to be built up (allowing the Council to gain further independence), and internal procedures and recruitment policies are well established. Finally, the fact that this set-up has been copied by other donor-supported projects is a powerful endorsement.

The arrangements that have been described above are not seen as fixed and unchanging. There is scope for flexibility, including a range of options for the involvement of the private sector – from occasional tasks at the landfill to the provision of regular services, perhaps in selected areas.

Conclusion

In many countries of the developing world, the challenges in the solid waste management sector are quite similar to the ones facing the Gaza Strip in 1994, such as:

- complicated bureaucratic procedures,
- unsuitable employment conditions,
- lack of revenues,
- poor performance standards,
- lack of financial transparency,

- poor collection standards,
- total neglect of disposal standards, and so on.

One often gets the impression that privatisation and private sector involvement can provide solutions to any problem. However, there cannot be a single answer to all questions. Private sector involvement should certainly be regarded as a key option or component. However, without building up the public sector management capacity to control private service contracts, the approach of entrusting all activities to the private sector is likely to fail. One cannot jump ten steps in one go. In the industrialised world it took decades to transform public sector service units into commercialised operators. This process will always require time if it is to produce sustainable results, though it will be different in each situation. The Gaza Strip has a number of unique characteristics, some positive and some negative. The formation and operation of the SWMC should be seen as the result of a joint effort of the local stakeholders and of the development aid agency involved. It is hoped that the experience gained may help similar projects to bridge the gap between public and private sectors.

Postscript

Since the writing of this report in 2001, the second Intifada and the subsequent economic hardship experienced by the people of Gaza has put severe financial strain on the operation of the SWMC. Nevertheless, in August 2004 it was still working effectively and efficiently in spite of many obstacles and challenges. The following case study, written mainly about developments in the northern part of the Gaza Strip, provides some information about recent developments.

Case Study E Further implementation of the commercialised joint council concept

Context

The outbreak of the second Intifada in September 2000 and the subsequent worsening of the crisis have devastating effects on the economy in the Palestinian Territories. After several years of relative economic prosperity, the decline of the GDP was estimated to be over 50% by 2003. At the same time, unemployment rates reached over 40% in 2002 and in some areas of the Gaza Strip even 60% in 2003. It follows that financial sustainability is one of the biggest challenges faced by public services. Donor agencies are assisting with operating costs in the current crisis.

Solid waste management services have continued in spite of the severe economic hardships and Israeli restrictions on access to landfill sites.

Following the successful implementation of the joint Council in central Gaza and a similar arrangement in Jenin in the West Bank, a new Council was established in 2002 to serve the north of Gaza. The Solid Waste Management Council of Gaza North (SWMCGN) is responsible for primary and secondary collection, and the haulage of waste to the landfill of Gaza City. (This is in contrast to the SWMC of central Gaza which does not provide primary collection services but does operate a sanitary landfill.)

The Palestinian General Control Institution is responsible for monitoring the performance of public and non-governmental organizations. It conducts annual monitoring on financial, administration and technical issues. The results of the monitoring, including the conclusions and recommendations, are reported to Ministry of Local Government for follow-up. In case of clear financial violations, the case will be referred directly to the Attorney General.

Recent developments

Operational data

The first year was considered as a trial period during which the SWMCGN would be able to calculate accurately the real cost of the SWM and assess the quantities produced by each member municipality. In parallel, a comprehensive field survey of the houses, commercial and any other public facilities was conducted to set up a tariff system based on criteria agreed by the member municipalities.

Public awareness

From their beginnings the two Councils realized the value of having active public awareness units.

Both Councils are active in implementing a variety of awareness activities including, meetings and workshops, student programmes, home visits, summer camps, clean-up campaigns, and a recent, big awareness campaign using the media (newspapers, local radio and TV), documentary films, posters, brochures, wall painting, street banners, and cultural and environmental competitions. In addition, there were two baseline studies on awareness levels in the two areas to compare the levels before and after these intensive activities, to help in learning how to improve future activities and how to approach the different target groups.

Involvement of the private sector

At present the involvement of the private sector is very small and limited to transportation of solid waste from temporary dumping area to the landfills. (These temporary areas are used because of road closures and travel restrictions imposed by the Israeli army.)

Observations

Willingness to pay

In the Palestinian Territories there is a link between willingness to pay and the collection services that are provided. The primary collection service and the cleanliness of the streets have the most influence on the willingness of the people to pay fees for waste management; the distance to the communal container and the frequency of collection are considered to have a secondary impact, and the haulage or disposal services are not considered significant in terms of willingness to pay.

Comment on SWMC in Central Gaza

Under the prevailing circumstances the SWMC in central Gaza has proven to be the most cost-effective means of providing secondary collection, haulage and disposal services. Economies-of-scale, reliable equipment, effective allocation of resources, relative autonomy and relatively high workforce productivity make the SWMC an efficient and very capable body for rendering solid waste management services.

Case Study F Establishing a waste utility company for a large Metropolitan Council

Background

A consultant was engaged to investigate the possible formation of a waste utility company for a large African city. This exercise culminated in the establishment of a commercialised utility. The comments in this case study are based on that initial assignment and on subsequent contacts..

What happened in essence was that the existing Waste Department of the Metropolitan Council was restructured as a “Private” Utility Company. Initially the idea was that about 51% of the shares would be kept by the Council, and the rest be sold to the staff and to outside companies. In the end the Council was not prepared to sell any shares as they wanted to retain full political control. So although the utility was formed and structured as a private company, the Metropolitan Council kept 100% of the shares. At the same time the Council took similar decisions for some of their other departments. For example, the ownership and management of all municipal plant, equipment and vehicles was passed to a utility named Fleet Services, which had a large financial concern as the managing partner. This meant that all the plant that had been owned by the Metropolitan Council was “sold” to Fleet Services which now rents out all equipment and vehicles at highly inflated prices, mainly because of the fact that almost all the trucks were replaced with new ones.

The Council concluded a Service Level Agreement (SLA) with the Utility, describing the services that were to be rendered, as well as all the conditions, payments etc. This SLA must be reviewed every five years.

The Council agreed to continue to invoice householders and business owners and to pay the Utility their part. In this way the Council retained the risk of non-payment for services since they pay the Utility irrespective of the income received from the beneficiaries of the

service. The Utility thus has very limited financial risk.

Comments and observations

- This is not really private sector participation because the municipality still owns all the shares, so the service provider is still publicly owned.
- The Council also kept the right to make the most important decisions, such as the appointment of senior management staff, approval of budgets, etc. Because of this the utility was without a Managing Director for more than 18 months at one stage, due to political haggling about who should be appointed.
- All existing staff went over to the new entity with very little re-structuring of the organisation. Salaries of the staff were increased significantly because of the perception that in the private sector one must earn more!
- From the outside very little improvement can be seen in productivity.
- The Utility is presently trying to limit the operations of other, truly private companies by putting pressure on the Council not to issue private licences, citing new byelaws which give the Utility "ownership" of all the waste in the municipal area.
- As all expertise left the municipality with the forming of the Utility, there was no one left to really monitor the performance of the Utility and so the Utility basically regulates itself.
- One advantage to the operation of the service is that the financial decision-making processes on day-to-day matters have been streamlined significantly by the fact that all decisions no longer have to go to the Council. This has also considerably improved the ease of working as a consultant to them.

Case Study G Private sector participation with the assistance of a donor project

Introduction

This Case Study begins with a decision at national level to invite the private sector to provide solid waste management services. The process of involving the private sector was not initiated as a result of studies of the situations within particular cities, but was ordered by a decree of the Prime Minister. Most of the cities concerned had no experience at all of private sector participation.

There are many differences between the cities that were required to publish requests for bids. They differed in terms of population, climatic conditions, geography and socio-economic aspects, so it would have been appropriate for each city to develop its own specific plans and approach to cooperating with the private sector. Unfortunately pressure from the national level for quick results encouraged some of the cities to cut corners and copy documents and arrangements from other cities with different conditions.

The city discussed here had the added resource of a link with a development co-operation project that had been operating in the city for some years. Initially it had been working at city level, but with the switch to private sector service provision, responsibility for solid waste management was moved to state level, and the project also changed its focus to this level.

The process of tendering and contracting

At the beginning of the tendering process, outline proposals and tender documents were prepared without requesting assistance from the development co-operation project. Because there was no previous experience in preparing a tender, the authorities took the tender document from the first city to involve the private sector, and only small changes were made to this document, although the conditions in the two locations are very different. Interested companies were invited to submit their offers to the solid waste management department in 2000. Initially, five companies were interested in the tender, but eventually only two companies prepared and submitted offers. The technical offers were evaluated but they were considered to be technically inadequate, and so the financial envelopes were not opened.

This experience emphasised the need for a clear picture of the needs and financial resources

available in the state, so it was decided to prepare a baseline study for solid waste management services for all major cities within the state. Based on a regional solid waste management concept, a general overview of the needs for facilities (landfill sites and transfer stations) was prepared. Furthermore, the amount and specification of required equipment were defined. With this information, an estimate of the total cost of this solid waste management concept was prepared, under the assumption that the contract period would be 15 years. In parallel, the budget of the state was estimated and the framework of the fees to be collected from each category of waste producer to cover the costs of the services was agreed upon. The result was that the amount of money collected was estimated to be less than the amount needed to pay the private contractor for his service in all the cities of the state. Because of this financial shortfall, the state administration decided to tender for solid waste services for only a limited number of cities.

A revised tender was issued and a number of companies indicated an interest in submitting an offer. In the end two companies submitted bids. Both offers were evaluated technically and a contract for solid waste management services was given to one of them. In order to reduce the contract price, the client decided to retain public awareness and operation of the disposal site for its own provision. The contract was signed in March 2002.[19] It was agreed that the contractor would start operations after an inception phase of three months. Due to problems with the Customs over the question of duty on imported waste management equipment, (the Customs being unwilling to grant the concessionary rate of duty that had been promised) the company started its work one year later.

Because of the delays caused by the retendering and contract negotiations, the project team had time before the start of operations to facilitate the development of a number of instruments which were necessary to ensure high standards and a successful implementation of the service.

The following instruments were developed:

- tariff and fee collection system,
- financial controlling system,
- monitoring and evaluation system for performance control,
- complaint and contract management,
- community participation, and
- organisational development on state and municipal levels.

Experiences from the tendering process

The experience described here shows that starting the process of private sector involvement in solid waste management in a hurry can lead to fundamental problems which cause on-going delays in the preparatory phases of tendering and contracting.

It is therefore recommended that the first step should be the development of a comprehensive regional solid waste management concept, on the basis of which the total costs are estimated. The next step is to investigate the various financial sources in order to determine the revenue base and to identify any need for adjustment of the regional concept according to the funds available.

A clear lesson from this experience is that tender formulation takes time and detailed consideration, since the tender document must reflect local conditions. If a tender document is to be based on an existing tender document from another location, the document needs to be thoroughly reviewed and adapted to local circumstances.

If the services to be tendered are not described in sufficient detail, it may be very difficult to compare the offers of the various bidders. To ensure that all technical offers can be compared to each other, the tender in particular needs to include detailed information regarding the numbers of households and commercial units, and accurate and detailed maps of the areas to be serviced, to assist in the preparation of proposals and to define the areas that are to be served. Electronic maps may be preferable in some situations. The tender should ask for the technical part of the offer to include Plans of Operations (operating schedules), based on maps provided in the tender documents.

It is important to note that insufficient information in the tender documents and in the offers leaves more room for uncertainty and divergence, requiring more discussion when it comes to contract negotiations.

[19] The activities and obligations of the contract are summarized in the Annex.

Tariff system, fee collection and financial control

Designing the system

The objective set for the tariff system was to ensure that at least 60% of all costs related to the service contract would be covered by fees. At the same time the aim was to design the tariffs in a way that ensured they were socially acceptable. The selected system involved collecting fees from private households with the electricity bill by the electricity company.

The electricity supplier is based at municipal level and retains a fee for administering the waste fee collection. For fee collection two possibilities were considered:

- Include the fee in the electricity bill. This offers a possibility for motivating house-holders to pay their waste fee because otherwise their electricity supply would be cut off.
- Collect fees by means of a separate bill distributed together with the electricity bill. This option allows for a clear distinction between the two services.

In general, the collection rate among private households is expected to be high if fee collection is linked to the electricity bill. After long negotiations the administration decided that the fee should be collected separately, so that householders could decide not to pay the waste fee if the service is poor or absent.

For shops, offices and other commercial waste generators, collection services were provided on the basis of individual contracts with the municipalities. It was difficult to convince shop owners to sign a contract asking them to pay a universal waste fee. But after an intensive awareness and information programme con-ducted by a large number of *local mobilisers* (discussed in Section 4*)*, graduated tariffs for commercial sources have been introduced and accepted, and the willingness to pay among the business community has increased.

Experience of financial aspects

Lessons that have been learned in connection with the financing of the service include the following points:

The greatest challenges have been developing the tariff system for the private households, the fee collection system and financial control. Calculations must be based on a number of assumptions:

- The tariffs among private households must be designed in a way that reflects the various income levels and so are socially viable and sustainable.
- If the tariffs for households are not determined according to ability to pay, the fee needs to be kept at the lowest possible level and cross-subsidies must be introduced to cover the gap.

These measures can ensure that most households are willing to pay a waste fee, if the fee corresponds to their ability to pay and if the services are provided regularly and at the expected standard. However, a substantial information and awareness campaign among households and commercial units is required to ensure acceptance of the waste fee.

The tariffs for commercial units need to be scaled according to the size and type of the unit. They also need to be individually agreed with each commercial unit and stated in a contract.

To ensure successful private sector participation in solid waste management, it is essential that the state is aware of the financial principles that govern the operations of both parties – govern-mental and private. It is particularly important that the administration understands that it is reason-able to pay a contractor enough not only to fulfil his obligations in satisfactory way, but also to build up a reserve for unforeseen needs and provide a reasonable profit. For this reason there should be a balance between the expectations of the local government client and the level of service that is appropriate for the payment that the contractor receives. For example, in a situation where littering in public places is common, it is not realistic to expect that streets will always be kept clean unless the contractor is paid to provide very high staffing levels around the clock.

Monitoring and evaluation

Establishing the monitoring and evaluation teams

It is useful to consider that there are three partners involved when solid waste management services are provided by the private sector. The three are:

- the service recipients or community, benefiting from the service and paying the service fee,

- the private company that is providing the service, and
- the public sector – the local government administration that has ultimate responsibility for the service.

Since the members of the community – residents and business people – are directly affected by the quality of the service and are required to pay for it, they have a clear interest in ensuring that the service meets expectations in terms of quality and reliability. Therefore it was considered appropriate to involve community members in the monitoring of the performance of the contractor, to complement the technical expertise of inspectors employed by local government. These community representatives were known as *local mobilisers*, since they were also involved in informing their neighbours of their responsibilities, thereby *mobilising* them. These local mobilisers were volunteers from community-based organisations.

The main purpose of the monitoring and evaluation (M&E) system was to observe and report on the performance of the contractor in order to identify shortcomings and initiate actions that would motivate the contractor to provide services according to the requirements of the contract.

The skills of this team were developed by means of a range of training courses and field exercises that enabled them to perform the task of monitoring the services provided by the contractor. The training included a general introduction to private sector participation in solid waste management, the purpose of performance monitoring and the operation of the M&E system. Each monitoring officer was made familiar with the forms to be filled in and the way that the information was expected to flow.

The M&E system used indicators to reflect performance standards with regard to the various services provided by the contractor. The following forms were developed for collecting information on the services delivered:

- monitoring forms: for monitoring cleanliness and waste collection activities by means of a coding system. (Monitoring staff had been trained to judge the quality of the performance of the contractor using a "photo tool" which enabled them to clearly identify and compare different classifications of cleanliness.);
- complaint form;
- maps for the team to define their areas of responsibility and show the routes and sweeping “beats” of the contractor;
- forms for monitoring the overall cleanliness of the equipment, the staff and the facilities;
- forms for monitoring the landfill site, the transfer station and the composting and recycling plant;
- reporting system;
- software program to be used for the entry of the monitoring and evaluation data and for generating reports.

<u>The implementation of the monitoring and evaluation system</u>

The monitoring team was divided by the solid waste management project into several groups, each group being responsible for one area. . Each day they went to their areas of responsibility to monitor the performance of the contractor (using the monitoring forms) and to collect citizens’ complaints (using the complaint forms). Completed forms were handed to the Solid Waste Management Units at municipal level by the municipal monitoring officers and the local mobilisers. Using this information the municipal units produced daily reports, and the contractor was requested to follow up on any deficiencies each day. If the contractor failed to resolve the deficiency within 48 hours, a fine could be issued by the Governorate according to the list of fines in the contract. The system also allowed for the registration and follow-up of complaints from citizens. A comprehensive computerised database had been developed to ensure effective record-keeping and follow up of the contractor’s performance. In addition to monitoring waste management services, other aspects of the urban environment, such as street lights, pedestrian ways, and accumulations of waste on private plots were monitored and notified. It was also necessary to register any condition which might hamper the operations of the private company (such as restricted road access).

In their daily monitoring task the local mobilisers worked closely with the municipal inspectors. To ensure mutual trust and good working relationships, the local mobilisers and the inspectors had been trained together.

Experience of community participation

As already mentioned, the process of involving the private sector should always include a

particular emphasis on community participation. Community participation in this context has three key aspects:

- Financial contribution: One role of the community in private sector solid waste management is to contribute financially on a monthly basis to ensure dependable funding of the contract.
- Adequate waste handling: Each resident is requested to handle his/her own waste properly, following the general rules of waste handling and thereby assisting the contractor to provide the specified services in an efficient way. This includes passing waste on to the contractor in the designated way, respecting the containers, not burning waste and not discarding litter in the streets and public places.
- Involving local mobilisers: Local representatives were involved in carrying out an intensive information and awareness campaign and were regarded as official partners of the Municipalities in the monitoring task. The leading role of the local mobilisers in the awareness and information activities and their role in the monitoring system reflect community participation not only in project planning but also in long-term project implementation. The approach is described in some detail in Section 5.1 below.

The role of local mobilisers

At the beginning of the process of involving the private sector, the state administration and municipalities, with the support of the project, developed a concept and a detailed programme for disseminating information and raising awareness. The objective of the campaign was to raise people's acceptance of, and willingness to participate in, the new waste management system, even before the contractor started working. The messages included general information about solid waste management and private sector participation, the costs and funding of the service, and the role of the communities. Mass media, such as TV, radio and newspapers, were used to spread the information. Seminars and workshops were organised by community-based organisations, and in schools and mosques, supplemented by door-to-door campaigns, offering many opportunities to reach a large number of citizens. A number of public conferences provided fora for discussions, allowing individuals to raise questions and concerns. Clean-up campaigns and competitions as well as wall paintings were another means of communicating to the people. The information and awareness programme was mainly carried out by the local mobilisers and the municipal staff, supported by the project. To ensure proper implementation and sustainability of this programme, training courses on awareness activities were conducted for both local mobilisers and municipal staff.

This approach of ensuring community participation by integrating local representatives into project implementation should be the normal procedure in development cooperation, since it generates the many benefits associated with participatory approaches.

A problem appeared after the end of project. During the project, the wages of the local mobilisers were paid by the project. The state administration had agreed to take over this financial responsibility after the project, but it turned out that the state did not employ them, having made no budget provision for this. The administration decided instead to use its own staff as inspectors because they had received the same training and had more experience in solid waste management, having been working in this field since before the private sector became involved. By this decision the administration rejected the element of community participation within the monitoring and evaluation and awareness activities.

This situation raises a very important question: how can we guarantee sustainability and continuity after the end of a technical cooperation project? Linked to this is how to persuade decision-makers, who are accustomed only to *top-down* processes, that community participation has many powerful benefits.

Another question arising from this experience is whether the municipal inspectors are as effective as the local mobilisers in monitoring the performance of the contractor. At one stage the contractor complained that the municipal inspectors were writing fictitious reports, "sitting in a café" rather than walking around the streets and checking on the activities of the contractor. Presumably the reason for this behaviour would be that it is more comfortable and less strenuous to fill in the forms in a café rather than walking around the city in the hot sun. The contractor tried to negotiate that one of his staff would accompany

each inspector during monitoring activities, but it was not possible to implement this agreement. Another concern is that the municipal inspectors would not be as concerned with the local environment and the effectiveness of the cleansing services, in comparison with local residents. As a consequence, inspectors might be more prepared to accept a bribe from the contractor to overlook shortcomings. Furthermore, members of the community are more likely to pass complaints and observations to one of their neighbours, rather than to a stranger. Finally, the wages of the part-time local mobilisers were very low, so that it was possible to put many pairs of monitoring eyes onto the streets at a comparatively low cost.

Experience of organizational aspects

In preparation for the involvement of the private sector, the project supported the state administration in developing an adequate organisational set-up, and the newly appointed staff were trained for their respective tasks. A first draft of an organisational set-up for the Solid Waste Management Department to be established at state level was agreed, when the first tendering process was still ongoing. As the second tender was being published and the monitoring and evaluation system was being further refined, the organisational set-up was repeatedly revised and adjusted according to the needs of the state, and municipal tasks and responsibilities with regard to contract management, financial control, monitoring, evaluation and community participation were defined.

The overall organizational structure for private sector involvement in SWM had foreseen the establishment of a Solid Waste Management Department (SWMD[S]) at state level, and one Solid Waste Management Unit (SWMU[C]) in each of the chosen cities. The central processes to be guided by the SWMD[S] were the monitoring and evaluation system, the complaint system, activities for raising awareness, fee collection and financial control. In total, the SWMD[S] was to consist of a maximum of 9 employees. The number of staff members in each of the SWMU[C]s varied between 10 and 18 employees, excluding the field staff, such as fee collectors and inspectors.

Implementing private sector participation

The contractor started to provide a service after a delay of three years, and, at the time of writing, had been operating the service for about one year. After four months of operation, the external assistance project came to an end.

Main lessons learned

- At the very beginning, the contractor had to remove huge amounts of waste, which should have been removed before by the municipalities. Because of the lack of financial means, this task had not been performed properly. Because the accumulations of waste were so large, progress in the removal of waste from the streets was slow, so that the population did not see a quick improvement of waste management in their areas.
- The local mobiliser approach was not continued as originally planned. Most of the local mobilisers resigned, since they were not being paid by the municipalities. The task of monitoring and evaluation was instead performed by inspectors from the municipalities. As a result, the quality and accuracy of the monitoring data did not reach the standard originally intended.
- Fee collection from the households did not increase to the expected level and the system of combining the fee collection for waste management with the electricity bill remained a problem, since the electricity company did not see any benefit from providing this service.
- Awareness raising is no longer of interest for the municipalities, because they see this as the duty of the contractor, even though this function was removed from the contract to reduce the cost of the contract.

A comparison of the achievements of private sector participation with the former municipal service is outlined in Table 1.

Evaluating the implementation process

The performance of the contractor is reported in percentage terms for each aspect of the service. It is not clear now these percentage figures are obtained, but it appears that they are subjective. Even if a weighbridge is used to weigh all waste that is brought for disposal, it is still difficult to assess the percentage collected, because of the uncertainty regarding the total generation of waste. Other activities are more difficult to assess in an accurate and objective way. One risk in the assigning of percentages is that these figures will be used to reduce the fee paid to the contractor, with no regard for the penalty mechanisms agreed

in the contract. Table G1 shows some percentages to indicate whether improvements in different aspects have been observed.

Table G1 Comparison between the current and previous situation of solid waste management in the cities served by the contractor

Aspect or activity	Before PSP*	With PSP*
Finance	50%	100%
Equipment	50%	80%
Legal aspects & environment	Not active	Active
Technical staff	Lack of qualified staff for management & operation	Procuring qualified staff for management & operation
Service provision	65%	75%
Proportion of waste collected	65%	75%
Proportion of waste transported	65%	75%
Removal of accumulated waste	50%	70%
Provision of containers	65%	75%
Street cleaning (main streets)	70%	80%
Street cleaning (small & narrow streets)	50%	50%
Washing pedestrian areas & flushing streets	60%	80%
Cleaning of rural streets	50%	50%
Collecting waste from river traffic	80%	80%
Servicing local government building	65%	75%
Cleaning monuments & tourist areas	70%	70%
Waste collection from markets	65%	75%
Clearing of dumping areas	65%	85%

* PSP = private sector participation

The estimated figures indicate that the service had not reached a good standard. This shortfall appears to have been caused by several factors:

- The streets and public areas should be handed over to the contractor is a good condition. During the inception phase, the municipalities should clear all accumulated waste and organize the streets in such a way that the contractor is not hindered in implementing the contract. In this way the municipalities establish an initial standard of cleanliness, which serves as a reference for subsequently evaluating the contractor's performance.
- Cooperation between the public, represented by the local mobilisers, and the administrative bodies is still a weak point. If the original structure of cooperation between the municipality and the local mobilisers had been continued, accurate monitoring data and immediate action through awareness-raising could have improved the fee collection rates and the standard of the service.
- Commitment to high standards of solid waste management is needed by both local government and the waste generators. Obviously there is still room for improvement regarding this commitment to a cleaner environment.

Final remarks

This note summarizes the experiences of private sector involvement in solid waste management in one state, and it is hoped that these observations will be of help to others who are planning to take similar action. If more time had been allocated to the initial preparation of the tender documents, it is likely that the delays before initial implementation would have been much less. In states where experiences of private sector involvement in solid waste management or in other sectors already exist, it is possible that the preparation process can be even shorter than two years.

Nevertheless, long delays in the start of private sector operations have proved to be the rule in other states.

Another problem was obvious during the implementation process. The tools that had been specially developed were not sufficiently applied and were used in only a minor way. Public participation in the monitoring process was not seen by the authorities as an advantage in improving the contractors' service. Public awareness and customer relations have largely been ignored, resulting in many negative impacts.

The tools and instruments developed in this context could easily be transferred and adapted to local conditions elsewhere. In particular the innovative approach to monitoring and evaluation, the dissemination of information and the raising of awareness must be considered as potentially very useful in other initiatives for involving the private sector in solid waste management in similar conditions.

Annex - Main issues of the contract

The state administration's objective for the solid waste management services in the chosen cities was to achieve the best possible level of cleanliness. It was expected that this could be done by engaging a specialized company which had the necessary technical, financial and administrative capabilities. The company should be responsible for street sweeping, the collection of waste from various sources (households, shops, restaurants, markets, parks, hospitals etc.), the transportation to a landfill site or to a sorting and composting plant, all according to best international practice.

Activities according to the contract

The contract concerns the provision of general cleaning services for the chosen cities which includes:

- collection of domestic and commercial waste,
- collection of non-hazardous hospital and industrial waste,
- collection of bulky and construction waste (in quantities less than one tonne per day),
- street cleaning, using mechanical and manual methods,
- emptying and maintenance of waste bins,
- cleaning of port facilities,
- cleaning of public parks,
- cleaning of monuments and fountains,
- cleaning of commercial markets, and
- treatment of various types of solid waste and transportation to the landfill provided by the authorities for final disposal.

Obligations of the Contractor

The Contractor was obliged, under this contract, to perform and finalise all the works and provide all the services required by the general cleanliness project, which included the treatment and transfer of solid waste to the designated disposal sites, in accordance with the Contractor's bid and tender documents. The following works were excluded from the service:

- filling up and levelling the surface of sanitary landfill sites;
- collection, transfer, and treatment of hazardous healthcare and industrial waste;
- removing waste from the river and storm drains;
- collection, treatment and disposal of all kinds of liquid waste;
- collection, treatment and disposal of radioactive waste or any kind of waste that does not go under the title of "solid waste" as defined in the tender document.

The Contractor was fully responsible for all activities stated in his bid. He was required to prepare everything necessary to fulfil all the work requirements, including the preparation of equipment, installations, vehicles, etc.

The Contractor was not commissioned to perform any of the duties of the state administration in terms of issuing directives or taking measures.

Obligations of the Client

The Client was obliged to conclude a sale-and-leaseback agreement with regard to vehicles and equipment. In addition, he was obliged to hand over the vehicles, equipment, and sites to the

Contractor in accordance with the contract conditions and the tender specifications.

The Client was obliged to pay the contractor's claims in accordance with the conditions laid down in the contract.

The Client was committed to supporting the requests made by the Contractor for getting the approvals and licences necessary for him to build and construct the transfer stations and other planned buildings and facilities. In addition, the state administration was obliged to provide the Contractor with all the documents necessary for obtaining such approvals and licences.

The Client was committed to conducting the inspection of the service in an appropriate way, and in accordance with the provisions of the contract that are related to inspection.

The Client had no right to interfere with the Contractor's administration of the service works as long as these works comply with the contract and its documents.

Case Study H Intercommunal solutions in Chile

These experiences are relevant and valuable in terms of private sector participation in the operation of new waste management systems in Chile, since the goal of the "Integrated Solid Waste Management Policy" is to design intercommunal solutions for solid waste management in the future. In addition, the model of solid waste management in which the private sector provides services to associations or groups of communities is already in operation in other places, and it could prove to be a valid solution for other countries in Latin America and across the world.

I A Council with 16 members

Introduction

In 1984, 16 communes from the northern area of Greater Santiago formed a Council or a "*de facto"* association in order to solve the problem of waste disposal. It is presented as a *de facto* association because it is not established as a legal entity. The Council consists of the 16 municipalities, a president and an executive secretary. Every two years, the municipalities elect a president (mayor) who then appoints a person of his/her trust to serve as the executive secretary.

Initially, the Council drew up an intercommunal agreement for the operation of a dumping site. Later, another agreement was drawn up for the tender for the construction and operation of a new landfill and transfer station. An agreement for a 100-year concession was signed – each commune signing an individual agreement with the concessionaire.

In addition, intercommunal agreements were drawn up to monitor operations; this task was assigned to a third party for a period of four years (with a possible extension of one additional year). This monitoring takes place 24 hours a day at the facilities of the concessionaire. Observations and any cases of non-compliance are noted in a record book.

Decision-making

If the concessionaire has a suggestion, remark, or other comment, he must contact the secretary who presents this to the Mayors' Council if a decision is needed (for issues related to a modification to the agreement). One example of this is the approval for railway transport (as a substitute to truck transportation in 2003) which was approved by the Council at the request of the concessionaire.

The Council procedures are established in a set of regulations. Meetings, attended by municipal representatives who have the right to speak and to vote, are held every 2 months.

Financing and invoicing

Personnel and management costs of the association – except monitoring expenses – are paid by the municipality whose mayor is currently serving as president.

The president does not receive a salary, and any salary expenses are included in municipal budgets. The municipalities that are Council members pay for the amount of waste that is sent by their community to the sanitary landfill.

The association secretary and the inspectors sign the monthly records of waste delivered to the landfill, validating any entries in the record book. The concessionaire's invoices to each commune

are based on these signed summaries. Neither the secretary nor the Council plays any role in fee collection or invoicing. Even in the case of non-payment, the concessionaire may not suspend the service at any time, but may sue for breach of contract.

In addition, the monitoring organisation hired by the Council must send separate invoices to each municipality.

According to national legislation, value-added tax is payable for waste transfer but not for disposal.

Lessons from experience

- Administration: As a structure, this association has a major weakness: none of the municipalities wants to assume the presidency, since this involves assuming all administrative costs. In addition, there are problems that have not been resolved, such as the financing of the closure of the old Cerros de Renca dumping site. This site represents an environmental liability for all of the communes that are Council members (currently, the municipality of Quilicura is confronting the costs since the dumping site falls within its jurisdiction).
- Financing: The Council plays no role in financing. The firm collects from each municipality and must confront the problem of considerable payment delays on the part of some communes. A firm that does not have its own funding could be forced into bankruptcy by such delays in payment; thus it is essential to consider the working capital of potential service providers in a bid of this type. Another issue is the responsibility for the costs of drawing up reports and sending invoices, which represents a major effort and an additional cost for the administration.
- Decision-making: The response time to issues raised by the concessionaire is approximately one month.
- Technical Experience: The municipal resources of the communes that comprise the Council vary greatly; as a result, there is a lack of professionals with the technical level necessary for decision-making. In consequence, such municipalities often "lean" on the communes that have trained professionals or professionals with more time available for such issues. However, it can be argued that it would be an extravagant duplication of resources for each municipality in an association to have its own waste management specialists.

II An informal group of 11 municipalities

contributed by Hector Alvarez Carrasco

This case study concerns the construction and operation of a sanitary landfill as a concession granted to a private company by an informal group of 11 local government administrations in Chile. The members of the group are bound by a signed intermunicipal agreement. The head of the group is the largest municipality involved. The sanitary landfill replaced insanitary dumps and other sites which had reached the end of their lives. The process of looking for a site started in 1990 and a concession for the construction and operation of the landfill was awarded in 1996.

Concession

The concession is a key method of obtaining financing for high-cost investments. This legal instrument should be used to enable the private sector to invest in social infrastructure, allowing both the private and public sectors to obtain benefits while fully satisfying their needs.

To make use of this legal instrument, the municipalities had to develop technical and economic feasibility studies of the proposed project, in order to establish the return on the investment in advance and to ensure potential investors that their participation would produce returns equal or better than other options available on the market.

In this case a concession was utilized because the investments needed for the construction, authorisation, and operations of the project were quite high (an initial investment of US$3 million and a total project investment of US$6.5 million). Since the municipalities were not able to cover these costs, a concession allowed the private sector to raise the finance, and recover the costs in the long term through the per-ton payment for waste that was disposed. A local firm was awarded the concession for 27.4 years. All administrative procedures are carried out by an inter-municipal team and decisions are approved by each municipality, but the concession agreement was signed by the lead municipality alone. The concessionaire bills the leading municipality according to the tonnage of waste received, and the lead municipality collects the appropriate amounts from the other municipalities. Some of the municipalities regularly pay late,

causing cash flow difficulties for the concessionaire. Administration costs are apportioned according to the population of each municipality.

Costs

The cost of disposing of waste at the old dumping site was approximately US$7.30 per ton. This cost included only the dumping of municipal waste and covering with a layer of topsoil.

The costs of disposing of the municipal solid waste in the new sanitary landfill were approximately US$8.00 per ton. For a cost increase of less than 10% it has been possible to dispose of the waste in a way that complies with all environmental laws.

Fees

Legislation requires that municipalities charge a fee for urban and suburban domestic cleaning services of the communes for every residence or inhabited unit, store, office, kiosk and uncultivated site based on the real costs that must be established by the municipalities every year. The relevant law specifies that the real cost of the service must be evenly distributed among the users. The number of properties that are to be charged is provided by the Internal Tax Service. The costs of the collection and disposal service are calculated for a 12 month period according to prescribed norms and do not include street sweeping. Depreciation norms are defined by the Internal Tax Service; for example collection trucks and their complementary equipment will be considered to have a 7-year life and a residual value of 16 percent, resulting in an annual amortisation of 12% of the initial value of a vehicle. The resulting fee to be paid by each property is increased according to a consumer price index (to allow for inflation) twice a year.

The law also states that a regulation must be passed for establishing the fee; the process for charging users the cleaning fee; payment dates; number of instalments; subsidies, and any other item that the communal authorities include as part of the process of keeping the process as transparent as possible.

The method of fee collection used in most of the towns has not resulted in anticipated payment levels. The most satisfactory method has involved municipal officials collecting fees as additional work outside their working hours.

Experiences and lessons learned

- Administration: Organisation improves when there are fewer communes involved. It is preferable for the largest commune to lead this type of group, since it generally has better technical support (lawyers, construction experts, etc.)
- Financing: In terms of financing, the system is not considered to be satisfactory, due to the fact that the concession agreement establishes that the lead municipality is responsible for payment. However, the concessionaire will not sue, because it has commercial interests and prefers to maintain good business relations. The lead municipality pays on time its share of the waste disposal charge, but there are other communes that are in arrears. This situation might improve if an additional amendment to the agreement allowed the concessionaire to refuse to take waste from municipalities that have been in arrears for a prolonged period, but this might just encourage illegal dumping. The leader of the group would prefer that each municipality paid individually.
- Decision-making: When decisions are needed the mayors of the other communes are summoned to the leading mayor's office.
- Cost control: The landfill has a system for recording the weight of waste and the municipality has an inspector who verifies the information, so revenue control is good. In addition, monthly reports are drawn up to keep each municipality up-to-date.

Case Study I Outsourcing of waste services in South Africa

contributed by Chris Liebenberg

Introduction

Thabazimbi is a small town in the north-western part of South Africa. This case study describes the involvement of a consultant (*V3 Consulting Engineers)* in 1999 to investigate the possible outsourcing of some, or all, of the services of the Waste Division of the Thabazimbi Municipal Council. The term "MSP" is now used in South

Africa in place of the term "PPP" *(Public Private Partnership)* which was used previously.

Tender enquiry documents for the operation of the landfill, the collection of all waste, and street cleansing were compiled and advertised. After a competitive bidding process an adjudication of the tenders received was done, and a preferred bidder selected. The final negotiations with the preferred bidder and interested and affected parties were finalised and it led to the first successful service contract of such a waste project in South Africa.

The same consultants were also engaged four years later to audit the contract for a six month period, and to negotiate the extension of the contract by two years. The reason for the audit was that there has been a high turnover of municipal staff, as well as a political change in the Council, which meant that no one was left at the municipality with any knowledge of the agreements. A number of misconceptions created the perception that the contract was not achieving its intended goal. The audits showed that this was not the case.

The initial investigation 1999

A team consisting of financial, legal, technical and community liaison experts handled the investigation and their inputs were used in all evaluations. The first step was to identify all the major stakeholders that could be influenced by such a process, and further, to notify them of the study that was to be undertaken. Subsequently a meeting was held with labour union representatives to obtain their inputs on the procedure to be used to notify the workers of the process. The next step was to submit the findings of the team for public review, after which a public meeting was held. The identified stakeholders were notified of the meeting and an advertisement was placed in the local press to inform the general public of the meeting. The only real issue that became apparent at the public meeting was the inclusion of the surrounding areas into the proposed service delivery alternative.

A technical assessment was also performed of the current waste management situation in Thabazimbi. This included waste generation volumes, volumes of waste collected, waste collection systems, street cleansing and disposal arrangements. Evaluations were done of the various collection methods, and certain technical recommendations were made concerning the current methods of operation.

A detailed evaluation was also performed on the landfill, evaluating aspects such as permit conditions, access to the landfill, method of operation, and equipment utilised. A new operating plan and a new design were prepared.

The legal team investigated the legislation concerning the handling and disposal of healthcare waste, and the impact of this issue on the Municipality's byelaws — it is a permit condition that no healthcare waste may be disposed of at the landfill. Recommendations were made on the manner in which the Municipality should handle healthcare waste in the future. The legal team also ensured that the tendering process was in line with the requirements of the South African municipal legislative framework and they also addressed the matter of fitting the alternative service delivery options to the municipality's byelaws.

The option of utilising small emerging entrepreneurs on the project was also investigated as this is quite an important issue in South Africa. One option was a system whereby local people from the community would be contracted to perform the collection service with a handcart or small vehicle, each contractor collecting waste from approximately 100 houses per week. The other option consisted of an entrepreneur utilising a tractor and trailer system, in the conventional way.

The assessments indicated that the most cost-effective option for disposal would be to have a Municipal Service Partnership in the form of a service.

The restructuring of the Cleansing Department also had to be investigated as part of the terms of reference. It seemed that the existing arrangements were providing an acceptable service, but a more cost-effective service might be possible with outsourcing.

A cost analysis was prepared on the current collection and disposal system and budget prices were obtained from private waste operators for performing the service. A detailed financial feasibility study was then performed to evaluate the financial implications of the alternatives.

The financial assessment also evaluated the historical financial performances of the municipality over the previous three financial

years, to obtain service increase trends and a general overview of the finances of the Cleansing Department. From this a financial model was drafted and financial projections were made for the next ten years.

With all the available data on the various aspects of the Cleansing Department, an evaluation was done on four selected MSP options, namely:

- management contract,
- service contract,
- concession, and
- employee buy-out.

The MSP options were evaluated in terms of a detailed set of key performance indicators and assessment criteria, to determine which, if any, would be the most suitable for Thabazimbi.

Implementation

1. Based on the findings of this study, the Thabazimbi Municipality instructed the consultants to proceed with the implementation of service contracts for the collection and disposal operation, and they decided to include street cleansing in the collection contract, as a more cost-effective service could be provided under one contract.
2. Comments from a Phase I public hearing were incorporated into the report, after which a final tender enquiry document was prepared.
3. Tender enquiry documents for the operation of the landfill, the collection of all waste, and street cleansing were compiled and advertised.
4. After a competitive bidding process an adjudication of the tenders received was done, and a preferred bidder selected.
5. The negotiations with the preferred bidder and interested and affected parties were finalised, opening the way for the first successful service contract of its kind in South Africa. The contract was awarded for a initial period of 3 years, with the option of extending the contract for a further 2 years.

Conclusions

The following was concluded from the study:

- The quality of the service being provided by the Municipality was of an acceptable standard.
- The rates being levied for cleansing services are in line with other similar local authorities.
- Disposal of healthcare waste required urgent attention, as it was being disposed of in the landfill. The landfill permit issued by the National Authorities prohibits this practice.
- The operational landfill cell would have to be expanded in the near future.
- The compactor truck and the tractor of the Municipality would have to be replaced in the near future, since their maintenance costs were escalating.
- The cost evaluations showed that the budget prices provided by the private operators were lower than the costs of the municipality.
- From the evaluation of the MSP alternatives and cost evaluation, a service contract seemed to provide the most cost-effective solution for the collection and disposal services. The Municipality seemed to be able to provide a more cost-effective street cleansing service when compared to the budget prices from the private contractors. This might, however, change in a competitive tender scenario.

Lessons learnt

The arrangements that were instituted have proved to be successful from both technical and financial points of view.

The main benefits of this project are seen as follows:

- The service is now of a higher technical standard;
- Total service costs are less than when the municipality used to provide the service, so the ratepayers save money;
- More job opportunities were created;
- A small entrepreneur was trained by the main contractor and is doing the street cleaning on a subcontract basis.
- Although a large national waste company got the contract, only one person (the manager) from outside the municipal area was involved in the project. All other staff were either persons taken over from the municipality, or recruited locally.

Negative aspects

- The municipal labour unions were very upset because they lost members, as the private operator's staff belong to other unions. The municipal workers labour union is also very politicised and has a very socialistic point of view towards the private sector.

Case Study J The roots of the conflict

Introduction

This Case Study describes a situation in a large metropolitan area where the relationships between the client, the contractor and the public have been very difficult. It is compiled from unofficial comments and information from all three sides – from client, public and contractor. It is mainly concerned with one part of the metropolitan area, but some of the comments refer to adjacent areas.

Origins

The previous arrangement for the collection of municipal solid waste in the area had depended on informal sector waste collectors collecting the waste from each apartment. This service was not provided in the low-income areas where, instead, there were some street containers (but the coverage and emptying of these containers were not sufficient). A fee of about US$0.5 was paid to a fee collector each month for the door-to-door service.

The decision to engage the private sector was made by central government, which also decreed that costs would be recovered from fees collected with electricity bills, and that the fee charged would be proportional to the electricity bill. There was considerable pressure on local administrations to conclude contracts for all waste management services in a short time, and so the city was instructed by the national environmental agency to use as a model a contract that had been developed a short time before for a large city in a rather different geographical location.

It was decided to split the area concerned into two zones for two reasons:

- because it was too large an area for one contractor to serve, and
- because it was considered to be preferable in order to create a competitive atmosphere, and to avoid a major disruption if one contractor runs into difficulties and stops operating. (This actually did happen when one contractor stopped working for about three weeks and the client had great difficulty in providing even a limited service for one half of the city.)

Tendering and administration of the contract

Bids from both national and international companies were received. Contrary to expectations, the bids from the international companies were lower, and so two international firms were chosen. The bids from the national firms were more expensive, not because they were technically better, but rather because they understood how the client would operate and realized that they needed to inflate their prices in order to ensure that they would actually receive sufficient income. The international companies had to learn about this the hard way.

The contract for one part of the city required door-to-door collection of household waste, whereas the contract for the adjacent area was based on waste collection from street containers. The residents who received the inferior service (street containers) were unhappy about this discrepancy, particularly because they were being charged in the same way.

When the contracts were signed the managers who had been running the previous (public sector) service started complaining that the contractors were to be paid too much and that the public sector could provide a much better service with the same monthly income. (They could claim this because it had never been clear how much the previous service had actually been costing. Many of the associated costs were paid by a number of different departments and capital costs were paid separately). This created a hostile attitude towards the contractors. A year later, when one of the contractors suspended his services and the client temporarily took back the responsibility for providing the service, managers in the client organisation realised that they could not provide the same level of service, and that the efforts and resources required were beyond their capabilities.

One of the contractors received strong financial support from his headquarters. This firm quickly discovered that their attitude towards the contract was very different from that of the client. They were penalised severely – one month they received only 5% of the amount they invoiced – but they maintained the service thanks to subsidies from their headquarters. (It is perhaps ironic to note that these international contractors were accused of taking large sums of cash out of

the country in profits, whereas in fact they were bringing external support into the country.)

The other contractor was required by company policy to be more financially independent. On one occasion he was obliged to suspend the service because his monthly payment was so low as a result of penalty deductions. During this period the client provided a service and charged the costs to the contractor.

Determining the bid prices in advance was made more difficult for the bidders because they were not able to find out the amount that would be deducted each month for social insurance. The law on social insurance contributions requires employers to make payments to the relevant national ministry on behalf of temporary employees. It specifies various percentage rates for different contract durations, the percentage being higher for short contracts. The law's stipulations on which percentage to use in a particular case appear to have been ignored when the contributions taken from contractors payments were determined. Instead of seeking to implement legislation faithfully, the apparent objective was to take as much money as possible from the contractors.

Cost recovery

The fundamental reason for many of the problems that occurred is that financial resources for paying the contractors were not available to the client. The government was mainly relying on the citizens to pay, but expectations were unrealistic. Many citizens refused to pay and this caused cash flow problems. When reviewing the financial arrangements after the start of implementation it was realized that there were flaws in the studies for setting the fee. A review of actual bills showed that even if 100% of the customers paid (which is an unrealistic assumption) the city would collect less than two-thirds of the sum required. There were cases in an adjacent city in which cheques issued by the administration of the city were not honoured by the Central Bank.

This is one reason why the client was sometimes harsh in penalising the contractors.

There was opposition at all levels to linking waste management fees to electricity consumption. In many ways this was unfair and made some residents very hostile towards the new contractors (even though the new contractors had played no part in determining how fees would be raised). It would have been more acceptable to charge a standard fee for residential areas with a partial rebate for poor areas. At an early stage, the client revised the fee structure and redefined categories, especially for commercial fees. There were cases where jewellery shops (which consume much electricity but generate almost no waste) were required to pay very much more for waste management than shops that sold fish or that slaughtered and sold chickens (which use very little electricity but generate large quantities of difficult wastes). People did not know to whom they should complain and this started a media war in the newspapers and made even more people resent the system and stop paying.

Since the idea of paying a fee for solid waste management to the municipality was new to the citizens, the introduction should have been gradual and accompanied by an intensive public awareness campaign. Unfortunately, this need was greatly underestimated. Governmental and municipal authorities should have explained the new systems and gradually prepared the citizens for this change. One crucial element that should have been addressed was to convince citizens to carry their waste to street bins, instead of expecting that they would always have a collection service from their apartment door.

The city did have an awareness department, but it only became functional after the contractors had started work. Furthermore, very little resources were allocated to it.

Contracts

In one case, contract negotiations took seven months. It was not uncommon for an issue to be finally agreed in a meeting, but for the decision of the meeting to be subsequently ignored. Contracts have been the main cause of problems. Many of the difficulties have been caused by the tendency to use general and non-specific language.

<u>Penalties were not clearly defined</u>

Regarding penalties for unsatisfactory performance, much was left to personal interpretation of the extent to which contractors should be penalised and how penalties should be implemented. For example, the contract calls for a penalty in case of a shortcoming in a certain aspect, but it does not define the shortcoming or specify how the penalty should be assessed. So if almost every part of an area has been served well and only a couple of residents have complained, the contractor may be penalised to the maximum

extent as if the whole area had not been served at all. The proportion of a penalty that should be imposed was left to the personal interpretation of monitoring staff.

Inadequate provision for compensation

There were cases in which the contractor invested in equipment and fulfilled his commitments, but did not operate the site for reasons that were beyond his control. This led to debates regarding how contractors should be compensated for these idle investments that demanded interest payments but were not earning money.

For example, according to his contract, one of the contractors was supposed to operate a landfill, a compost plant, and a healthcare waste incinerator. The company prepared the EIAs, bought the incinerator and equipment for the landfill, and prepared for the management of healthcare waste (involving investments of more than US$ 1 million). After making these investments, the heritage authority refused permission to use the landfill site, so the landfilling equipment lies idle, and it has not been possible to operate the incinerator because the Ministry of Health requires that the incinerator ash is buried at the landfill.

Although the client realises that these problems are not the fault of the contractor, no compensation is paid to contractor for this. The contractor requested a payment of 25% of the value of the affected services since he is paying interest on the idle equipment, but nothing in the contract addresses this type of problem.

One contractor tried to get a clause inserted into the contract to cover unforeseen financial circumstances. However, in a contract lasting 15 years, devaluation and inflation and the impacts of population growth and increased per capita generation beyond a low fixed rate were regarded as the responsibility of the contractor alone.

The contracts make no provision for payment for extra work – such as agreeing unit rates for particular tasks. Contracts are priced on the basis of one figure for the annual payment that the contractor is entitled to.

Punished for the faults of others

Contractors collect healthcare waste from hospitals. Healthcare waste can be considered to consist of two basic components – hazardous wastes (which can be treated by incineration), and general wastes (which can be landfilled). The contracts provide a higher payment for the incineration of hazardous healthcare wastes than for the landfilling of general wastes. This separate treatment requires that the healthcare wastes are segregated at source. To encourage this segregation the contractors organised training for hospital staff and provide red bags for the hazardous wastes. Unfortunately, the hospital staff did not undertake this segregation, resulting in two consequences, both of which are to the disadvantage of the contractor:

- If all the wastes are put in red bags, the contractor has two or three times more waste to incinerate. Consequently, the costs of disposal are much higher, and these extra costs are borne by the contractor.
- If all the wastes are put in black bags which are to go to the landfill site, the contractor may be penalised for landfilling hazardous waste and not incinerating the agreed amount, and the labourers are at risk from handling wastes which, unknown to them, are hazardous.

Another example relates to the payment of customs duties. Legislation on customs duties had been passed before the start of a number of recent waste management contracts. The new law stated that the customs duty on vehicles imported by waste management contractors would attract a lower rate of import duty (5% instead of 40%), but the customs authority did not accept this ruling. The customs argued that the exemption applied to vehicles, not equipment (the contractors having described their vehicles as waste collection equipment). Appeals for a reversal of this decision were made through the embassies of the contractors to the Prime Minister. After four months, the vehicles were released following the payment of 5% duty. The client then penalised the contractor for a late start, even though the reason for the late start had been the refusal of the customs authority to implement the law.

Conflicts with traffic regulations

A contractor found himself to be in impossible situations because of local byelaws. For example, there are urban areas that forbid access by any commercial goods vehicle (even as small as a pickup) 24 hours a day. (It is not clear how shops are stocked, buildings constructed and house contents are moved when such a restriction is applied.) On several occasions the police have

stopped a contractor's vehicles from entering such areas to collect waste. The contractor is then penalised for not collecting the waste. Similarly, road sweeping machines are not allowed on a bridge where trucks are banned, but the contract requires that such areas are swept mechanically. The contractor should not be penalised for situations in which the police do not allow contractual duties to be fulfilled.

Construction and demolition waste

Many cities generate large quantities of construction and demolition waste, often in relatively small quantities from maintenance of, and alterations to, private housing. Construction and demolition waste (C&D waste) was a serious issue when implementation started. The contracts never specified what was to be done with the huge amounts of C&D waste, only stating that the contractor should clear away any piles of such waste as long as they amount to less than one tonne. The number of locations was not specified. Large quantities of this waste were scattered all over the city – it is estimated that the generation rises above 1000 ton/day in summer. This caused great problems to the contractors. Because of the magnitude of this problem, it should have been an individual item in the contracts. The client should have been more frank about the size of this problem. After long debates, the client and the contractors reached a compromise wherein the client collects all C&D waste to two main locations and the contractors were then to transport the waste from these locations (with no limits on the weight involved) to disposal sites.

Obligations for employment

The contracts forced the contractors to hire labourers who had previously been informal sector waste collectors. As informal sector workers they had been accustomed to different ways of working, and many were not ready to conform to the requirements of the contractors. This requirement to employ certain people was an additional difficulty that the contractors were obliged to overcome. (This issue is discussed in more detail in Case Study S.)

A different understanding of the contract

Government officials do not attach very much value to written contractual commitments. Regardless of the wording of the contracts, the client considered them to be "quality" contracts[20], whereas the contracts were written as "service delivery" contracts.[21]

For example, the contract requires that streets are swept at most once per day and the contractors are doing this. Yet the client does not judge the contractor's performance according to whether the service is performed or not, but judges according to cleanness of the street. This is beyond the contractor's control, because of the bad habits of many citizens, who quickly litter the streets soon after they have been swept. This totally different way of understanding the contract caused many implementation problems. This is perhaps the main reason why the bids of national companies were more expensive than those of the international companies. They knew from previous experience that the description of the contractor's duties in the contract has little relevance to what the contractor is actually expected to do, and so they priced their bids according to what they anticipated that the client was expecting.

Another example is that contracts and operation plans state that contractors are not expected to clean the streets on the weekly rest day. In spite of this, when accumulations of litter were found in the streets on the rest day, the contractors were penalised.

It appeared that the client showed different attitudes to timeliness – deadlines for the client were flexible and could be ignored, but the contractor was always expected to adhere precisely to tight schedules.

Monitoring and imposing penalties

The client lacked experience in monitoring and evaluation, and this is what made their relationship with the contractors very rigid at the beginning. It took about a year to develop this relationship from the *confrontation and penalties* phase into the *dialogue* phase. As the monitoring department became stronger, channels of communication with the contractors improved and both parties started realising that the relationship

[20] In this context a quality contract is a contract that is concerned with a situation or outcome, not the inputs that would be expected to achieve the desired situation or outcome. The desired situation or outcome is supposed to be maintained at all times, not just achieved when the service has been performed satisfactorily.

[21] A service delivery contract specifies the duties of the contractor in terms of the services to be performed, not the outcomes to be achieved and maintained.

needed some "give and take". From time to time the contractor should put aside the contract and do something extra for the client, and in return the client might, on another occasion, do a favour for the contractor or close his eyes to what the contract says.

One contract requires that shortcomings in the service provided by the contractor are supposed to be rectified within eight hours of being informed by fax. For many kinds of shortcomings, penalties should be imposed only if the problem is not resolved within this time. In practice, penalties are imposed without allowing for shortcomings to be remedied. The contractor asked for joint inspections – the client's inspector being accompanied by one of the contractor's staff – but this was refused, because of the fear of corruption (i.e. that the inspector would be pressured or bribed by the contractor). It appears that the inspectors' fears of being accused of corruption cause them to adopt a negative attitude towards the contractor and to invent and impose extra financial penalties.

It often happens that the wishes of the mayor are expected to take precedence over the conditions and requirement of the contract. On paper, the Waste Management Authority is the client, but in practice the mayor and his deputy, and the police chief all consider themselves entitled to instruct the contractor, and require additional favours. Governmental entities frequently suffer from conflicts of responsibilities. The client's monitoring department is responsible for imposing penalties, but many other entities and individuals outside and within the client organisation, including senior figures in local and regional government also take it upon themselves to impose penalties on the contractors. Usually the individuals concerned were not familiar with the requirements of the contract. It took a long time to make it clear (both within and outside the client organisation) that the imposing of any penalty should follow certain procedures and should only be done through the monitoring department.

Resolving conflicts

One of the contracts included a clause that any discrepancy between the parties should be resolved by the parties within 30 days. Unfortunately this has not happened, and disputed penalties were not considered by the client as an issue to be resolved and were imposed without allowance for reaching a settlement.

One of the contracts provides for arbitration to resolve conflicts, and the other does not, obliging the parties to go to court (which is a very long process, possibly lasting years). The arbitration process is also long, expected to take about one year. In the case of arbitration, the party which loses its case must pay all the fees of the arbitrators. One of the contractors is going for arbitration and the fees of the three arbitrators are US$ 50,000 each. The contractor concerned knows that he has a strong case and has suggested to the partner that, instead of paying this money as fees to the arbitrators, it is used to pay the arrears owed to the contractor. It is widely conceded that the client has a weak case and will lose the arbitration, but the client's middle management insists on continuing with the arbitration process and tries to convince senior management that this action is justified. Many of those involved believe that the client will eventually be required to pay both the arbitration costs and the arrears claimed by the contractor.

Public awareness and public reaction

At the beginning of the contract, some residents claimed there had been no notification from anyone that the contractor would take over from the previous system. They woke up one day to find that bins had been put in the streets and later they were told by their informal sector waste collector that he would no longer be collecting waste from their doors. People claimed that they were not told:

- why this change had been introduced – why they should now carry their waste some distance to the bin in the street instead of having someone collect it from their doors;
- when the bins would be emptied, so that they would know when to put out their waste;
- how much they would be obliged to pay for this new service.

Being accustomed to door-to-door collection, the residents were now required by the new contractor to bring the waste down to the street. Many of them found this task uncomfortable (being dressed to go to work, and carrying a bag of solid waste – usually leaking – in one hand). Children refused to take the waste downstairs, and parents were embarrassed to carry it. So it was often observed that a well-dressed gentleman would come out of his apartment building with a bag of solid waste, drop it quickly under the nearest parked car and *innocently*

continue walking, as if the waste did not exist. This caused a lot of arguments and sometimes even fights between neighbours.

At first, residents were told that they would only be asked to pay about US$ 0.70 per month for the new waste management service, but when they received their electricity bills, they saw that the amounts requested were much higher. For example a typical house with an electricity bill of around US$ 5 was asked to pay a further US$ 2 as a charge for the solid waste service. This was not only four times what they had been paying to the informal sector waste collectors for a door-to-door service, but also represented a real burden to many people in this area.

When the private company put bins in front of the houses, the bins were often too small and overflowing. This made the residents push them further and further away from their houses. Later it became even worse, because shop owners (especially owners of fish and chicken shops) took control of these bins and made sure they were always next to their shops. As a result, people had even less access to a bin.

The residents did not know how to complain (about the number of bins, and the fees). The contractor had no customer complaint line and they did not trust the municipality to take any action.

Because of the problems, many residents decided not to pay the electricity bill, because of the high solid waste fee that was attached to it. At the beginning both bills were linked together, but as more and more people refused to pay and the electricity company was having problems collecting its own money, they decided (in some areas) to accept separate payment for electricity only. In one district, where this separation had not yet been applied, the residents decided to stop paying. They were encouraged to do this by a member of their Local Council who assured them that non-payment of this solid waste management fee would not constitute a reason for cutting off electricity. (If residents do not pay their electricity bills for more than six months, the electricity company will initiate a court case against them. If a resident agrees to pay the arrears, (s)he will be asked to pay off the arrears for only the electricity charges, not the solid waste fees. Not paying electricity bills for six months has therefore become a cost-free way of avoiding the payment of solid waste management fees.) Residents were told that the courts would not be able to force them to pay the solid waste fee.

The picture was not entirely negative. Residents admitted that their streets were cleaner, and that they admired the initial efforts of the contractor in deploying a large number of workers in their area.

However, they resented that they had been asked to pay much more for a lower level of service (street bin collection, with too few bins) and that the government had cheated them and put all the load on the citizens. Therefore, they were ready to pay a service fee only if it were less (not more than US$ 1 per month) and if they were again provided with a door-to-door collection service (or at least more and bigger bins).

Conclusions

In spite of all the difficulties, the contractors have achieved the following:

- removal of accumulations of waste that were found at the start of the contract period throughout the area served,
- improvement of the level of service, particularly in poor areas (which had previously not been well served),
- flexibility and speed in handling daily operations (maintenance, purchasing of spare parts, etc.)
- Allocating human and financial resources and making large investments. (The contractors had been able to benefit from the new investment law, exempting them from many customs duties and taxes.)

The main causes for problems are suggested to be

- The population's lack of awareness and negative attitude towards the contractors. As a result bins were stolen, damaged, or constantly removed, and citizens sometimes showed an aggressive attitude towards the contractors and their employees.
- The news media did not treat the issues fairly, being very hostile to the international contractors.
- The vast increase in the number of collectors of recyclables and waste pickers that caused serious problems for the contractors because of scattered waste and the resulting complaint.

- Financial resources not being available and the method of fee collection meeting opposition and legal challenges.
- The failure to inform the public in advance about the service and to introduce the fees gradually. At the start of the contract there were no provisions for receiving and responding to complaints.
- Regulations were not clear enough and not flexible, and interpretations were subjective. The relationship between the client and contractor depended too much on personal relationships rather than the contract, guidelines or policies. Yet many of the managers in the client organisation were not ready to make decisions or take any responsibilities or risks, so that many processes were halted.

If tender documents had been better, contracts had been written in more specific terms, and the needed revenue had been available, the relationship between the client and the contractor would have developed in a much more positive way. If the residents had been more informed and involved, their relation with the contractor would have been much better.

Case Study K Lessons from an experience of 15 years

These comments have been contributed by a company that specialises in solid waste collection for local authorities and industrial enterprises. It had already been operating in this field for 15 years, even before municipal waste management was formally opened to private sector participation.

Over the years the company had built up a great deal of experience, and the strength of that experience adds weight to these observations regarding the difficulties that are faced by private enterprises because of the organisational problems of their municipal clients.

- Delays in the payment of bills by the municipalities and local authorities give rise to a series of financial difficulties for the contracting enterprises.
- Unreasonable resort to unjustified penalties; the municipalities act as judge and jury.
- Contract durations had become steadily shorter – reducing from seven to five years, then to three, and then to as little as two years. This causes additional problems for the contractor, especially with financial planning and the management of plant and equipment.
- Sometimes the companies are faced with the unreasonable and unjustified termination of a contract by the municipalities because public funds have been exhausted through overspending or poor management. In such cases the contractor is stuck in a bind, with a contract which provides for no redress, refund or even discussion.

Whilst the contractor makes every effort to offer a better service in keeping with its corporate image, the municipalities monitor only its operating resources, rather than the quality of the service that is provided or the effort put into satisfying the requirements of the market.

There is also a lack of open and direct co-operation by the municipalities with the contractor, evidenced by the local authority's complete abdication of its role as a public authority providing a public service.

Private sector participation in solid waste management is highly beneficial for all parties because it offers:

- a better service to the public,
- good management of resources and people,
- more effective monitoring, and
- minimisation of operating costs to public bodies (allowing savings of up to 50%).

Case Study L Developing a monitoring unit in a large city

Selecting the monitoring inspectors

The development of the monitoring unit started from zero. Three alternatives were considered for monitoring the contractor:

1. Engage an independent contractor to undertake the monitoring. A contractor could be expected to be independent, but this option was considered to be too costly.
2. Governorate staff who have been previously involved in solid waste management could be transferred to a Governorate monitoring unit. It was felt that they would not be suitable because some might be old and because they might be influenced by the contractor, and so not be impartial.
3. Recent graduates who are trained to do the job. Such young people would be keen and ready to work hard, and able to adjust to the new conditions. They would also know how to relate to members of the community in a polite and helpful way.

This third alternative was chosen.

Recruiting and training the monitoring staff

Advertisements were prepared to invite recent graduates from science and agricultural universities, who had a driving licence and computer skills, to apply for a post with the City. Applicants were also interviewed. Initially 200 were appointed. (The city has a population of about 4 million).

Training was both theoretical and practical. Theoretical training included the basics of solid waste management, relevant legislation, public awareness, financial aspects, tendering procedures, monitoring of different aspects of waste management, and becoming familiar with the contract and the operating schedule of the contractor. Practical training included visits to disposal sites and city streets, learning from existing supervisors and making descriptions and suggestions. Trainees also became familiar with the city. At the end of the course there was an examination.

After the training there were 135 left in the team. Trainees who completed the training were paid a bonus from cash provided by a donor.

Duties of monitoring staff

The monitoring staff check on the operations of the contractor, including whether the contractor is operating according to the operating schedule. The monitoring staff are also involved in the location of street containers – the contractor is not allowed to place a container unless a monitoring worker is there to approve its location.

Monitoring staff check that containers are emptied and that streets are swept according to the contractor's schedule. They also check that bridges, tunnels and markets are kept clean, and they follow up on complaints. Monitoring inspectors are also expected to assist in overcoming obstacles and in reviewing complaints.

Each member of the monitoring unit is required to fill in a form to record his/her observations. The data that are recorded include the name of the street, observations on the activities of the contractor, the time and any comments. Later each day the data are entered into a computer database. A penalty form listing shortcomings is delivered to the contractor between 18.00 and 21.00 hrs each day. The contractor has 24 hours to react, and if the shortcomings are not rectified, the contractor is fined. The monitoring staff are also responsible for checking that the contractor has taken the required action; if not the monitoring staff member writes out a penalty notice against the contractor. A one-page report is given to the senior administrator each morning.

The monitoring staff generally have their own cell phones. It is expected that funding from a donor will be used to buy cell phones and two-way radios for the supervisory staff. Digital cameras may also be purchased as a means of recording the cleanliness of major streets.

Organisation of monitoring activities

Each supervisor is responsible for 25 to 30 monitoring staff. Supervisors have the use of official cars. Most of the monitoring staff work from 8.30 until 15.00. There is also a small shift from 23.00 until 05.00, and in the summer time (when the city hosts many visitors) there is also a shift from 15.00 to 23.00. All staff carry identification. Female staff have been unwilling to wear uniforms or reflective jackets.

Maintaining the independence of the monitoring staff

Monitoring staff follow the operation schedule of the contractor, to check that the contractor is working according to this schedule. However they are instructed not to talk to the contractor's personnel. They are required to meet at regular intervals with their supervisors.

Next developments

It is anticipated that, as the contractor and the monitoring staff become more experienced, fewer monitoring staff will be needed.

It was planned to recruit 20 new monitoring staff to supervise the collection and treatment of hazardous healthcare waste.

Case Study M Successful monitoring[22] in Lima

contributed by Engineer Juan Arenas Lizana

Introduction

For many years, public cleaning services in most towns in Peru has been handled directly by the municipal governments. Since 1990, as a result of a series of laws passed to foster the participation of private investors in the provision of public services, private companies have been contracted to handle solid waste management services, often by means of contracts lasting only one year. In Lima, the capital of Peru, several unsuccessful attempts had been made to privatise sanitation services since 1981. In 1995, after an international call for bids, the municipal government assigned public sanitation services to a foreign-owned Consortium for a period of 10 years. (Recently a duration of five to ten years has become the norm for solid waste management contracts.) The contractor was engaged to sweep streets and avenues, clean squares and parks, and operate a transfer station and two sanitary landfills. The city had a population of over 7 million, generating an average of 500 metric tons of waste each day.

A survey carried out by the metropolitan municipality of Lima in 1994 showed that 65 percent of the districts of metropolitan Lima provided waste management services by contracting formal companies. Most contracts were for periods of up to one year; the survey showed that only three districts (7 percent) had longer (10 year) contracts. It was also estimated that it was not known where almost a third of the collected waste was dumped. The survey exposed a range of shortcomings, including (or because of) the lack of effective monitoring.

In 1995, in an attempt to improve the situation, the Metropolitan Municipality of Lima advertised an international tendering process for cleansing services in the suburban area, transfer operations and the operation of two sanitary landfills of the province of Lima.

It would clearly be necessary for these services to be monitored and audited in order to verify compliance with contractual expectations. It would also be necessary to check invoicing against the services actually provided. An article in the resulting contract stipulated that a monitoring unit should be established to ensure contract compliance. As a result, the Municipal Agency for the Supervision of the Cleaning Services of Lima (SUMSEL) was created, to be responsible for verifying and auditing contract compliance. When SUMSEL was created, there were no previous successful experiences of monitoring agencies in Latin America. This pilot was seen as a model for other municipalities that are facing similar problems and which seek a solution to their problems in private sector participation.

This case study reveals some of the most important elements of the success of SUMSEL, summarising the experience of the Metropolitan Municipality of Lima during these years, and discussing appropriate monitoring of waste management services. Practical information is provided. The impact of this monitoring was reflected in the cleanliness of the city. (It must also be acknowledged that efforts are also

[22] In this publication, the word "monitoring" is used to refer to the overseeing of the work of a contractor by staff from the client organisation, and "supervision" refers to overseeing by the contractor's foremen or supervisors. (See Appendix 5).

needed to change the habits of residents and to improve the civic awareness of a part of the population, in order to totally eliminate the dumping of waste on the streets.)

The system of monitoring that is described here operated successfully for six years before the city authorities decided to abandon it.

Why does the private sector require monitoring?

Nowadays, few experts doubt the superiority of the private sector in executing public services due to their experience, greater capacity for investment, better management, etc. However, it is important to keep in mind that the motivation of the private sector to constantly improve generally comes from market competition. In most cases the element of competition is present during the bidding process itself but not during the rest of the contract. If we assume that the private sector behaves according to economists' expectations (that is, attempting to maximise its profit), then there are two possibilities: either to reduce costs or to increase revenues.

To reduce costs in the waste management sector, there are two alternatives: either (i) to increase efficiency by applying new technologies, training personnel, etc. or (ii) to reduce the quality or level of services in order to save on costs. If monitoring is absent or inadequate, the latter is practically inevitable. This was confirmed by observations of private companies in various districts of Lima where there was no effective monitoring. On the other hand, contractors often try to increase their profits at the expense of the population. Specifically, in contracts in which the amount to be paid by municipalities is based on the weight of solid waste collected and disposed, it has been discovered that firms find ways of artificially increasing the weight of waste materials, such as wetting them, mixing them with construction and demolition debris, or collecting rubbish from locations other than those authorised.

One can say, then, that any contract for public services requires appropriate monitoring, coupled with the imposition of significant penalties if the service provider does not comply with the requirements of the contract. Resources must be allocated for this purpose.

The rise and fall of SUMSEL

Solid waste management services must be monitored in an ongoing manner. For such monitoring, many governments appoint "foremen", "inspectors" or "supervisors". The only goal of such officials is to guarantee compliance (with contract requirements) of the services that were assigned to the service unit. However, this work is often deficient, due to a lack of equipment and vehicles (both in quantity and quality), a lack of monitoring personnel with the necessary qualifications and experience, and a dependence on the personal judgement of the inspector without appropriate co-ordination. The resulting monitoring lacks impartiality.

The monitoring agency, SUMSEL was set up in July 1996. This unit was in charge of ensuring compliance with the technical specifications of the contract, applying penalties in the case of service deficiencies or non-compliance, and quantifying data for final invoicing. This unit was staffed by technical personnel with more than 10 years of experience in solid waste management. Most of the professionals and technicians had come from the superseded public cleansing unit. SUMSEL employed five administrative clerks and 18 field inspectors, who were in charge of monitoring collection services, the sweeping of streets and public squares, the washing of sidewalks, and the operation of the transfer station and of the sanitary landfills.

The monitoring task was carried out 24 hours a day. Control was based on random samples of at least 20 percent operations performed by the contractor. To facilitate this monitoring, SUMSEL had vehicles for inspectors, communication systems (radios), cameras, equipment for taking topographical measurements, data storage systems, etc.

In cases of non-compliance, SUMSEL applied penalties as stipulated in the contract. Annex 3 shows the contract requirements with associated penalties. The contractor had the right to contest or discuss the reported incidents of non-compliance in order to avoid paying the penalties. If the company did not object to the penalty within a given time, the fine would be deducted from the monthly payment.

The operating costs of SUMSEL were paid by the Metropolitan Municipality of Lima. These costs did not exceed 5 percent of the fee paid to the contractor. It is important to note that the unit's cost were paid by the Municipality and not the contractor, since this helped to ensure that the monitoring was independent and unbiased.

Although this monitoring system was successful and had been presented as a useful model in several countries, after six years of operation, a change of government resulted in the closure of SUMSEL.[23] Currently, there is only a single inspector to oversee operations, and all personnel with experience are sitting at office desks, so monitoring has become just a symbolic act. There is little information about the actual penalties and the waste is being weighed by the contractor's personnel.

Mechanisms for monitoring and imposing penalties

Service inspections were based on random sampling of operations. They were carried out at different times of the day, 24 hours a day. The contracted services were provided during up to three 8-hour shifts, depending on the type of service. Inspectors used inspection forms to record their observations. Each form was specific to the type of service concerned. Annex 2 shows an example of these forms.

Achieving a sufficient standard of service does not only involve completing tasks; it is also related to technical aspects, actual opportunities and constraints, the behaviour and appearance of the providers, and other factors. If the service provider did not comply with these requirements, there was a series of defined penalties that were related to the following aspects:

- the discipline of the provider in executing the services,
- the correct execution of work based on technical criteria, frequency, etc.,
- good presentation of company resources (staff, vehicles, other equipment), and
- fulfilment of the administrative obligations of the contractor.

Rather than presenting the magnitudes of the penalties as sums of money, these penalties were quantified in "fine units" which, when multiplied by the respective unit price yield the penalty payment.[24] The services were grouped into the categories of waste collection, sweeping, transfer and sanitary landfill operations. At the end of each month, penalties were calculated according to the appropriate current unit price.

The procedures for monitoring and auditing were as follows:

a) At the beginning of each day, the General Supervisor handed to each inspector his/her particular programme for the day's work. The inspectors also informed the General Supervisor of the most relevant events that had occurred during their monitoring on the previous day.

b) Inspectors collected information on routes, equipment, or sectors to be checked. In addition, they picked up blank inspection report forms for recording their observations.

c) Work was often re-programmed to cover any contingencies. Special follow-up tasks were sometimes ordered by the General Supervisor.

d) The General Supervisor decided which vehicles, areas, and means of communication were appropriate for each task.

e) The inspector completed his/her checks of the routes, equipment or sectors according to the plans, maps, or features outlined on the inspection forms.

f) The inspection forms included: inspection reports for the sweeping of streets and public areas, for waste collection, for transfer stations, and for sanitary landfills. Annex 2 shows an example of these forms.

g) If the inspector observed deficiencies or irregularities in the contractor's services, he/she would enter a "1" in the appropriate box. If no irregularity was observed, he/she would enter a "0" or leave the box blank.

h) In all cases of deficiencies or irregularities, inspectors were expected to record all necessary details related to the problem on the back of the form.

i) Whenever possible, reports of irregularities should be accompanied by graphic documentation such as photographs.

[23] Local authorities in Peru are elected every four years, and if there is a change in political leadership, the administration seems to act as if everything that the previous administration did was bad and should be changed. It therefore appears that SUMSEL was closed for political reasons.

[24] A unit price is the price charged by the contractor for performing an operation divided by a measure of the amount of work done. For example the price of collecting one tonne of waste is a unit price, as is the price of sweeping one kilometre of roadside walkway.

j) At the end of the day, inspectors would hand their completed reports to the group leaders for their review, evaluation, and qualification.

k) Group leaders then consolidated the final information into summary reports which were then sent to the General Coordinator.

l) The General Coordinator was responsible for sending photocopies of the inspection reports and summaries in writing to the contractor within 24 hours of the recording of the observations.

The procedure for applying penalties was as follows:

a) The chief of the Monitoring Unit, the General Supervisor, reported to the leading auditors.

b) Inspectors completed the monitoring and service auditing based on the programme. They recorded their remarks about the execution of the service in their daily inspection reports in an original document that was handed over to the unit chief upon returning from the inspection.

c) Within 24 hours of any event or remark made in the field, the General Supervisors reviewed the reports of their team of inspectors. They stamped the reports and consolidated the information in the daily inspection summary, recording the numbers and types of incident and the corresponding penalties. These summaries were then handed over to the General Coordinator.

d) The daily inspection summaries were handed to the General Coordinator together with a photocopy of the daily inspection reports. These documents were sent to the contractor with a transmittal note from the General Coordination Department stating the total number of documents sent.

e) The contractor could request that SUMSEL re-evaluate the remarks by presenting a request in writing within 24 hours after receiving the reports from SUMSEL.

f) Within 48 hours of receiving the request from the contractor, SUMSEL was expected to provide a response by accepting the claims made by the contractor or by ratifying the initial remarks. This written correspondence would be completed and stamped by the General Supervisor. The General Co-ordinator and assistants would be responsible for evaluating any serious case of non-compliance.

g) At the end of the month, the Coordinator would review the results of the daily inspection summaries in addition to all written correspondence. He/she would then proceed to add up the fines applied, which would be reported to the Municipal Department of City Services on a monthly basis.

h) Correspondence that was not sent within the established timeframes would not be considered in the process of penalty application, and would be the sole responsibility of the sender. In the case of weekends and holidays (when there are no administrative services), the deadline for handing in documents would be extended by an additional 24 hours, beginning on the first following workday.

Monitoring of performance

To assess the performance of the contractor, two types of checks are made:

- Checks on measurable outputs. Some tasks can be measured, such as the weight of waste collected, transported and landfilled. These weights were registered each day for the month. At the end of the month, the total amount of waste handled was calculated for each service.
- Other services, such as sweeping, were assessed by means of random inspections, which checked compliance with the route planning and quality of work done. The services monitored in this manner were those related to the sweeping and cleaning of streets, avenues, public spaces, parks and squares.

Calculation of monthly payments

Unit prices are multiplied by performance measurements to yield the monthly payment. The unit prices are determined by means of polynomial formulas that are readjusted each semester. Every two years, the formulas must be revised; this involves either confirming or modifying the price variation index. In detail, the procedure is as follows:

a) During the first five business days after a month of service execution, the contractor informs SUMSEL, in writing, of the services executed in the previous month. In this document, the contractor specifies the fee

payable for the services, a worksheet that records the work done each day in each of the services, and the original receipts with the weighing records of the collected waste.

b) SUMSEL has five business days to review the information and make any remarks in writing to the contractor.

c) The contractor then has three business days to accept the remarks or to request in writing that SUMSEL review its conclusions. The contractor should attach the photocopies of receipts for social security payments and the salaries of its personnel for the month in question.

d) SUMSEL has three business days to review the remarks made by the contractor; these can be reconsidered or confirmed by SUMSEL.

e) Once the verification process is complete, SUMSEL sends the contractor a written document with the valuation of the services completed, attaching the Certificate of Approval of Service, which must be signed and returned.

f) With the service valuation sent by SUMSEL, the contractor sends the corresponding invoice for services rendered to the Municipal Department of City Services.

g) SUMSEL sends to the Municipal Department of City Services the valuation of the services rendered in writing. This valuation is based on the current unit prices. SUMSEL attaches the worksheets sent by the contractor, the revision forms of SUMSEL, the Certification of Approval of Service, and the photocopies of the receipts of social security and salary payments for the contractor's personnel.

h) The Municipal Department of City Services then sends the documentation sent by SUMSEL to the personnel appointed to audit these documents. Once the documentation has been approved, the Municipal Department will send SUMSEL the invoice presented by the contractor to be stamped and returned immediately.

i) To begin the payment process for public cleaning services, the Municipal Department of City Services sends the Municipal Administrative Department its report declaring its approval of the services rendered. This report includes the documentation sent by the SUMSEL (the worksheets of the services presented by the contractor, the control forms of the SUMSEL, the Approval of Service Certificate and the copies of receipts of social security and salary payments for the contractor's personnel) in addition to the invoice presented by the contractor and stamped by SUMSEL.

j) The Municipal Administration Department sends the documentation sent by the Municipal Department of City Services to the appropriate department to initiate the process of payment.

Performance of the contractor

In 1997, the monitoring entity fined the contractor a total of US$682,400.00; since then the average of the monthly fines has dropped to US$16,000. Most of these fines are related to non-compliance in the sweeping and cleaning of streets and squares (the result of the erratic performance of workers in executing their tasks), the greatest number of penalties being related to street sweeping (72 percent of the fines). This irregularity is thought to be caused by limitations in the physical and sanitary capacities of the workers, as well as to economic and social restrictions.

In July 1996, for reasons not related to the contract, the Metropolitan Municipality of Lima demanded that services begin before the dates originally agreed. This meant that the contractor was forced to rent equipment for the first six months. For this reason, in the 4th quarter of 1996, this improvised equipment was penalised with 13,080 points (14.33% of invoiced amount). In the first quarter of 1997 he was penalised with 8,751 points for inappropriate service execution. Since then, services have improved considerably and the level of penalties imposed has diminished (to as low as 1.32%) as a result.

The detailed records of the contractor's performance make it possible to investigate geographical differences in performance.

As evidence of the effectiveness of the monitoring system, it is interesting to note that the private operator was initially fined large sums of money and that, in response to this, the firm installed a series of measures to improve the efficiency of the services and to reduce the penalties. These included a GPS[25] system (which was installed in

[25] Global Positioning System which indicates precise location and altitude by means of a small device which makes contact with satellites orbiting the earth.

all waste collection units in order to provide information on the location, speed, and activities of the units), breath analysers (to indicate whether personnel had recently consumed any alcohol), computerised tachometers (installed in all units to monitor the operation of machinery), and quality incentives (such as awarding food baskets to the best workers – those who comply with all company regulations).

Conclusions

a) The system for auditing and monitoring the waste management contractor in Lima, Peru has contributed to a more effective service and a higher level of overall service quality. Without effective monitoring of the service provided to citizens, this service would not have been as good.
b) The Metropolitan Municipality of Lima verified that the contractor was complying with the points outlined in the bidding forms; with the legal, technical, and economic proposals, and finally, with the contract.
c) The operational aspects of the various services were being updated according to changes observed in the city.
d) The invoicing of services is timely, and consistent with the reports drawn up by inspectors.
e) The success of the monitoring unit owes much to its independence from the central administration, allowing it functional and operational autonomy.
f) The incorporation of clear, precise terms in the contract enabled the monitoring system to meet the defined objectives.
g) There are many other waste management contracts in the city that have clauses for penalties and even warnings related to contract termination. However, when the monitoring unit is not autonomous and independent, these clauses are not upheld. If a monitoring unit never applies penalties, then effective monitoring does not exist. As we have seen, especially at the beginning of a contract, it is almost impossible for the private sector to meet all of its obligations. Thus, it is necessary to impose sanctions to ensure subsequent improvements in the service.

Recommendations

a) All contracts should include a clause with a detailed description of the monitoring and auditing processes, in order for these to be strictly enforced. It is quite difficult (nearly impossible) to implement a monitoring system after the contract with the operator has already been signed, if such monitoring is not outlined in the contract clauses. Leaving such a fundamental component out of the contract is one of the most common errors when entering into agreements with private operators.
b) It is important to define guidelines for monitoring solid waste management services which allow for objective measurement of performance.
c) Penalties must be included for cases of non-compliance or defective performance. If possible, examples of cases that will be penalised should be provided.
d) The fulfilment of the monitoring and auditing tasks of the monitoring unit require that this unit have the administrative, technical and material resources to effectively monitor all services in parallel with the provision of the service.
e) One alternative is to hire a monitoring unit. The effectiveness of the operation of this unit can be guaranteed by establishing that part of the payment to the monitoring unit is conditional on actual payment of the penalties that are imposed. The advantages of this model are evident: the possibilities of political interference are reduced considerably, guaranteeing increased autonomy and professionalism as well as a greater probability of keeping the same monitoring unit in spite of political changes.[26] We propose that the same contract term be used for both the private operator and for the external monitoring agency.
f) Another option for a sustainable monitoring mechanism that is not abolished when there is a change of political leadership at municipal level would be to establish an organisation that operates at a higher level of government, such as the central government. There are many possible models, such as the trade and industry regulatory agency.

[26] In some Latin American countries many of the technical staff of a municipal administration are changed when the political leadership changes.

Annexes

Annex 1 The SUMSEL Process

a) The auditing process is completed by means of field inspections carried out during the execution of all services.

b) The auditing tasks are grouped in three monitoring units, each led by a General Supervisor:
   (i) Urban Cleansing Supervision Unit 1: Monitoring of Waste Collection Services
   (ii) Urban Cleansing Supervision Unit 2: Monitoring of Sweeping and Cleaning Services
   (iii) Transfer Station and Sanitary Landfill Supervision Unit: Monitoring of the Transfer Station and Sanitary Landfill Operations.

c) For each service, daily monitoring involves monitoring:
   (i) Up to 20 percent of sweeping and cleaning activities.
   (ii) Up to 35 percent of waste collection services.
   (iii) Up to 35 percent of transfer plant and sanitary landfill operations.

d) The monitoring process is outlined below.
   (i) General Supervisors meet daily with the monitoring personnel before they leave for field work, in order to obtain information on events from the previous day.
   (ii) General Supervisors assign the day's tasks to the monitoring inspectors.
   (iii) The monitoring personnel observe and check the operations, noting any remarks in the inspection reports.
   (iv) At the end of the day's work, the monitoring inspectors hand their reports to the General Supervisors.
   (v) The General Supervisors review these reports and write down any remarks.
   (vi) The General Supervisors consolidate and summarise their remarks for their report to the contractor.
   (vii) The response to the written documents and any modifications requested by the contractor are commented on by the General Supervisors.
   (viii) Cases of serious non-compliance are investigated by both the General Coordinator and coordinators.
   (ix) With reference to the remarks and reconsiderations, the Coordinator determines the penalties to be applied, and reports on these penalties to the Municipal Department of City Services.

Annex 2 Daily inspection report for transfer station service

Date Shift Inspector

Transfer plant Time

Compliance with operative management	Reception of solid waste Unloading without reception Load level Coverage/trailer Landscape Electrical facilities	
Compliance with route	Route Place of delivery - solid waste	
Uniforms	Appropriate use Employees are wearing uniforms Adequate	
Level of hygiene	Uniforms/gear Tools/equipment Facilities	
Level of cleaning and maintenance	Work area Internal corridors Tools/equipment	
Personnel supplied with personal protection gear – labour safety	All personnel Gloves Hardhat/hat Shoes Uniform Tools/equipment Control formats Condition of uniforms Condition of tools/equipment	
Behaviour and/or attitude	Appropriate No waste separation Correct weight registered Does not change into uniform in public Authorised personnel at the transfer station Does not accept tips Inspector enters No waste commercialisation	
Equipment and/or vehicles	Not abandoned With identification With driver's license Authorised personnel in vehicle Specified user Authorised vehicle	

Mark an irregularity with "1". Mark standard compliance with "0".

Annex 3 Offences subject to penalties

No.	Penalty	Number of fine units applied
1	Personnel accepting or requesting tips from beneficiaries	10 for breach of contract
2	Changing into working clothes in public	2 for breach of contract
3	Not using uniform	5 for breach of contract
4	Inappropriate use of uniform	1 for breach of contract
5	Inappropriate behaviour with respect to the general public: consuming food, alcoholic beverage, or prohibited substances during work hours.	10 for breach of contract
6	Not fulfilling the service programmes, except in the case of emergency or force majeure.	50 for breach of contract
7	Appropriate uniforms are not given to contractor's personnel	20 for breach of contract
8	Loaded vehicle left parked on public streets or traffic obstructed by the collection vehicle.	10 for breach of contract
9	Annual insurance policies not presented on time or as stipulated in the Contract	50 for breach of contract
10	Absence, defect, or insufficient visibility of the vehicle identification.	5 per contract breach per day
11	Vehicle driven by an unlicensed driver or the presence of people not related to the service in the vehicle or at the facilities operated by the contractor.	50 for breach of contract
12	Lack of hygiene in the equipment, vehicles or facilities operated by the Contractor	15 per contract breach per day
13	Removal or damage to waste receptacles during domestic, commercial, or institutional waste collection	1 per case
14	Non-compliance in delivering the waste to the disposal site or detection of a loaded vehicle off its designated route.	50 for breach of contract
15	Picking up and/or selecting material from the waste placed for pick up in the contractor's vehicles or in the area of disposal, by Contractor's workers or any individual	50 for breach of contract
16	Contractor does not supply the materials equipment, or personnel necessary to fulfil his obligations	50 for breach of contract per day
17	Use of any vehicle for purposes other than those specified in the Contract.	25 for breach of contract per day
18	Use of any unregistered vehicle without the appropriate authorisation.	5 per vehicle per day
19	Not fulfilling the hours, frequency and routes for waste collection, the collection of swept waste and street cleaning in the manner and timeframe specified	50 for breach of contract per day
20	Not leaving the collection areas free of waste (clean and orderly) after the collection.	10 per case per day
21	Not completing the street sweeping and/or cleaning of thoroughfare in the manner and timeframe specified	10 for breach of contract
22	Not completing maintenance and repairs on equipment or vehicle equipment or vehicles	10 per case per day
23	Unapproved increase of personnel, material, equipment or vehicles.	10 per case per day

24	Delay in presenting monthly reports of service and on maintenance of equipment or specific information required by the Municipality	100 per day
25	Denying municipal monitoring inspectors access to the facilities operated by the contractor.	100 per offence
26	Artificially increasing the weight of waste (For example, wetting waste, modifying the empty weight of the vehicle, etc.)	500 per case
27	Commercialise or allowing the commercialisation of solid waste without municipal authorisation.	up to 500 per case
28	Any other serious non-compliance not specified	up to 500 per case

NOTE: For each of the services the (fine unit) imposition of the penalty refers to the unit price of the service. The table below gives examples of unit prices:

Service	Unit price in US$	Measurement
Domestic waste collection	43.48	ton
Street sweeping	16.23	km *
Transfer station	9.27	ton
Sanitary landfill	5.22	ton

* including the sidewalks on both sides and a strip one metre wide on each side

N Case studies from Germany

N1 Arrangements for private sector participation

In Germany before 1994, municipalities were responsible for providing solid waste management services, and generators were required to hand over all their waste to the municipality services (or their private sector agents). Since the new waste management law in 1994, certain manufacturers are responsible for recycling their products and waste generators are required to segregate their wastes for recycling. Further, a decree of 1993 states that from mid 2005 only stabilised waste may be disposed to landfill. These changes have had a profound effect on waste management. There was concern that waste quantities are insufficient for economic operation of incineration plants. The response to these changes included looking at new institutional arrangements for municipal waste management.

Municipalities are able to choose from a wide range of options for involving the private sector. These can be categorised into four basic forms.

- Commercialisation the formation of publicly-owned entities under company law. These entities may join with private enterprises in the formation of joint ventures. These joint ventures may involve one or more enterprises and one or more municipalities. Generally the public side owns 51%.
- Contracting: The municipality and the private enterprise enter into a contract based on civil law for specified services. In a management contract the private enterprise provides expertise to manage facilities that are owned by the public partner, and receives a fee for this service.
- Concession: In the case of a *Build Own Operate* (BOO) concession, a private enterprise is selected by competitive tender to establish, finance and operate a facility. This arrangement continues until the end of the concession, which normally coincides with the end of the amortisation period. The land on which the facility is built may be owned by the concessionaire or leased by the owner. A *Build Operate Transfer* (BOT) concession requires the private investor to hand over the plant to the owner after an initial “start-up” phase.

- Privatisation strictly means the transferral of the responsibility for a task as well as the ownership of the assets needed to perform this task. The provision of the services is left to private competition. An example of privatisation is the acquisition of the responsibility for the "Dual System" for recycling packaging.

N2 Trends affecting public and private sectors in Germany

Overview

The collection, processing and disposal of solid wastes are legally the responsibility of the public sector. Perhaps the main reason for this is that solid waste management is necessary to protect the health and living conditions of citizens.

New technical standards demand increased expenditure, but citizens are not prepared to pay ever-increasing fees, so both public and private sectors need to look for ways of improving cost-efficiency.

Public institutions are working hard to enlarge their place in a changing market, but so far their efforts have met with only limited success, and encroachment by the private sector has perhaps been delayed, but not halted. Urgently needed changes in the public sector – in accounting procedures and towards customer-orientated thinking – are being gradually introduced in many services and activities.

The establishment of segregated accounts for waste management operations (i.e. the exclusion of waste management from the general municipal budget) was an important step in the process of re-structuring. Yet the experiences also show that even with transparent cost accounting, there is little more that public enterprises can do to increase their efficiency. Private disposal companies also have to cope with increases in costs due to new legal requirements and more stringent technical standards. These increases must be passed on to the citizens who are paying the fees.

It is clear that the involvement of the private sector in solid waste management is far more advanced than many wish to accept. A mainly legal discussion on the *liberalisation of disposal services* is not going to halt the continuing growth of private sector participation, regardless of the great efforts being made by municipal enterprises. The argument that "the private sector can do it better and at a cheaper price" is a hypothesis with little foundation – as is the opposing thesis: "only a public organisation can implement a sustainable waste management policy". The competition in solid waste management is becoming increasingly fierce, so that it appears that the survival of public sector service providers can only be ensured by forming joint (public-private) ventures.

The example of a large town

This section provides a description of the current situation in a German city which has more than 100,000 inhabitants.

In the Federal Republic of Germany waste management companies based on public law (run by municipalities, districts and towns) are responsible for the collection, processing and disposal of household waste. Each responsible organisation can decide how and by whom these tasks are to be carried out. Whilst smaller municipalities and districts have usually transferred waste management tasks to private companies, it can be generally asserted that towns with populations of more than 100,000 have their own equipment and facilities (such as vehicles, workshops, and treatment and disposal installations). In the 1980s, these municipal assets were generally categorised as belonging to one of a number of public services that were funded by allocations from municipal budgets. The town discussed here decided seven years ago in a municipal council resolution to remove solid waste management from the general budget and to establish an independent enterprise with its own accounts and decision-making powers.

Before this enterprise was established, various organisational models were discussed by the municipal council. One model was to create an organisational unit only for solid waste management. Another was to merge with other public services – such as water supply, wastewater management, gas and electricity distribution. The sale of these municipal assets – full privatisation – was never considered for discussion. An enterprise that is responsible for several public services was considered to be too large to control. Since the charges for waste management were determined by regulations, it was decided to set up an independent enterprise which continues to be constrained by to administrative regulations and is not empowered to determine the service charges despite their being excluded from the municipal budget.

Three goals

The new municipal waste management unit pursued the following goals:

a) Valuation of assets
b) Transparency in the cost structure of individual services
c) Quality control and standardisation of services provided

a) Valuation of assets

The introduction of double-entry bookkeeping allowed a complete valuation and record of all related assets to be established for the first time. Even if some of the historical acquisition costs could only be guessed, it was possible to use these estimations in the following years to provide a reliable basis for future depreciation and investment decisions. However, the introduction of a more business-like approach and cost accounting does not directly lead to cost savings. On the contrary, the evaluation of future pension liabilities (pension reserves) and an increase in the reserves to guarantee the aftercare of landfills caused the costs to be increased by 12 %. On the whole, approximately 4 million Euros per year have to be accounted for as reserves, and this has a major impact on the magnitude of the charges that citizens are asked to pay.

b) Transparency in the cost structure of individual services

Despite the problems of asset valuation (which are not considered further here), the calculation of costs is not sufficient to establish efficient cost and operational accounting. In order to achieve some internal control over the provision of the various services, (e.g. collection of waste paper, removal of bulky waste or disposal), their costs are allocated to various cost centres. A new accounting structure cannot be established in one day. It requires computer infrastructure and management skills to be able to utilise information from the accounts as an instrument of control, and this capacity is still being developed.

Performance indicators for individual services can be determined, and used to show changes with time or to compare the performances of similar enterprises.

Cost analysis can show, for example, that the collection and processing of a ton of organic waste costs 50 Euros more than the collection and land filling of one ton of residual waste, and that the disposal of one ton of bulky waste costs 76 Euros more than the disposal of residual waste. Such information can be useful in making management decisions, and the availability of such data shows that the public sector is making progress. However, the private sector has been collecting such accounting data for some time, so such developments cannot be taken as an argument for the retaining public sector provision of waste management services.

c) Quality control and standardisation of services – Comparison between in-house services and external services

The introduction in recent years of new technical standards for the treatment and disposal of waste has resulted in increases in the associated construction and operation costs. This leads to an increase in fixed costs. Cost savings are needed, especially in variable costs.

In order to come to terms with variable costs, various operational processes should be streamlined, focused and standardised. This demands an analysis of the status quo of all operational processes within the context of extensive *quality management*.

For instance, this quality control showed that the cost of collecting christmas trees in January was far too high especially since the citizens do not always put their old trees out for collection on the designated day. In order to guarantee cleanliness in the town, it was necessary to continue to collect trees after the dates that had been announced. In order to cut overtime, the removal of Christmas trees was integrated into the collection of bulky waste. This change in the collection resulted in a total annual saving of 150,000 Euros – surely a short-term success. However the cash saved was only one third of the cost of the certification process needed to qualify the enterprise to specialise in disposal (an example of the extra costs resulting from additional obligations and standards).

Increased activities of public enterprises in the aspects of marketing, customer-orientation and public relations, show that many enterprises want to win regular customers from the private waste management companies. For three years, for example, both sectors have been competing for the collection of commercial waste that is similar to domestic waste. Whilst the public enterprise was able to compete effectively on service quality, it was not able to reduce its charges to keep in

line with the competing private sector, because it is a slow process for a public enterprise to cut its charges; the private sector is much more flexible.

However, other waste management services – such as waste paper collection – are in many instances also being provided by private companies as contractors. Due to increasing segregation and processing of waste, these materials are playing an increasingly important role. Private companies are being drawn in to provide specialist knowledge. Full service provision by the private sector, as demanded by many, has not been fully achieved yet, but private sector subcontractors play an important role. The enterprise that is described here subcontracts 35 % of its services; composting, waste paper collection and the collection of bulky waste are being provided by private companies. This constitutes a turnover of 18 million Euros.

Looking ahead

Since waste management in the Federal Republic of Germany is based on public law and because of the increases in the costs of household waste management in recent years, the organisational structures have experienced significant change. Twenty years ago, the waste management services were mainly being provided by municipal waste management and urban sanitation authorities, but now the organisational arrangements are much more diverse. Due to rapid cost increases in some areas of waste management, there has been a move towards separating this task from the traditional municipal administrations and the establishing of independent organisational units.

Increasing specialisation in the areas of the collection and processing of wastes and the marketing of secondary materials has led to increased involvement of private contractors, even where there are municipal enterprises.

Experiences show that municipal enterprises can play an important role and do not have to hide themselves, yet there are limits with respect to their flexibility and scope for the reduction of variable costs.

In view of sustainable development policies and the goal of maintaining waste management standards, it is necessary to keep the monitoring function under the control of the state.

As long as further technical standards are demanded, the fixed costs for installations will continue to rise. This will be clearly reflected in the waste charges – regardless of whether the installation is being operated privately or publicly. Despite all efforts to further increase cost efficiency, rises in waste charges are inevitable. These rises will cause political leaders to ignite the discussion about increased involvement of the private sector once more.

N3 A Joint Venture

Description of the Joint Venture

This joint venture (hereafter referred to as “JV“) was established by a district administration (with 51% of the shares) and a private enterprise, based on private law. The decision to establish the JV was made unanimously by the district assembly and thus was above all party political considerations. A little later, the district sold its 51% shares, for tax reasons, to its business promotion company, in which it held an almost 97% stake. Therefore, from a formal viewpoint, the JV is almost completely a limited corporation and not a classical joint venture. The actual possibilities of exerting influence by the district are, however, those of the joint venture model. As a waste management service provider based on private law, the JV is majority-owned – yet, only indirectly – by the district. Within its district, it is responsible for municipal waste management.

How the JV was engaged

The selection of the private partner was preceded by month-long talks between the administration and potential partners, but there was no public call for bids. Even the signing of the contract with the JV by the district was not subject to a preliminary public hearing.

Why the JV was invited

The decision to engage the JV was made because the district was aware of the immensely increased organisational, legal and financial demands placed on the waste management operators by the existing legislation. The following factors were influential in the decision to involve the private sector and form a joint venture.

Advantages of private sector involvement:

- Cost-savings without a reduction in service standards, a more business-orientated approach in operational management and generally a greater awareness of costs in planning, construction and operation.

- Avoiding the constraints of the public employment law governing civil servants and the associated gain in flexibility with respect to human resources management.
- Clear definition of competences and responsibilities.
- Greater motivation for – and competence in – decision-making.
- Separation of decision-making from current political issues.
- Tax breaks associated with proposed investments in treatment and disposal installations (for composting, landfill and waste sorting).
- Possibilities of taking initiatives in operational aspects and opportunities for taking on fully privatised service tasks (such as the dual system for recycling) with the expectation of reductions in waste charges (because of cross-subsidisation from these activities).
- Utilisation of the knowledge, experience and management skills of the private sector.
- Utilisation of private assets.

The assignment given to the JV

With the establishment of the joint venture by the district and a private service provider in June 1992, the district contracted the JV exclusively for the implementation of the waste management programme of the district and, in particular, for the recycling and processing of the waste for which the public sector is responsible. This includes the marketing of the secondary raw materials recovered, as well as the disposal of the residual waste. Within this context, the JV performs all the waste management tasks of the district that can be contractually transferred. The obligations and responsibilities for waste management by the district based on public law remain untouched.

The role of the JV

The JV considers itself essentially a planning, controlling and organisational entity that organises – with approximately 20 permanent employees – the provision of waste management services to the 273,000 inhabitants of the district by contracting private companies. The services provided by contractors constitute almost 90 % of all waste management expenditure.

Opportunities to subcontract

As an institution that belongs – by virtue of the ownership to the majority of shares – to the district and is also dominated by it legally and contractually, the JV is free to provide the services itself or to commission contractors to provide them. The JV is required to observe all the regulations for contracting as if it were a part of local government.

Contract term

The contract runs until the end of 2007. It will be automatically renewed for another five years, if neither of the two contractual parties requests the termination of the contract before the end of 2006.

Links with district administration

The JV liases with the district administration through formal meetings, and regularly reports on its work and its financial situation to the committees of the district – including the environmental committee, the central committee and, in exceptional circumstances, also to the district council. This regular feedback of the JV to the administration is necessary and important. A regular exchange of information with the JV allows the district to fulfil its extensive responsibilities at all times. In turn, the JV itself can demonstrate its willingness to perform well. Moreover, it is necessary to ensure the transparency that is absolutely essential when dealing with public funds.

Decision-making

Ultimately, all important decisions, including decisions concerning the waste management charges, are made solely by the administration of the district, based on information provided by the JV. The instructions passed on to the JV are not always the result of rational and objective discussions of economical and technical issues. They are also influenced by the general decline of financial resources in recent years, party politics, personal animosities and the interference in the district council by influential “local bosses”.

NIMBY opposition

In one particular case, a coalition of populist district and local politicians, together with a local citizen’s action group, obstructed the decision for establishing a residual waste processing plant that would be required by the district by mid-2005. This occurred even though the decision for the site’s location had been reached after consideration of economical and environmental aspects and within the framework of a public tender. In the discussions concerning the site for the waste treatment plant, emotions were inflamed by the

fact that campaigning for the first direct election of the senior administrator for the district and for the federal parliament elections was taking place at the same time as the discussions on waste management. Therefore, parties, as well as individual politicians, tried to profit from the discussions about the waste processing installation and its location.

However, this is nothing new or surprising in the context of decision-making in the political arena.

Links with public

From a positive viewpoint, working with the public and the administration is a challenge to the JV, which needs to promote the necessary changes with the right arguments and at the right time.

Cost recovery

On behalf of the district, the JV collects all waste management charges from all private households and all other generators that receive the public waste collection service.

How fee is determined

To cover its own expenditure, and all expenditure incurred by subcontractors, the JV – in the role of overall contractor – charges the district – as the client – an annual fee. The JV's calculations of this fee are based on the guidelines for the determination of prices based on cost reimbursement. According to the byelaw that regulates prices in public contracting, since 1997 the fee is calculated according to a cost reimbursement fixed price per calendar year. This fixed price is the balance of all costs and income expected for municipal waste management within the reference period.

The balance, after close co-ordination with the district administration, is presented to the committees of the district for decision-making at the end of the third quarter each year. The cost reimbursement fixed price of the JV is the essential basis for the district in its determination of the general charges for waste management. The calculation of the charges for waste management is also carried out by the JV as one of its tasks.

Fee levels

Since starting in 1992, the JV has extended its services (e.g. introducing separate collection and recycling facilities) yet, in spite of general price inflation, the waste charges have not been increased since 1997. In 1998 and 1999 the charges were actually reduced and since 2000 the charges have remained constant and will do so until the end of 2005. In important individual areas there is even potential for general improvements in financial efficiency due to long-term contractual relationships.

Income from recyclables

For more than four years, the JV itself has also been responsible for the marketing of the locally collected recyclable materials. Moreover, the JV has 100 % shares in two companies

- one, whose main focus lies in the sorting of packaging and which is one of the contractual partners of the dual (Green Dot) system for the recycling of packaging.
- the other, which was originally responsible for the sorting of bulky waste, commercial waste and paper, but in the course of time has been transformed into a general sorting plant.

Taxation

Tax law can also have a bearing on which institutional arrangements are most suitable. In this case, private enterprises are eligible to claim back value added tax (V.A.T.). This option is not valid for companies in the public sector. However, viewed comprehensively, there are no effective tax incentives for companies working in waste management.

Evaluation

After about 12 years of operations by the JV the district appears satisfied. Since it can be assumed that the JV operates according to the requirements of the law, the key issue of concern is the size of the fee that the JV is paid for the services it provides.

After some partially self-induced difficulties in the start-up phase, the JV is today a well-recognised private disposal company – not only in the district but beyond it as well.

Restrictions on AWR independence

The arrangements that have been described look good on the surface, but as one digs deeper it appears that there are also some problems. The formation of the joint venture, which was done with the goal of saving money, was carried out only half-heartedly. Having been obliged to follow the public industrial and collective bargaining law right from the beginning, the JV was prevented from making savings on wage costs, which are

the largest cost item in the expenses incurred by the enterprise. The freedom for the JV to act according to its own commercial interests is restricted by local government bodies and individuals who place their own interests above objective or financial considerations. This interference starts with decisions affecting the collection system (such as the size of containers, the frequency of collection or the locations of facilities), encompasses organisational and contractual issues and extends to tariffs and byelaws. Therefore, the desired separation from daily politics and the desire to concentrate on the essentials – that are often claimed by representatives of the administration as advantages of the current arrangement – have remained just theory in this case. Waste management contractors often complain about the influence of local politics on their operations, but the details of the actual commercial and operational management in the district are hardly understood by anybody – particularly citizens outside the administration. The majority of local politicians are involved in some way with the company – being on the board of directors or participating in shareholder meetings – and there are regular audits and discussions with the district institutions.

Trust and conflicts of interest

However, in spite of these links, in the end it is a question of trust that the managing directors are acting according to the economic concerns of the district and providing a service that gives value for money. In most instances, this trust is justified – as in the case of the JV and also in other similar cases of joint ventures. Nonetheless, in every instance of public/private joint ventures there will always be a conflict of interest between the public interest in the lowest possible costs and the (legitimate) interest of a private enterprise in a secure and long-term contract and the highest possible returns on investment. There can also be a conflict of interest if a private sector partner is not only providing management leadership and advice but also offering operational services. In the specific case of the JV, the private partner had great difficulty for many years in differentiating between his role and interests as a shareholder and his interest as a provider of commercial services.

Example: Subcontracting by the Joint Venture

The current situation

As previously mentioned, the waste management services in the district are almost wholly provided by the private sector. Without exception, the JV acts as the client. In the course of its establishment, the JV also had to take over many contracts which the district had previously concluded with different waste management companies. Some of these contracts were of indefinite duration, and others were of long duration or contained clauses that provided for automatic renewal. Some of these contracts are still valid, virtually unchanged. In other cases, over the years the JV has made use of opportunities to cancel contracts and re-allocate them, especially if better terms could be obtained. In past years, this was the case especially with respect to the collection and transport of waste, the disposal of waste that requires particularly strict monitoring (hazardous waste) and the marketing of recyclable materials.

Analysis and evaluation

The contracts of the district that were taken over by the JV and which are still valid today are neither particularly efficiently nor profitably formulated according to today's standards. Furthermore, some of these contracts apply to services which can no longer be considered crucial for health or environmental reasons (e.g. the collection of Christmas trees and green waste directly from one's property, and the collection and delivery of waste containers). Subcontracts were, and also still are, subject to special framework conditions (such as the locations of waste management facilities in the 1980s) or a particular local situation (e.g. municipalities of special touristic significance).

Because of its mandate to provide services in a financially efficient manner, the JV should regularly check the content and costs of existing contracts. For this reason, the JV has been monitoring contracts for several years, checking all existing contracts with respect to deadlines (e.g. length of notice), financial arrangements (e.g. price escalator clauses, volume discount rates) and other variable components of the contract on a quarterly basis. Regular monitoring of the contracts and familiarity with the actual requirements of the contracts is also of great importance for auditing the services provided by subcontractors.

The examination of contracts with respect to content and profitability will inevitably also lead to the JV identifying cost savings and needed revisions. It has not always been possible for the JV to implement new ideas or new legal requirements within the framework of the existing contracts. Some waste management companies have been in possession of municipal contracts for several decades – contracts which they usually did not obtain through open tendering – and they have often proved to be inflexible and unwilling to adapt to new circumstances. In such cases, the service contracts were, as far as possible, cancelled, revised and put out to tender. In one instance, the JV even decided to take on a task (marketing of recyclable materials) itself, and this proved to be of great benefit to the enterprise itself as well as to those paying the charges. For the same reasons, the JV is considering taking on further tasks (e.g. biomass recycling) when existing contracts expire.

Example: Subcontracting composting

Description of the status quo

In 1993 the district decided to be the first regional administrative body in the state to introduce full coverage in separate collection and recycling of organic waste. Having discussed the market conditions with the district environmental committee and the JV, the district decided to contract a particular company through the JV for the disposal of organic waste. There was no public request for bids for this service.

In December 1993 the JV signed a contract based on private law with the selected company for recycling the majority of the organic waste collected in the district as well as some green waste from gardens and parks. The site for the planned composting facility was provided free of charge by the JV. Furthermore, the JV is contractually obliged to hand over 15,000 tons per year of the compostable waste that is collected by the JV or its subcontractors and to pay a fixed service fee (with price escalator clause) per ton for the processing and marketing of the compost. Moreover, the compensatory payment (i.e. the processing obligation of the operator) is tied to a minimum quality (content of contraries) of the as-delivered organic waste. The contract runs at least until the end of 2007. If the JV terminates the contract before 2015, it must pay the operator compensation to cover the remaining capital investment costs and outstanding personnel costs (essentially, the redundancy scheme). No compensation will be paid for loss of profits.

In response, the subcontractor is required to establish and operate the composting facility for the processing of the organic waste supplied by the contractor according to a prescribed system and on the site supplied by the JV. Moreover, the subcontractor is obliged to produce compost that meets the quality criteria established by the Federal Compost Quality Assurance Organisation (BGK) and to market it on his own account. The JV has the right to demand proof of the marketing of the compost.

The composting plant began operating in the second quarter of 1995. At the beginning, there were noticeable problems with the processing of the organic waste, since its moisture content was higher than expected. This caused serious odour nuisance and led to citizens' complaints in the first few months of operation. After several operational and technical modifications by the operator, the composting process has been running as expected and without any negative consequences for years.

Analysis and evaluation

Although the compost plant has been operating for several years without any significant problems, and the subcontractor is producing and marketing quality compost, the whole operation has been very expensive for the JV and so also for the citizens who have been paying the charges since the onset of the contract.

The experiences of this project are like the list in a text book of issues that should be considered and improved. At the start there was no survey of the characteristics and quantities of the organic waste. The process technology was selected by the subcontractor alone, under pressure from the district assembly, accepting little advice from the JV. There was no tendering process to identify the most cost-efficient option. The process technology was selected on the basis of a couple of plant visits without seeing all that the market had to offer. Probably with the best intentions, but without much expert knowledge, the technology seems to have been selected according to how well the manufacturer could sell himself. Finally, the authorities changed from a BOT (Build, Operate, Transfer) model to a BOO (Build, Own Operate) model at short notice for reasons that are not understood.

In effect, organic waste composting in the facility that has been described is by far the most expensive composting process for household waste in that part of Germany. The service fees to be paid were established without a public call for tenders, which is a compulsory requirement for service contracts of that magnitude. From a formal perspective therefore, the fees do not conform to existing regulations governing municipal financing and therefore should not be used in this form for the calculation of charges. And since the original contract was drafted at the last minute because of the tight deadlines for implementation that the district had placed on the JV, many intensive talks and renegotiations were necessary up until 1998 in order to create a contractual basis that was acceptable to both sides for day-to-day operations. Improvements with regard to content – essentially financial improvements – for the JV and the district, however, could only be achieved to a limited extent with these changes.

N4 Three options for inter-municipal co-operation

The German constitution guarantees the autonomy of municipalities with respect to duties that have been assigned to them. This autonomy allows them to select arrangements for providing these services using both public and private sector agencies. Municipalities may also work jointly to provide most services.

Joint bodies

Within the framework of the laws regulating municipal co-operation in the individual federal states, a joint body is a public corporation, which serves the purpose of jointly fulfilling certain, individual municipal responsibilities in accordance with the specific by-laws.

Such an association is responsible for administrating its own business within the limits of the law. In contrast to industry associations, it has sovereign rights for fulfilling its tasks and is subject to state control. Joint bodies are usually the result of a voluntary association of municipalities or municipal associations.

Example: Regional Council

This example refers to the establishment of a regional co-operation organisation that includes one of the major cities of Germany. It will be referred to as “the RC” (Regional Council).

Breaking with tradition, the operations of the RC were not defined in byelaws. Instead the State Parliament passed a law on the RC with effect from 1st January 1975 and in this way constituted the association of towns and municipalities in this intensively developed urban area. It had already become clear that such an association was essential for the development of this area, which included 43 towns and villages, ranging in size from villages of about 5,000 to the main city, which had a population of 700,000. The RC became responsible for a wide range of planning functions and urban services, including waste management. The RC had its own elected assembly.

Waste management services were provided by a public enterprise set up by the RC. This enterprise was operated according to commercial principles and under company law.

In 1999 a change in state law took the responsibility for waste management away from the RC. The publicly owned enterprise became a limited corporation whose shareholders were the three districts and two towns that it served, and its function was restricted to providing technical advice to its shareholders. In 2001 the RC was dissolved and re-established as an association only concerned with regional planning.

The formation of the RC was a clear-sighted move, but the Council had its shortcomings. It did not include some cities that would have allowed considerable financial and operational benefits to the RC as a whole. Not all the waste disposal facilities were handed over to the RC’s enterprise – only those that were near the end of their economic lives, and this resulted in high operating costs. If all the facilities had been handed over, rationalisation and economies of scale would have led to reduced costs. As new responsibilities were added in waste management (specifically separate collection and composting) huge planning costs were incurred but no facilities were actually built by the RC. Problems were compounded by elected officials who voted one way in the assembly of the RC and the other way in their own communities. There was also the tendency to try to get money from the RC for one’s own community, and this conflict of interests (which was usually in favour of the home community rather than the RC) was a decisive factor in the decline of the RC. Managers of the RC enterprise were accustomed to abundant finances, and were not able to adjust to a situation

in which cost-efficiency was crucial, and many of the staff recruited to the enterprise from government offices lacked a business-oriented approach and experience in waste management.

Agreement between two districts and a town

German Federal legislation requires that waste is treated before being disposed to landfills. District A (the district referred to in Case Study N3) through its joint venture (JV) prepared proposals for setting up a Mechanical-Biological Waste Treatment (MBWT) plant, which would provide the necessary treatment, but this was vetoed by the District Assembly. After considerable political activity the District was obliged to move forward with this proposal, and to involve another district and a neighbouring town (which will be referred to as District B and Town C.) The involvement of the additional partners was motivated by the savings that could be achieved by working on a larger scale, and by their lack of an alternative solution.

In 2001 the three administrations signed an agreement governing treatment of the waste from 2005 till 2020. The agreement stated that the waste of all three entities would be treated in the joint MBWT facility, and the payments to be made for treatment and disposal were formalised. It was agreed that the plant would be located on the old landfill site of Town C. In addition District B and Town C also agreed that District A would recycle the paper and cardboard from the whole region, and they committed themselves to further co-operation as opportunities arose.

The joint venture of District A was made responsible for this project and for all links with the implementer. Another town and another district (both nearby) have purchased the right to send waste to this plant. They are not partners in the same way as A, B and C, but contribute to the viability of the plant by increasing the waste quantities and customer base.

It is important to note that the motivation for such partnerships is usually financial (saving money because of economies of scale) or practical (such as finding a site for the operation that is not opposed by the local people). It is also significant that the duration of the agreement is almost 20 years.

Example: Association of five joint ventures

This example describes a voluntary association of five very similar joint venture enterprises (one of them being the JV referred to in Case Study N3). These enterprises all have the same parent company (which has 49% shares in each), are responsible for similar profile of tasks and work in adjacent districts. Most of their functions were initially planning, organisational and control, though recently some operational functions have been added to these. Their aim in joining together was to improve their efficiency and effectiveness.

The scope of co-operation has grown gradually since the start. The areas of sharing can be summarised as follows, the more recent fields of co-operation appearing at the end of the list.

- exchange of experiences in the organisation of local operations;
- sharing of legal information – gaining quick access to current legal decisions, discussion and interpretation of current legislative and byelaw issues;
- rapid access to services provided by the private partners of the joint ventures;
- pooling of experience regarding administrative and legal procedures;
- sending waste to the facility of a neighbouring district when this involves a shorter travel distance (No money is exchanged, instead the two enterprises try to ensure that the quantities of waste that each sends to the other's plant are approximately equal.);
- sharing public relations inputs (such as provision of information and advice to customers, and developing a corporate image);
- increasing bulk-purchase discounts by buying larger quantities of consumable items;
- sharing performance indicators to enable benchmarking that pinpoints areas for efficiency improvements;
- (possibly in the near future) identifying one agency for undertaking the collection of charges and for other particular functions.

The long-term goal of the association is the formation of one economically efficient waste management company operating in the combined area. One hoped-for benefit is the reduction of the influences of communal politics. (However this aim appears to be in contradiction to the general aims of decentralisation and political accountability.) In order to avoid making excessive demands on the company employees and especially municipal politics in the districts, a

gentle and gradual approach when implementing the goals is indispensable.

Conclusions and recommendations

This section reviews the knowledge gained from experiences in private sector participation and in co-operation among municipalities. Even though the general findings are based on German case studies, assumptions and recommendations for the work and goals of development co-operation can be made. These can be found in the final part of this section.

Conclusions regarding private sector participation

It is interesting to consider why, in the past ten to fifteen years, the involvement of the private sector in the provision of basic services has been demanded so single-mindedly by a broad segment of political leaders and industry associations. One explanation is that the public sector and its employees are generally regarded as inflexible, bureaucratic and even lacking in motivation to work, whilst the private sector always works effectively and efficiently. And why are the positive attributes of trustworthiness, reliability, legal security and expertise that are associated with the public sector generally disregarded? Both the public and the private sectors have their strong points. There is no general reason why the private sector provides a better service to households – the situation varies from case to case. However, there are some general indications regarding the conditions in which the public sector should continue to control waste management and the circumstances in which it should retreat sooner rather than later. And, some of these factors are probably the same for Europe as for developing and transitional countries.

The main motivations for municipalities to choose private sector participation for solid waste management services are summarised below. Private sector participation allows

- a better understanding of the real costs of solid waste management – planning, construction and operation;
- increased opportunities for making improvements and better control on the standard of service;
- limited influence of the municipal administration on planning and personnel issues;
- access to private capital;
- planning that is more effective and implementation that is faster and more cost-effective;
- hiring of qualified expert personnel who are not subject to the employment conditions that apply to government employees;
- more flexible organisational and management structures;
- creation of competitive markets with the goal of reducing costs.

Some of these phrases have the appeal of advertisers' slogans, but it is important to consider them in the light of practical experience. Furthermore, in many cases these advantages could also apply to a publicly-owned enterprise. Often the most influential factor is not the ownership of the company but rather the individuals who guide the enterprise and its activities, and the context in which it operates. Both types of company may have to put up with similar problems in day-to-day business operations such as

- the great influence of local and regional politics on economics,
- technical and organisational decisions as well as in questions related to personnel, public employment law for government employees and collective bargaining law,
- restrictions on raising charges, and
- inadequate understanding of business principles.

However, in general, both also have the same advantages such as, for example, a degree of financial autonomy and transparency, and the application of sound accounting procedures.

There is a wide range of contracting options available, including the various degrees to which the client organization intends to be involved. Competitive tendering is obligatory, whether for selecting a contractor or for selecting the private partner in a joint venture. The success of the tender as well as the legal security of the two parties involved in the ensuing contractual phase depend decisively on the quality of the bidding documents. The public body thus has to take great care in drafting the functional specifications and may need to obtain external technical, business or (particularly) legal advice at the earliest stage possible. Experience has shown that the knowledge and experience of administrative lawyers of public sector organi-

zations are often not sufficient to manage complex bidding processes, so co-operating with other regional administrative bodies which have already carried out similar tendering can be very helpful as well as reducing the costs of preparing the tender documents.

The tender documents have lately often been presented in a contractual format which is useful, because it introduces bidders to the details of the contracts that the successful bidder will be required to work under.

Since the contracts for essential services in waste management often have quite a long duration, they should be reviewed at regular intervals by the client during the phase of service provision, so that financial and operational changes (such as price-volume discount rates, price escalator clauses, and changes in charges due to new regulations), can be monitored and allowed for.

If a company has been providing a service for a long time, the public body should check the quality and cost-efficiency of the service provided by benchmarking – comparing with the performance of other companies which are working in similar conditions.

Contracts for joint ventures and concessions often run for long periods and involve large financial commitments, so in such cases the selection of the partner and the formulations of the contract are particularly important. Another vital aspect of contract formulation is clarity, so that the client organisation and responsible political leaders are able to understand the commitments of their side and the duties of the private sector partner. If not, it will be difficult to enforce the required control over the private sector. Moreover, when the parameters for the service provision have been agreed in a binding commitment, adjustments can be made only in agreement with the private partner and such modifications usually incur additional costs. This also applies if the public body decides that it would like more participatory rights after the contract has been signed.

In spite of all legally binding agreements, there is always a need for trust and trustworthiness – the reliability of a bidder may be established by means references from a trusted referee, and a public body should ensure effective monitoring by appointing a trustworthy expert to be part of the executive board of a joint venture. When a concession is being considered, the grantor or owner should ask himself whether it would be more beneficial to become a legal partner (in a joint venture) of the relevant operational or holding company or whether it would be more effective to remain outside and thereby allow greater independence in monitoring.

Conclusions regarding inter-municipal co-operation

The examples of inter-municipal co-operation that were discussed above – a joint body, a contract based on public law and the voluntary co-operation of the five joint ventures – clearly show, that all participants must be willing to co-operate for such an arrangement to be successful. For this reason, any association should demonstrate obvious and significant advantages for all partners.

In general, a regional solution is attractive if a local solution would be ineffective. Inter-municipal co-operation in waste management is attractive if it allows more efficient use of the capacities of existing or proposed plants, or the potential for optimising collection and transportation. (In some cases the reluctance of the residents of one district to accept the waste from another district must be overcome.)

In order to estimate the benefits and risks of an association, everyone involved should carry out a careful analysis of their own situation at the preliminary stage. The following questions (the list does not claim to be complete) should be answered:

- Which fields of co-operation make sense in the particular situation?
- Which possible partners for co-operation should be contacted and how?
- Are the existing data sufficient for making a decision?
- What are the strengths and weaknesses of the potential partner?
- Which synergistic effects – and in particular cost-saving effects – can be expected?
- What are the given technical and structural resources of the potential partners (e.g. collection systems, number and condition of processing plants, organisational forms)?
- Which legal constraints need to be considered?

There is no general rule regarding which organisational form works best for co-operation. The association should, however, be able to act as independently of local politics as possible.

Hence, in the case of co-operation with equal rights and obligations for all partners, the preference should be given to a joint private sector enterprise or a joint venture with a majority of its shares (51%) owned by the municipal side, rather than to a solution based on an association. If the path to privatisation is not to be followed, and yet politics are to be kept at a distance, the joint establishment of a legally independent administrative agency would also be possible. Such an institution would – unlike a municipal enterprise – have its own legal status. At present, this type of organization, however, is uncommon in German waste management.

A joint municipal institution could act as a client or an implementer. The public sector should retain the right to make decisions on fundamental issues. Equal rights and obligations of all partners implies an equal share in the financial success or failure of the association.

As occurred in the case of District B and Town C, the institutions responsible for waste management can – within the framework of a contract under public law – partly or wholly transfer their responsibilities to one of the partners (in this case, District A) and thereby free themselves of all responsibilities for a specified period of time. For the duration of the contract, they are responsible only for the payment of the agreed compensation. If the municipality decides upon this path, the design of the contract that constitutes the basis of the long-term co-operation is of utmost importance (as is the long-term contract between a municipality and a private partner).

Solid waste management in Germany is increasingly turning to inter-municipal co-operation – regardless of existing political and organisational structures. In effect, those responsible for waste management in local government are turning from their historically conservative ways of thinking and are submitting to financial necessity so that, by working with others to provide improved services, they are meeting demands from politics and business to look beyond individual municipalities for waste management services.

Recommendation for development co-operation

What is the relevance of German experience to cities and countries with large low-income communities? What is the most effective way of improving living conditions for the urban poor?

The experience of the author of this report in various African and Asian countries so far only lead to one conclusion: that the public sector should abstain from any direct involvement in the collection and marketing of recyclable materials. The system of separate municipal collection of recyclable materials which is often held up internationally as a shining example to be followed, as well as the privately owned *dual system* for the disposal of packaging (also known as the Grüner Punkt“ [‘Green dot’] system) are in fact signs of over-regulation and are economically not sustainable. Thus within the framework of development co-operation, it would make sense to encourage measures which leave the recycling of dry household waste completely to the open market. It may be appropriate to provide, for a limited period of time, some organisational and financial support for the establishment of the necessary structures – such as the non-bureaucratic extension of micro-credits to small and medium enterprises, equipping young entrepreneurs with basic business skills or equipping informal waste collectors with adequate working tools. In many cases, there are already surprisingly efficient networks, whose performance might be increased even further with the appropriate support.

In all areas, wherever inappropriate disposal of wastes can pollute soil, water and air, such that damage to human health or living conditions appears likely, development co-operation should set priorities for involvement. This will always include the collection and safe disposal of biodegradable and hazardous wastes.

In developing countries and countries in transition one should always ensure the following when deciding for or against private sector participation:

- that the private companies have the expertise to carry out the set tasks correctly (references from reliable sources should be obtained);
- in the case of larger investments, that the private sector has the required financial resources (access to commercial credit);
- that the services provided by the private companies can be delivered at a consistent quality and coverage in the long term;
- that full coverage of collection and disposal services can be assured;

- that the financial implications of privatisation are to the benefit of citizens and commercial enterprises;
- that a local monopoly – implying long-term dependency on one company or company group – is avoided;
- that the fulfilment of tasks by the private sector will not lead to changes in acceptability of the service to those receiving the service;
- that the necessary amount of monitoring to ensure the correct execution of tasks and the management of the framework conditions continues to be assured by local government.

If these questions can be answered satisfactorily, the next step is to investigate the advantages and disadvantages of the various forms of private sector participation, taking into consideration the local conditions. If a decision for private sector participation has been reached, the selection of the partner should be made on the basis of tenders – to the extent that the local conditions allow for this. Especially in the case of the construction and management of waste treatment plants, which have demanding and specialized technical requirements, early co-operation with companies that have extensive international expertise and also are familiar with the local conditions is advisable. However, if the restrictions on repatriating foreign exchange do not encourage international participation, only solutions that are compatible with indigenous expertise should be considered.

Inter-municipal co-operation within the framework of a joint body or even joint undertakings is surely also a realistic option for development co-operation. However, in this case it has to be ensured that sustainable, local structures that can be integrated into a co-operation arrangement are already available. Otherwise, the development of such structures is to be given first priority. The inter-municipal association should be structured according the requirements of the tasks it is to perform, rather than according to political demands. However, before a formal joining of public partners is decided upon – especially considering the cost in time and personnel involved in the preliminary stage – the possibilities for regional, voluntary co-operation for operational purposes should be researched and utilised. It is not only Germany that has failed to fully utilise such possibilities.

Case Study O Difficulties faced by an indigenous contractor

Introduction

The company (which will be referred to as *"the Company"* instead of its real name) was established over 20 years ago by British investors. Before long it was bought by a prominent citizen who since then has run *the Company* in a way that keeps much of the British approach to management. For example: the owners do not interfere in the day-to-day management, but they define financial targets. Each sector head is totally responsible for achieving the goals that have been set.

Today there are 13 daughter companies, providing a range of services including office cleaning, street cleaning, security, and armoured transport). *The Company* has 25,000 employees, 15,000 of whom are in the environmental sector.

The following is a summary of the General Manager's experience with regard to private sector participation in one middle-income country. Most of the points refer to *the Company*, but occasional reference is made to issues that happened to other companies as well.

The Company's experience in solid waste management

The Company started with internal cleaning of buildings (office buildings, shopping malls, and business centres). Soon after starting they became the first private national company to provide street cleansing and door-to-door solid waste collection. The Mayor, realizing the growing concern about the piles of solid waste that were becoming more and more common, decided to set up the first model of a national private company collecting and transferring solid waste to the public dump sites. He gave *the Company* a franchise to work in a new district of the City. A ministerial decree allowed *the Company* to collect a fee of US$ 0.60 from each house. Ten percent of this fee was to be paid to the City's Waste Management Authority (WMA). They collected only household waste, the citizens were satisfied

and fee collection was easy. This service continued till the arrival of foreign waste management contractors, which came in response to a high-level political initiative. *The Company*'s contract for that transition phase required it to continue the service till the new contractor started work or their current contract ended. So when the new contractor started, *the Company* pulled out (about six months before the end of their contract). Yet they were still requireed by the WMA to pay their franchise fee (US$ 0.06 per household) for these six months. Because the WMA had *the Company*'s letter of Guarantee[27] they were able to continue to take the money, even though *the Company* was no longer entitled to collect fees from customers. (This experience suggests a lack of fairness in the way that contracts were implemented.)

During their contract years, *the Company* realized the high efficiency of the informal sector. A trained worker of *the Company* could only collect from 120 households a day, whereas an informal sector worker would serve 400 households a day. The informal sector workers also have a very efficient way of carrying the garbage in large woven baskets and loading it into the collection vehicle in such a way that their productivity appears to be at least three times as much as that of a regular worker. Therefore the General Manager made a deal with the informal sector workers to serve some areas of the new district where he was working. The informal sector workers collected the waste and unloaded it at an informal transfer area nearby, where they could sort the waste and take whatever they wished to recycle. *The Company* transported the rest to the official disposal sites. The General Manager emphasized the importance of utilising the expertise in, and the strong points of, the existing system. This is a lesson that he thinks that the foreign contractors – in their early years of waste management here – are learning the hard way.

In the early nineties *the Company* started taking over street cleansing in other areas, and because other companies had started providing waste management services, this could no longer be done through direct working orders but had to be awarded through a process of competitive tendering.

The contractors started learning that the informal sector could also be a real nuisance - picking up waste from houses without authorisation, sorting waste in side streets, picking up what is useful and leaving the rest in the street. Therefore, in the new contracts, provisions were introduced to stop informal sector workers from entering the areas where the contractors were working. Under the new arrangement, the contractors were not responsible for fee collection. Local government collected the fees and paid the contractors. The fee collection efficiency was quite high, because otherwise violators would be subject to legal action by government.

Bids from international companies were lower

A high-level political decision was made to invite bids from international companies for solid waste management services that would cover whole cities, or all the cities in a state. National companies were also invited to bid. The offers of national companies were *more expensive* than those of the international companies for the following reasons:

- Providing solid waste management services for a whole city was a new experience for the national companies and they did not have the required know-how in all aspects of the service – for example no national company had ever run a sanitary landfill and so did not know what this task requires and what costs it would involve. Foreign companies had this experience and so were able to offer a better price for waste disposal.
- Some national companies formed partnerships with foreign companies to get the expertise for constructing and operating a landfill. They agreed to team up for a few years till the national side gained the technical know-how required. Such partnerships, however, dramatically increased their costs, because the foreign partners requested large fees since they knew they would not be needed after a few years.
- In was quite hard for a national company to finance all required investment for running the system for a whole state or major city. Since this was a totally new approach (engaging the private sector to provide the service), the investors were quite reluctant to provide the needed capital, especially because the return of investment period was very long.

[27] In this country, it is common practice that the contractor prepares a letter of guarantee (usually of about 10% of contract value) that is held by the client and liquefied in case of failure to operate or for poor performance.

- There were vague articles and definitions in the contract that the national companies understood and took into account because of their knowledge of the local working culture. This inside knowledge increased the costs of their offers, and the international contractors were later to suffer because they had not been aware of these factors that would reduce their income or increase their costs.

For example, the tender documents for the first city to invite international bids described one of the required services as: "waste collection from sources". National companies (knowing the culture of the citizens and the service they expected) would not interpret this in any way but as to require a door-to-door service, therefore they added the extra cost for 700 workers for door-to-door collection, rather than simply the emptying of street bins. The international tenders however, were based on a less expensive method which was to prove unacceptable.

- Any local contractor who had worked with the government entities before would know that there is no such a thing as being paid 100% of the invoice value, even if the service had been without fault and deserved no penalties. Government officers are reluctant to authorize full payment because they are afraid of being accused of receiving a bribe from the contractor. Therefore the national contractors added a minimum of 10% as contingency to their offers (since they knew it would be lost no matter how well they met the contract's demands) whereas foreign bidders expected full payment if there were no shortcomings in their service. This became another painful lesson for the international firms.
- It appears that the international companies underestimated the required number of labourers that they would need and were much in favour of mechanical street sweeping, which is not very practical in many of the local streets because of the quality of the paving and the presence of parked cars and other obstructions.

In another city, *the Company* was obliged to establish a new daughter company with foreign investment partners in order to be eligible for the benefits promised in the new investment law. Yet they still faced problems with the customs. The Prime Minister had decreed that the customs duty on solid waste management equipment should be 5%. However, from the Customs' perspective there were other concerns:

- They wanted to collect as much duty as possible, to maximize their personal incentives.
- Shortly beforehand, the ex-Minster of Finance had been arrested, having been accused of violating the law during his time as Minister. He was found guilty and sentenced in court, and the fear among ministers that they might be arrested and charged made many of them anxious and reluctant to do anything new, and so they just "played safe" even if it meant not implement-ing new regulations. The famous motto for government officials is "Doing nothing is safer than doing".
- Even with the Prime Minister's decree that exempted all solid waste management equipment from taxes, Customs officers argued that waste collection trucks were vehicles and not equipment, and therefore should not be exempted.

Therefore the contractors had a long argument with the Customs authorities, and were obliged to attend long ministerial committee meetings to present their case that the equipment should be subject to only 5% Customs duty and not 42%. It took them long time to get the issue settled, and this made them late and they were penalised financially for the late start, even though the delay was caused by the government side.

According to law, a local bid can be awarded to a contractor for a maximum of 60 months (five years). Any longer contracts have to be authorized by the Prime Minster. (This was the case with the contracts with the international companies). Yet the states would not even enter into five year contracts, but limited themselves to two years because they feared that they might not have the cash to pay the contractors over a longer period. For contractors this is an unsatisfactory situation, because solid waste management requires considerable investment and expensive machinery, and loans for purchasing these items cannot be repaid in two years unless high fees are charged. Local companies – to get over this problem – can move their equipment from one contract to other areas, if contracts are not renewed for any reason.

An unbalanced partnership

As already mentioned, contractors should not expect that Government will pay 100% of the value of their invoices, no matter how well they have worked. A contractor needs to remember this when preparing his bid. *The Company* has a collection rate of 36% in their governmental contracts; the Government owes them more than US$ 2 million. A smaller private company would have not survived such a large proportion of their dues being outstanding. The payment ratio is much higher with utilities of new cities and almost 100% with private sector clients. In these cases, if the client does not pay, the work stops. It easier to work with utilities of new developments because, though they are under a central ministry, they have a much higher degree of autonomy and decentralization in the handling of their affairs, and seem to understand better how to conduct business in a sustainable way.

Contractors consider it very important to keep on good terms with government clients, since government officials are able to stop all payments from government clients and freeze accounts in national banks.

Experience with the Urban Railway Authority

The Company had operated a cleaning contract with the Urban Railway Authority for the previous 12 years. The contract was renewed every five years. They did not increase their service fee at all during the whole period. For the first ten years the Head of the Authority was a very strong and business-oriented person and they had no problems in their relationship. Recently, after the appointment of a new head, who is much weaker that his predecessor, they started facing the following problems.

One of the officers of the Authority suggested a different reading for the contract. For example in the section on penalties it was stated that the failure to clean one of the train cars satisfactorily would attract a penalty of US$ 20. According to the interpretation that was accepted under the first Head, the US$ 20 penalty was divided, so that the penalty for a dirty window was US$ 2, for a dirty floor it was also US$ 2 and so on for the different components of the cleaning task, so that the total would be US$ 20. The proposed new interpretation (after working for ten years using the former interpretation) was that the US$ 20 should not be divided; it should be US$ 20 for a dirty window, US$ 20 for a failure to clean the floor and so on for the whole car. This added up to a ridiculous total penalty. This new interpretation was applied to all penalty items. This increased the penalties from the usual 10% of the monthly fee to more than 60%. When *The Company* complained to the new Head of the Authority he said that he totally understood that this new interpretation was ridiculous, but that he could not and would not do anything against it, for fear that he might be accused of wasting public money. He advised the General Manager that he should go to court[28] or the Conflict Resolution Committee[29], because, first of all, he considered the initial interpretation of the contract to be correct, and secondly because, according to the law, if a contract has been implemented by an agency for more than 2 years in a certain way, this mode of implementation becomes the legal contract – the de facto contract, known as "the reality contract" (even if – which is not the case here – this actual method of implementation differs than the originally signed paper contract).

So, the lesson learned here is that the strength of the head of an authority and his readiness to take decisions makes all the difference – even with the same contract.

Since *The Company* had requested no change in the contract value for 12 years and now the penalties had jumped up by 6 times, the contractor decided to continue only till the current contract period ended[30] and therefore informed the Urban Railway Authority that they did not wish to renew the contract and would like to pull out. However, the Authority refused to let them stop the cleaning work until a new contractor had been appointed, and they threatened to have another company take over the cleansing activity and charge *the Company* for it. Because *the Company* had issued a letter of Guarantee (Performance

[28] Going to court can take years. The regular courts do not usually rule against the government, but rather push it to the higher court level till the case reaches the High Institutional Court, which is the only entity that attempts to rule against the government.

[29] The Conflict Resolution Committee was established in order to resolve problems between contractors and the government, and to avoid going to court each time. Unfortunately, it does not have any enforcing power and so ends up making recommendations that have little influence.

[30] They have a case against the Authority for withholding US$ 200,000, and they know they will get it when the case finally reaches the Higher Institutional Court.

Bond) in the Authority's name[31], because they were working nationwide and so needed a good relationship with the government, and because the owners of *the Company* regarded this cleaning work as a national duty in support of a high profile and very well known utility, they agreed to continue for a further six month period, provided that the penalties did not exceed 25%. Each month they were losing about US$ 5,000.

The tender was issued (without any changes being made to the section on penalties), and because companies in this field all know all about each other's difficulties, the prices of all the new bids were inflated to compensate for the anticipated high penalty deductions. These high prices caused the Authority to issue the tender three times in an attempt to get bids similar to the contract price that they had been paying. At the time of writing, no contract had been awarded.

Another problem they had with the Authority was that no individuals had been designated as responsible for reporting inadequate performance at each station. Any employee could report a shortcoming in the service and all such reports were accepted without question. *The Company* tried to limit this to certain responsible people from the operation departments for example, but again the new Head said that everyone had this right, not wishing to appear to be protecting the contractor. This caused difficulties to the contractor because sometimes employees of the Authority reported fictitious shortcomings to punish workers of the contractor who refused to do personal favours for them.

Working with the public

When they start working in any residential area, they first distribute flyers indicating times of collection and locations of collection points. It is also very important to announce a telephone number that people can call to make complaints about the service. In poor areas they used a car with a microphone going around the streets to announce this information. Once the people had been contacted, they usually co-operated with the contractor.

Much patience and persistence are needed when working with the public; it takes some time to change habits, but eventually habits change. In 1986 *the Company* took responsibility for cleaning the beaches of the main beach resort. They started with 3000 bins (with plastic bags inside) at each beach. For the first days the plastic bags were stolen, but when people realized that the service was consistent, their attitudes improved dramatically.

Other experiences

The social insurance payments that contractors must make for temporary workers are three times what they must pay for permanent employees. In some of the cleansing contracts *the Company* uses students (in summer vacations) and many temporary workers. Copies of relevant contracts are forwarded automatically to the Ministry of Social Affairs to make sure that the social insurance money is collected. In one case *the Company* signed a contract with a new community but, because of delays, they did not do the work and the contract was cancelled. In spite of this, they still received a request from the Ministry of Social Insurance to pay the insurance charge for the temporary workers, even though there had actually been none. *The Company* brought to the Ministry letters from the new communities to prove that they never did the work and so had not been paid, in support of their argument that they should not pay the insurance charge, but nothing worked and they still had to pay it.

Local companies were hit hard by the flotation of the local currency. The cost of a standard compactor truck more than doubled. The absence of a strong local industrial capacity, able to efficiently manufacture SWM equipment is a serious problem.

Summary of problems and suggested actions

- The Conflict Resolution Committees need to have more power to enforce their decisions. Problems need to be solved easily and fast, without waiting every time for a court decision.
- The level at which decisions are made is extremely high. There is an urgent need to delegate decisions to middle management in order to save time and resources.
- Government policies need to be transparent and enforceable at all levels. It is not reasonable that the Prime Minister's decree needs further discussion and pressure from committees to force a government department (such as the Customs) to implement it.

[31] See footnote 26.

- Mid-level managers in public sector organisations are afraid to take decisions, and if they do not have a strong personality, they can easily be excessively influenced by the threats of their bureaucratic sub-ordinates, because of the fear of being accused of corruption.
- The further you get away from central government, the easier it is to do your work. State administrations are a little bit easier, and new communities are the most independent and flexible public sector entities. Central Government employees are generally reluctant to make any decisions or take any responsibility, and are afraid of supporting any innovation.

Case Study P Conditions that are unfriendly to the private sector

Introduction

This case study discusses factors that inhibit private sector participation in solid waste management in a country where the desire to open up the economy and to privatise is widespread in all sectors. But the legacy of the past is still visible at national level in an inefficient banking system, administrative complexity, and inflexible bureaucracy. The situation at municipal level is worse still. The public system is in ruins and the municipalities have absurdly large payrolls. This situation has also impacted on sanitary conditions in the municipalities, especially regarding the management of solid wastes. Domestic waste collection is managed directly by the local authorities with equipment that is barely adequate, if not totally inadequate, and an excessively large workforce which is poorly paid, poorly qualified and consequently poorly motivated. This general climate and the socio-economic context have not served to encourage private sector participation to any meaningful degree. This case study provides an overview of private sector participation within the nation, illustrated with a few examples, and reviews the preparatory work carried out at national level to improve private sector participation, describing the experience gathered to date and the lessons learned.

Legal background

The nation has one of the most advanced bodies of legislation in comparison with its neighbours. A law relating to solid waste management encour-ages municipalities to form associations for the purpose of contracting out waste management services in part or in whole.

The current situation

Waste management has for a long time been a neglected sector. The experience of the last few years has shown that waste management under local authority management is beset with major difficulties. Lack of adequate equipment, lack of qualified manpower and insufficient cost recovery have made for inefficient waste management. Pilot schemes have brought to light a number of shortcomings in the waste management system, including:

- serious overstaffing (payroll costs are about 65% of the total costs),
- under-qualified workforce,
- inadequate equipment (too old, inappro-priate, etc.),
- no managed landfill sites, and
- insufficient cost recovery (5% to 10%).

Even if all billed charges were collected, the income would be less than one third of what the service costs, since the fee ceiling has been kept low by legislation.

All these constraints have not encouraged private sector participation in waste management. Nevertheless, some municipalities are contracting out certain urban zones to microenterprises for waste collection and transport.

Example: Since mid 2003, a municipality has contracted out, on a trial basis, waste collection for a number of estates of 5,000 housing units to a private enterprise on a renewable four-month contract. The contract covers collection, street sweeping and transporting the waste to the disposal site. The enterprise is also endeavouring to make inhabitants aware of the times at which the waste collection vehicles come to their street and to encourage them to segregate their waste.

The only area in which the private sector is dominant is that of salvage and recycling. For the time being this market is highly informal, but organised, legal microenterprises are gradually becoming established, especially for the recycling of plastics and cardboard.

Opportunities for private sector participation

The situation as it is does not encourage significant private-sector participation. Institutional arrangements must be changed to promote a favourable investment climate in the waste management sector, as well as to ensure economic viability and sound, coherent management. Some measures that would encourage the participation of the private sector are discussed below.

Charges and revenues

Cost recovery for financing all services in the field of waste management remains the fundamental problem. Some measures have been devised at national level to place solid waste management on a sound financial footing:

- a gradual rise in the charge for household waste collection;
- state aid to municipalities during a transition period until independent financing of waste management by the municipality is achieved, including grants from the clean-up fund;
- tax reductions and reduction of customs duties on the importation of plant and equipment;
- assisting with access to bank loans;
- introduction of cost accounting in municipal services for solid waste management;
- payment of the household waste collection charge through gas and electricity billing (in planning).

Collection and transport

- The formulation of standard form of contract for collection and transport (with some allowance for adapting it to local situations) would assist in involving the private sector.

Treatment and disposal facilities

- Drawing up of standard conditions of service for infrastructure management (already completed for landfill sites, but not for other types of facility).
- Involvement of future site managers with the development of facilities, from the site selection stage onwards.

Organisation/administration

- Encourage associations of municipalities.

Conclusion

There are very few concrete cases of private sector participation within the nation and the case studies have not yet generated dependable results. The present state of waste management suggests the need for professional and economic management in this sector. National policies are favourable to the participation of the private sector and the framework conditions have been created. Experience to date suggests that it is essential:

- to regulate private sector participation by means of standard contract conditions in order to avoid poor solid waste management;
- to give preference to the involvement of foreign enterprises under arrangements that ensure a transfer of technology appropriate to the regional context (no turnkey solutions!);
- to develop as quickly as possible adequate funding mechanisms, given that waste management is a service which has a price;
- to give careful attention to the capacity development of future managers of treatment and disposal facilities.

Case Study Q Microenterprises in Peru

contributed by Engineer Oswaldo Caceres Loyola

Introduction

The ALTERNATIVA Centre for Social Research and Popular Education has been working for over 20 years with people facing poverty in the Northern Cone of Lima. The goal is to strengthen their capacity and initiative to confront problems and satisfy their needs, promoting their organised participation in developing alternative solutions. ALTERNATIVA uses innovative proposals that

take into account technological, social, political, cultural and environmental aspects.

A particular feature of this case study is the role of the NGO (ALTERNATIVA) in the birth and nurture of microenterprises that supply solid waste management services. Since 1990 the NGO has founded 14 microenterprises for solid waste management (to be subsequently referred to as MESWMs). Some have been providing waste collection services, some street sweeping and one was also disposing of solid waste. This case study concerns three arrangements for MESWM involvement in collection. The first example is a MESWM that provides primary collection services and is paid by the local municipality. Around the world there are many micro- and small enterprises providing such services, but it is often the case that the wastes that they collect and place at a transfer point ready for removal by the municipal service are not taken away regularly. The result of this failure of the "downstream interface" of the primary collection service is that the (primary collection) enterprise is blamed by residents for the accumulation of waste (whereas these enduring accumulations are the result of the failure of the agency responsible for secondary transport). One option is for the primary collection enterprise to also provide the secondary transport service, and an example of a MESWM in Lima that does this is described below. Another problem faced by micro- and small enterprises which are contracted to provide waste collection services is that the local government client does not pay them promptly and they do not have the financial reserves to continue to operate if they are not paid on time. This case study also describes the experience of a microenterprise that was responsible for collecting waste management fees from the residents of the area it served (i.e. it was operating under a franchise agreement).

Establishing a microenterprise

In establishing microenterprises that collect waste, the NGO seeks to solve what is both an environmental and a health problem that is caused by a failure of a municipality to provide a regular waste collection service, especially in areas that are difficult to reach by motor vehicle. In order to make the procedure sustainable, MESWMs seek to offer lower service costs to the municipality and to create jobs for the residents of the area to be served, so that these residents get involved from the start (through contacts with the municipality, as users and possibly as MESWM members).

The project being implemented by the NGO was financed from external sources. The NGO is involved in the creation of each MESWM, and the definition of its service area, type of service, business form, profile of members and period for implementation.

Each MESWM began as a proposal supported by the NGO. The proposal is presented to the community leaders of the service area, and they are asked to select the candidates who will be part of the future MESWM. The leaders select the locals with the greatest "economic needs" and not the ones with the best business skills and experience. This shows that the process is seen as generation of revenues and employment compared rather than the creation of a microenterprise to provide a service.

The NGO offers a basic course to the candidates on environmental sanitation, business organisation and operation of the service to be offered. Later the candidates must take an exam and the MESWM members are selected. The exam and process of selecting members does not evaluate the candidates' business abilities.

Subsequently, the NGO signs an agreement with the Municipality to establish, shape and support the MESWM that would be controlled by the Municipality. However, the MESWM is perceived by the Municipality as the responsibility of the NGO.

The MESWM is created as a limited liability company; members are both partners and workers. The NGO offers a "Trust Group" loan (US$ 3,500 - 4,300 in the case of primary collection using tricycles) that serves to legally constitute the MESWM (including share capital); to acquire equipment, uniforms, tools and materials; to equip an office, and to have funds reserved for its first month of operations (until it receives the first payment from the Municipality).

Shaping the MESWM

Each member of the MESWM takes on the responsibility of being both a partner and a worker. In the management meetings, he or she takes on leadership and management roles, but also has the duties and rights of a worker, that is, he/she must work a set number of hours and produce work results while receiving a set payment from the MESWM. Not all MESWM

members are able to take on both roles – of managing the business and collecting waste.

The “Trust Group“ selects the members that will be on its first Board of Directors. One of the first duties is to discuss and approve the Constitution and MESWM Articles of Association. The time allowed for this selection is quite short, and it does not allow for a real understanding of the abilities of each member.

In order to avoid misuse of the loan which is administered by the NGO, the NGO accompanies the MESWM to open its savings account, make purchases and file its legal constitution. The MESWM is reminded that the loan is not simply easy cash that they can spend as they wish, but that it comes with conditions. Since the loan is not requested by the Trust Group, they may feel that it is part of the requirement to obtain this temporary income or employment, and they might otherwise not understand its purpose.

The NGO trains the MESWM in service provision (the use of the tricycle, the service area and route, responsibilities in terms of the MESWM goods and equipment, how to deal with customers, and internal behaviour, basic company administration, leadership and interpersonal relations.

Documents are prepared specially for the MESWM, drawn up by professionals (managers, accountants, psychologists and engineers). It soon becomes easy to identify the abilities and team spirit of the personnel, and to distinguish those who are not really interested, but participating in the hope of obtaining temporary income.

The contract is signed by the MESWM and the Municipality. This contract payments take into account the operation and management expenses of MESWM, and the loan re-payment. The contract duration is only one year or the remaining months of the calendar year). The Municipality remains the sole client of the MESWM and thus is responsible for imposing conditions and regulations.

To make the proposal more attractive for the Municipality, the NGO bases its costs on the payment of the minimum wage. It is quite difficult to get the Municipality to subsequently agree to a modification in these salaries, even after an improvement of the performance. In addition, the Municipality requires a Letter of Guarantee from the MESWM to assure the level of service, but the Municipality does not guarantee that it will make payments on time and as agreed.

The main feature of the microenterprise is that local people provide a service to their neighbours. The NGO continues with training, which is combined with follow-up meetings to correct problems and strengthen potentials, both in internal relations and in the interaction with other people, such as the customers, operators and municipal officials.

The method of working is agreed with the municipality and discussed with residents. The customers soon feel that they are receiving a good service and recognize that the MESWM is complying with requirements on frequency, shifts and working hours. This leads to an improvement in the collection of the fees for the service received. In spite of the satisfaction of the population with the fact that residents themselves are offering the service, the residents will not support the MESWM if the municipality does not fulfil its part of the agreement or if the service is suspended.

Selection of equipment

Most of the areas that are served by the MESWMs have poor roads and are densely settled, so that conventional collection vehicles are not suitable. Added to this, the enterprises need to find solutions that do not require much capital, since their access to finance is very limited. Furthermore, the contracts are often for a period of only one year, giving little time to repay loans taken out to buy vehicles. For all these reasons, the MESWMs prefer to use simple equipment and vehicles, and so pedal tricycles are the preferred option for primary collection. Initially the residents of middle-income housing areas were suspicious of the change from municipal motor vehicles to tricycles, fearing that the less sophisticated method of transportation would lead to an inferior service. However, the greater reliability of the service that was provided using this simpler technology soon gained their approval for the humble tricycle. Using one tricycle it was possible to collect up to 1.5 tonnes per shift.

The condition of many of the roads and the financial constraints also led to the choice of simple technology for transporting the waste to the disposal site – tractors and trailers were chosen. These were paid for from a loan that was provided by a bilateral development agency, but unfortunately that agency required that the tractors should be selected from among those that were manufactured in the country that was

supplying the finance, and the price of these tractors was almost twice that of alternative tractors made in other countries. This requirement by the provider of funds obliged the MESWMs to borrow much more than they would otherwise have needed, and put them under great pressure in trying to repay these larger loans within the short contract duration. The tractors and trailers were purchased by the NGO, and they are transferred to the MESWM when the loan is paid off. The MESWM bears the operation, maintenance, and repair costs of the tractor and trailer.

Adding secondary transport to primary collection

As was mentioned in the introduction, the failures of municipal truck crews to collect waste that had been collected by primary collection crews led to the inclusion of secondary transport into the contracts of MESWMs. Tractors that were employed to collect waste were also used to support other community activities, such as moving mobile police stations.

Income

Payment by the municipality

Although the costs for primary collection were low, the municipalities often did not pay monthly fees on time, and this was the reason why several MESWMs stopped operating. It was not uncommon for payment to be delayed by more than two months.

The Municipality made payment to the MESWM conditional on the payment made by the population served, therefore some ways of collecting payment at local offices were implemented in coordination with the Treasury Department at the Municipality. Although the population began to pay, the Municipality did not prioritise payment to the MESWMs.

Collection of fees by the microenterprise

The loan that is taken out by the MESWM must cover initial operating costs (in addition to the purchase of equipment), so it is important to minimise the period during which operating costs are paid from the loan. The MESWM must gain the approval and appreciation of the customers in a short time so that they start to pay as soon as possible.

When the fees are collected from the residents by the service provider (the MESWM itself) the agreement signed by the MESWM and the Municipality must specify the magnitude of the fee that will be charged by the MESWM. To achieve ongoing payment collection, it is necessary to deal directly with community leaders in order to obtain updated customer information (correct names, residential status, etc.) as required by the Municipality in addition to reducing excuses by the population for non-payment. In this connection, the NGO drew up a billing procedure, involving monthly receipts which were distributed by the MESWM. Special emphasis was placed on informing the population and developing a fee collection strategy, which included dealing with the population; methods of collection and monitoring, responding to complaints, etc. The NGO and the MESWM met with leaders and residents to explain the service and the importance of their participation to guarantee a good service, as well as the need to make payments on time. Four local residents were hired to visit each house after the waste collection service had started, accompanied by three MESWM partners, to agree to the payment arrangements with each user. For this work, the collectors received between 6 and 10 percent of the fees collected. Different mechanisms of fee collection were tested:

- at the moment when the waste was collected,
- one week later and one month later,
- with a printed receipt that was then filled in by hand and
- with a computer receipt.

The method that was preferred by the residents involved a receipt bearing the logo of the municipality and presented in such a way that the residents were confident that the municipality would not refuse to recognise the payment made to the MESWM.

At its peak, the fee collection efficiency reached 75 percent, (that is, only 25 percent of payments were late or otherwise became uncollectable). This was achieved through door-to-door collection and through agreements between the collectors and the residents.

The MESWM that was collecting fees in this way also implemented a programme of at-source segregation. Income from this programme was used to pay for fuel for the tractor.

When residents feel that they are receiving a good and regular service, this leads to an improvement in the collection of the fees. The

population participated in cleaning and tree planting operations in the local area. Since the residents were happy to receive a good service and discovered that payments were used directly for the service, they supported the MESWM and wished it to continue with this service.

Other observations and comments

a) The participation of the female members of the MESWM is noteworthy, since women generally occupy the leading roles, and are generally able to overcome internal and external problems. Women in the MESWM improve their self-esteem. They show their true potential and strengths to themselves and to their family members and neighbours.

b) The MESWMs are too small to allow savings due to economies of scale.

c) The creation of the MESWMs is part of a larger project whose objectives are sanitation and health; and so the basic goals of an enterprise (generating a profit in a competitive market in order to guarantee survival and growth) are not particularly relevant. In contrast the MESWM is seen by many as a way to generate income or temporary employment among the neediest members of the community.

d) The Municipality has a relationship with the NGO that allows it to propose the creation of the MESWM and deem it the "responsibility of the NGO". This means that the MESWM depends on the political will of its sole client (the Municipality), which ignores the potential of this approach and tends not to fulfil its obligations to the MESWM, making the MESWM vulnerable in business terms.

e) Not just anyone can become a micro-entrepreneur. Suitable candidates must have a mind for operational activities and management, especially when members have urgent economic needs on a daily basis and depend on the MESWM for their income. Under this pressure, members may make decisions based on personal interests.

f) The alternative technology utilised by the MESWMs complements the conventional Municipality technology, especially if it is more appropriate to the roads and to the geographic and urban characteristics of the service area.

g) When considering whether or not to offer a loan for the purchase of a motor vehicle to the MESWM, the following points should be considered:
   - a big loan causes much pressure at the beginning, since the contracts are generally very short (1 year) and so they do not ensure the repayment of long-term loans,
   - the vehicle should be able to perform other functions to allow the MESWM to generate other income needed for repaying the loan.

h) A regular service that complies with timing of the operations schedule leads to the public recognition of the microenterprise and the Municipality, and residents identify with the service when they see that their payments are used to provide a service that they need.

i) Low-income households prioritise their payments by "postponing" the payment of the public sanitation fee until they see that the payment will result in an improvement in their immediate environment.

Conclusions and recommendations

a) Because it is important that the MESWM does not to depend on the municipality for removal of collected waste, and because of the difficulty of repaying a high loan, we suggest that a microenterprise for solid waste transport be created; this could work for several MESWMs.

b) Providing a public service in an unplanned area is more expensive than providing the same service in a planned area. In setting the fee one must take account of delays and refusals to pay. The need to cover costs suggests that a cross-subsidy will be needed. Such a cross subsidy may be difficult to arrange for a MESWM that serves only a low-income, unplanned area and collects the fees itself.

c) The NGO and leaders of service beneficiaries should participate in the contractual relationship between the MESWM and the Municipality, in order to support timely fee payment by the Municipality or the users.

d) There have been cases in which an MESWM has opened a bank account and obtained a loan, but such loans depend on prompt payment by the Municipality.

e) It is difficult to satisfy the wishes of the Municipality, the MESWM, and the residents. Flexibility is needed.

Case Study R Informal sector refuse collection in Mexico

contributed by Martin Medina

Municipal Solid Waste Management (MSWM) services in Mexico are usually inferior to electricity, water, and sanitation services. In Mexico, municipalities are responsible for providing MSWM services. Local governments, however, operate in a policy vacuum. No national plans or policies exist to support municipalities. MSWM consumes 20-40% of municipal budgets so it is an important consideration in city financing. MSWM agencies often do not effectively cover costs, are weak organizationally, and lack adequate management. This results in insufficient collection and inappropriate final disposal of solid wastes. Less than 70% of all wastes generated are collected, and only 15% of them receive proper final disposal in sanitary landfills.

The insufficient collection and inappropriate disposal of solid wastes cause air, water and land pollution and pose risks to human health. In areas that lack refuse collection, residents throw their wastes into the streets, deposit them in the nearest vacant lot or open area, or dump them in ravines, rivers or lakes. Residents often burn their garbage in their backyards, polluting the air. Uncollected refuse attracts vermin, which can transmit diseases. Accumulated garbage can clog storm drains and increase the risk of flooding during the rainy season. Solid wastes that are collected by municipalities also create pollution problems and pose public health risks because the most common disposal method in Mexico is open dumping.

The inadequacies of MSWM services affect the poor the most severely. One quarter of the deaths of children under 5 years are highly correlated with the quality of local sanitation and MSWM. The substandard waste collection services in low-income neighbourhoods are therefore at least partially responsible for illness and death in these areas. Since the municipalities are unable to provide MSWM services to all of their citizens, informal refuse collection plays an important role in supplementing municipal efforts. In Mexico, informal sector waste collectors are popularly known as *carretoneros*.

Mexican cities instituted municipal refuse collection in the 20th century, although informal waste collection (*carretoneros*) services had been provided for centuries before. However, population growth, urbanization, the inability of cities to provide MSWM services, the persistence of poverty, and the lack of a safety net for the poor, have all favoured the continuation of *carretonero* activities. The remaining part of this case study looks at some of the informal sector refuse collection activities in three Mexican cities.

Nuevo Laredo

Carretoneros in Nuevo Laredo use horse carts to transport wastes. They have two main sources of income – waste collection fees and the income from the sale of recyclables, mostly aluminium cans and cardboard. Some *carretoneros* have fixed routes that they follow every day, and regular customers. They charge 5 Mexican pesos (US$0.50) for picking up the refuse contained in a 200 litre drum. A survey revealed that they earn the equivalent of five times the minimum wage, which puts them in the top 5% of income earners in Nuevo Laredo. Informal refuse collection in Nuevo Laredo is, therefore, a highly lucrative activity for unskilled workers.

Nuevo Laredo *carretoneros* work independently and are not organized in any way. Local authorities do not have a policy on informal refuse collection, and therefore largely ignore *carretoneros*' activities.

Monterrey

Over 1,000 informal sector refuse collectors work in Monterrey. Most of them operate in areas settled by unskilled immigrants where there is no municipal service. The large number of *carretoneros* operating in the city has compelled the authorities to change their policies on informal sector refuse collection, from neglect or repression, to tolerance or active support. Municipal authorities tried to eliminate informal sector refuse collection, but protests from *carretoneros* and pressure from the general public caused the authorities to abandon this attempt. There were also complaints against the *carretoneros,* referring to the dumping of wastes in public spaces, their failure to pick up the

horse droppings, and their habit of leaving their carts loaded overnight.

One municipality within Monterrey (San Nicolas) instituted a programme to license *carretoneros*, providing them with a permit to operate, and license plates for their carts. Licensed *carretoneros* agree to comply with municipal ordinances, particularly not to dump wastes illegally, and to pick up manure left by their horses. The municipality agreed to let *carretoneros* unload their collected wastes at its two transfer stations. There are currently 136 licensed and about 60 unlicensed *carretoneros* in San Nicolas. The municipality is willing to work with *carretoneros* for mutual, as well as the public, benefit.

In 2002, *carretoneros* conducted a series of protests against the municipality of Guadalupe and its repressive policy towards them. The city decided to conduct a census in order to obtain reliable information on *carretonero* activities, and to identify policy options for incorporating them into the MSWM system. The census identified over 600 *carretoneros*, of which 527 have been licensed. As in San Nicolas, the purposes of licensing *carretoneros* are to prevent dumping, as well as to legalize and dignify their activity.

Mexico City

Mexico City constitutes one of the largest cities in the world, with nearly 20 million residents. The municipalities that surround the Federal District have absorbed large numbers of unskilled migrants. Some municipalities have become huge slums and squatter areas, which often lack municipal refuse collection. It is estimated that there are 1,200 illegal dumps throughout the metropolitan area.

Over the past 60 years, a complex informal system has developed to provide waste collection, recycling and disposal services in Mexico City. Approximately 20,000 individuals make a living in the informal sector from wastes, including *carretoneros* and waste pickers who collect wastes from the streets, in municipal vehicles and at dumpsites. Investigations indicate that informal sector waste collection and recycling is a profitable activity, providing incomes that often average more than three times the minimum wage.

Thousands of informal sector collectors using pickup trucks, push carts and horse carts provide refuse collection services in areas (mostly low-income) which are not served by municipal authorities. Reliable information on *carretonero* activities is scarce, though some research has been undertaken.

Approximately 1,000 informal sector refuse collectors operate in Tultitlan (one municipality in Mexico City). Municipal authorities authorize their activities only in the eastern part of the city, but many also work outside of the authorized area. If they operate near the municipal disposal site, they transport and dispose of the collected waste there. If they do not, they take the waste to any of four private transfer stations, where they pay 10 to 40 Pesos (US$ 1 to 4) per cart that they unload there. Informal refuse collectors do not have fixed collection routes, and there is open competition. This results in inefficiencies, since up to three different collectors may work in the same street.

In 1998, the Mayor decided to formalize the informal collection system. An agreement was reached between the authorities, the collectors, and the transfer station leaders. The agreement stipulated the structure of the collectors' organization, the type of carts to be used, the procedure for collecting, transporting, and transferring wastes, as well as the penalties for non-compliance. However, the ordinances are not enforced.

The 800 informal sector waste collectors belong to four groups, each having a leader. These groups exhibit the characteristics of collusion between authorities and leaders. On paper these four groups are cooperatives, but in reality the leaders make all decisions and control the workers. Political parties try to get the support of the leaders so that the group in turn supports that particular party. The municipality issues licenses to new collectors, but they must first obtain the nomination of one of the four *carretonero* leaders. It is not possible to obtain a license without the approval from one of the leaders, and this reinforces the leaders' power.

Despite the existence of the agreement between the authorities, the leaders and the collectors, conflicts do occur. In December 2000, a new Mayor took office in Tultitlan. The Mayor intended to extend the municipal waste collection service to areas served by the informal sector. In response, to protect their livelihoods, the collectors blocked the access to the municipal dumpsite. Since this action was unsuccessful in halting the Mayor's initiative,

they resorted to kidnapping municipal SWM officials. This demonstrates the extent to which the *carretoneros* and their leaders are willing to go to block change and to protect their profitable activities.

Ciudad Nezahualcoyotl, located to the east of Mexico City, is one of the largest slums in Latin America. There are seven dumpsites in the municipality. This means that the informal sector waste collectors do not have to travel far to dispose of their wastes and there is no need for transfer stations. In this area, average incomes from waste collection and recycling are five times the minimum wage, and this shows that, when informal sector activities are not hindered, and disposal sites are nearby (so that little time is spent in transporting the waste), the collectors can earn a very high income compared to unskilled individuals working in other fields.

The municipal authorities of Tultepec allow *carretonero* activities in only one area of the city. Only fifteen *carretoneros* are licensed by the city to operate. These collectors have fixed routes and are required to paint their carts in black and yellow. A persistent problem is that the collectors operate outside of their authorized area, which suggests that there is unmet demand for waste collection outside the area where they are officially allowed to operate. Another serious problem is that the carretoneros often bring wastes to their homes in order to retrieve recyclables and then burn the residues at night. The resulting smoke affects hundreds of families in the area.

Lessons learned about informal sector refuse collection

The continuing activities of informal sector refuse collectors demonstrate that low-income residents are willing to pay for a waste collection service. Informal refuse collectors operating in low-income neighbourhoods have a definite advantage over formal service providers, whose trucks are unsuited to the hilly, unpaved or narrow streets that are common in those settlements. The state-of-the-art, imported, and expensive compactor trucks favoured by municipal agencies and contractors have proved to be unreliable and expensive to operate, in comparison with the pickups and horse carts used by the informal sector.

Informal collectors, however, often dump the collected garbage illegally in vacant lots or ravines, or on river banks, posing risks to human health and to the environment. The official disposal sites tend to be at a considerable distance from residential areas, and since carts pulled by animals or pushed by labourers have a very limited range, it is convenient for those informal collectors to dump the collected refuse as soon as they can.

Incorporating the *carretoneros* into a formal programme might allow some control over their operations, and stop the illegal dumping. For example, if incentives were created for the *carretoneros* to bring the refuse they collect to transfer stations, local authorities could then be responsible for its transport to the approved disposal sites. Collection charges could be standardized and the waste collectors made accountable for their actions. Service standards could be improved, particularly in slum areas, at an affordable cost to the city, and jobs would be retained. Further, *carretonero* activities could be a source of revenue to cities, by taxing their operations or by charging a licensing fee. However, as mentioned above, some attempts at formalizing carretoneros activities were not successful or effective, so lessons learned from these experiences should be incorporated into any plans for a more formal arrangement.

In many cases the authorities have attempted to eliminate informal sector refuse collection by enacting bans and by trying to find alternative employment for the *carretoneros*. Often the costs and benefits of such actions are not known or considered. Supporting *carretoneros*, particularly in the formation of cooperatives and microenterprises, can result in grassroots development, poverty alleviation, and environmental protection. In contrast, repressive, neglectful or collusive policies have often had a deleterious impact on *carretoneros*' working and living conditions. Informal sector refuse collection in Mexico exists because of public demand for the service, chronic poverty, high unemployment, industrial demand for recyclables, and the lack of a safety net for the poor. None of these factors is likely to disappear in the foreseeable future and so informal refuse collection is likely to continue to exist.

Efforts to eliminate informal sector refuse collection and to encourage *carretoneros* to engage in other occupations usually fail. Authorities often ignore *carretoneros*' opinions. Studies have found that when *carretoneros'*

activities are tolerated or supported, they can earn higher incomes than unskilled formal sector workers. In all three cities included in this paper, carretoneros earned, on average, at least three times the minimum wage. Many *carretoneros* like their occupation because of the money they earn, the fact that they do not have a boss, and because they have a high degree of flexibility in their working hours. Furthermore, an important percentage of *carretoneros* would be unable to find a job in the formal sector, due to their low educational level, and their young or advanced age.

Consequently, *carretoneros* may be reluctant to adopt changes that affect their income, working and living conditions. Even if some *carretoneros* are able to get a formal sector job or another occupation, other poor individuals are likely to replace them, given the widespread poverty and unemployment prevalent in Mexican cities. Solid waste management plans and development efforts aimed at eliminating informal sector refuse collection often have a detrimental impact on the standard of living of *carretoneros*. Therefore, it can be argued that policies that support (rather than seeking to eliminate) *carretoneros*' activities are humane, environmentally sound, socially desirable, and economically viable.

Case Study S Integrating the informal sector with international contractors

contributed by Maheeb Abdel-Ghaffar

Introduction

In many of the world's largest cities, individuals and families earn their living by collecting solid waste in the most prosperous districts, charging a fee for this service and augmenting their income by selling sorted recyclables and, perhaps, by utilising the biodegradable fraction. Whilst this arrangement is an important source of livelihoods, and reduces the quantities of waste requiring transport and disposal, it has, nevertheless, numerous disadvantages. Waste from less wealthy neighbourhoods is not collected, unwanted wastes may be left scattered beside containers, and disposal of residual materials is usually unsatisfactory. The working conditions of those involved are usually very unhygienic and the methods used may cause significant pollution. There may be particular risks from hazardous industrial and healthcare wastes.

The informal sector operates without appearing on employment or tax records, making it difficult to regulate their work. Some city councils have registered the waste collectors working in their areas and obliged them to abide by laws for protecting health and environment. The impact of this measure has often been relatively small.

Whilst the informal sector may have a significant role in the local economy and provide a useful and sustainable service, it is not able to compete formally with large contractors in tenders for integrated solid waste management services, because it lacks capital, co-ordination and experience in tendering and in operating on a large scale. However it may continue to provide services and livelihoods, collecting waste in competition with the contractor in a form of guerrilla warfare (as opposed to the "conventional warfare" of the tendering process).

This Case Study describes a situation in which the informal sector had traditionally played a leading role in waste collection, and where solid waste management has recently been contracted out to a number of large international firms.

Being aware of the social aspects of the informal sector operations – both the appreciation of the residents in wealthier areas of the door-to-door service and the dependence of the waste workers on the income generated by this service – the clients have encouraged tenderers to incorporate the informal sector into their proposals. Whilst this has not been obligatory, the growing insistence (by the more prosperous residents and therefore by the clients) on collection from the front door of each apartment has also motivated contractors to look for methods of working that include the informal sector. Contractors have also found that the informal sector waste workers continue to collect waste from each apartment, climbing many flights of stairs to do so. This gives them contact with residents, who continue to pay for this service and are therefore reluctant to pay another fee for the formal contractor whom they do not

see (because the formal service collects waste from street containers). Unemployment is a major issue in this country and so the employment of labourers to collect the waste from each floor of multi-storey buildings has the additional benefit of providing valuable jobs.

Options

The contractors had two main options for the collection of solid waste from each apartment:

(i) Employing labourers who had previously been collecting the waste informally, in the areas where they had been working;

(ii) Appointing labourers from a wider pool, not necessarily those who have done this work before, and training them to collect from each apartment.

Although the first option may seem easier because the waste collectors from the informal sector would be well known by the occupants, it was considered more difficult to adopt. At the beginning, the workers who came from the informal sector resented the contractors that had displaced them and so were unwilling to co-operate fully with them. In addition, the wages that they were asking for were considered too high. If they worked for the contractors they would not be able to sort and recycle the waste, and since recycling had brought in a major part of their income, they were expecting to be paid more for the collection work. A further difficulty was that some of them preferred to wear traditional clothing rather than the uniforms of the contractor.

Under pressure to abide by the contract provisions, some contractors initially hired waste collectors from the informal sector but they were unable to continue with this arrangement for more than a few months. A major reason for this failure was that the contracts with these waste collectors lacked flexibility (especially with regard to working hours[32], the wearing of uniforms, the way in which the work was defined,[33] and the preference for remaining in the informal sector). The contractors then had no choice but to try the second option and hire labourers elsewhere, but this arrangement was not successful (because of rapid turnover and lack of experience) and so the collection service had to be limited to the emptying of street bins. Most city districts considered this failure to provide a door-to-door service to be a violation of contract, causing numerous legal and social problems for contractors and clients.

A success story

One of the international contractors succeeded in integrating the waste collectors from the informal sector and reaching a degree of mutual trust, agreeing to waive some operational requirements in order to provide an acceptable service, at least at the start.

It was immediately apparent to this contractor that collection from each apartment was expected by the residents and the client. After several lengthy discussions the contractor was able to convince the mayor to agree to consider, at a later stage, discontinuing the collection of waste from each apartment, provided that the following two conditions would be satisfied:

(i) The first was that most informal sector waste collectors would be employed in door-to-door collection, each in his own district, for at least the first two years of operation.

(ii) The second was that awareness campaigns should succeed in gradually convincing the citizens to no longer expect the collection of waste from each apartment, and so allow a gradual change to take place during the third year of implementation, following the building of trust between the contractor and the residents. This item is to be put on the agenda of the periodical Contract Revision Session, which is held every three years.

It was assumed that, during the three years, the majority of the waste collectors from the informal sector would become regular employees of the contractor – as permanent staff and not working under a sub-contract. The selection of the labourers who would be invited to become permanent employees was assisted by reports from the truck drivers, who also acted as the contractor's supervisors of the team of temporary waste collectors that they were working with.

It was also expected that a larger part of the company's investments would be channelled towards buying more bins and containers, instead of the investments allocated for sub-contracts with

[32] They were accustomed to start work at 5.00 a.m. and finish by 9.00 a.m. so that they could then go to a governmental job, so both the timing and the hours worked each day were issues of conflict

[33] The majority preferred to be assigned a fixed number of apartments to serve each day rather than being required to work eight hours each day (i.e. the *task and finish* system).

the waste collectors. This would run parallel with the expansion of composting operations and waste recycling, because these functions were expected to become a source of additional income for the contractor.

The client provided the contractor with lists of informal sector waste collectors, indicating the residential areas that they had been collecting from. These waste collectors were then interviewed in preparation for unified sub-contracts. In doing this, the company faced the following difficulties:

- The waste collectors from the informal sector were reluctant to work a full day (8 hours), preferring a task oriented arrangement for serving a specified number of apartments (in the range 300 to 500 apartments per person per day, assessed according to local conditions).
- Most informal sector workers did not have a tax card and were not registered for this occupation. This forced some of them to enter into partnership with others who had a tax card. This represented an additional financial burden for many waste collectors, and it was passed on to the contractor.
- The joining of blocks[34] under one subcontractor was discouraged, except in the case of adjacent blocks, in order to facilitate supervision by the contractor. The reason for this was to stop some individual subcontractors from absorbing others and becoming very powerful and thereby able to threaten the service and impose their wills on the contractor.
- A number of these waste collectors refused to use some of the equipment provided by the contractor (such as handcarts and wheeled bins), because they considered it unsuited to the work of collecting waste from apartments. At the same time, they insisted on using their large, shabby sacks, because they are light, cheap and easy to manufacture from recycled materials.
- For some residential blocks no compromise could be reached with the informal sector waste collectors, who showed no readiness to co-operate with the contractor or to combine efforts with neighbouring subcontractors. Such blocks were joined to the nearest collection block which had a waste collector who was prepared to work with the contractor.
- All of these waste collectors wished to sort the waste they collected so that they could keep the recyclables. Since this sorting takes time, it jeopardized the efficiency of the collection process. Therefore, it was agreed that sorting could take place on a temporary basis, but only in transfer stations, in composting plants or in the landfill prior to covering the waste.
- All contracts with sub-contractors were for a duration of one year and could be renewed subject to satisfactory performance. The subcontractor, however, retains responsibility for the social security and medical insurance payments for his workers, and for their liability insurance. This was a significant burden for many of the sub-contractors, especially those who had no experience of these formal requirements for employers.
- The waste collectors were each provided annually with three full sets of company uniforms, (three summer and three winter uniforms). All waste collectors were obliged to wear the uniform, but supervisors were allowed to wear traditional dress.
- There was a conflict between the contractor's plan of operation and the boundaries drawn by the municipality identifying the residential blocks that would be served by waste collectors from the informal sector. The contractor tried hard to modify his plan in a manner that would not undermine the basic concepts of the plan, for example with regard to the number of apartments in each residential grouping and truck route. This was done by adding and removing apartment buildings or joining several waste collectors into a bigger unit.
- Negotiations took place with the union of waste collectors – a local organisation with considerable popular support, and which had previously organised riots and strikes. Since many of the waste collectors were unable to keep accounts and records, an agreement was reached with the union that it would assist them and represent them in the poorest city districts, where there had been no regular informal sector collection service

[34] Here the term "block" is used to refer to a group of apartment buildings that can be served by one subcontractor with a team of perhaps eight waste collectors, and typically extending along several streets.

because of difficulties in collecting fees and because of the low value of the waste itself.

The current status

Collection from apartments has been successful as a result of the participation of the waste collectors from the informal sector. These waste collectors have generally worked according to the contractor's requirements because they wish to avoid penalty deductions from their monthly wages.

The client's monitoring department was more lenient in enforcing penalties on the contractor because of the contractor's contribution to solving a social problem by integrating the waste collectors.

Each waste collector was given a map of his groupings of residential buildings and informed about the contractor's detailed operating schedules.

A number of sub-contractors did not succeed in working with the contractor, so their collection blocks were allocated to others working nearby, thereby giving reliable collectors the opportunity to increase their earnings.

There has been an unexpected reduction in the amount of waste being taken to the landfill because of the sorting of recyclables at intermediate transfer stations. The waste collectors take the separated recyclables away in their own trucks, which is to the benefit of both the contractor and the sub-contractor.

In some of the city districts, where the contractor was not obliged by contract to collect from each apartment, more bins and containers were distributed and more street sweepers were deployed. Furthermore, awareness campaigns were intensified in these city districts in order to motivate the citizens to take their solid waste to the designated places.

A plan has been drawn up to gradually replace the manual collection from each apartment by mechanical collection using street bins, progressively decreasing the numbers of collection workers and increasing the numbers of sweepers and bins, over a period of three years.

Case Study T Co-operatives for waste recyclers

contributed by Martin Medina

In sharp contrast to recycling in industrialized countries, the recycling of municipal solid wastes in the South relies largely on the informal recovery of materials from mixed waste carried out by waste pickers (also known as recycling workers and scavengers). It has been estimated that, in Asian and Latin American cities, up to 2% of the population survives by waste picking. Waste pickers recover materials to sell for reuse or recycling, and diverse items for their own consumption. They are a disadvantaged and vulnerable segment of the population and face multiple hazards and problems. Due to their daily contact with garbage, waste pickers are usually associated with dirt, disease, squalor, and perceived as a nuisance, a symbol of backwardness, and even as criminals. Waste pickers are regarded as a negative influence on the operation of sanitary landfills because they obstruct the operations of machinery and in extreme cases control the movements of vehicles on the site, running it like a mafia, and even stealing batteries and other valuables from trucks. Yet they survive in this hostile physical and social environment. Their poverty and substandard working and living conditions are often due to their exploitation by middlemen and political bosses. When waste pickers organize themselves into co-operatives they can improve their incomes, their working and living conditions, and contribute to solving the problems of insufficient collection and inappropriate disposal of solid wastes in developing countries.

Waste picking and recycling not only provide a livelihood for a significant proportion of many urban populations, but it can also reduce the costs of long-distance transport and disposal of municipal solid wastes, and reduce the imports of raw materials such as aluminium and fibre for paper making.

Formation of recycling co-operatives

Industries that consume recyclables encourage and support the existence of middlemen or waste dealers who are the link between industry and the waste pickers in order to ensure adequate volumes and quality of the raw materials that they use. As a result, opportunities arise for the

exploitation and political control of the waste pickers, since they must sell their pickings to a middleman, who in turn sells to industry. Industry demands a minimum quantity from their suppliers and will not buy materials from individual waste pickers. Industry usually also demands that the materials are clean, sorted, and baled or crushed – processing that the middlemen carry out.

Most Third World waste pickers can be considered to be poor, according to their low income, their low purchasing ability, their substandard living conditions, and the fact that not all their basic needs are satisfied. This poverty can be largely considered to be the result of the low prices they are paid for the recyclables. The low prices paid for recyclables, in turn, enable the middlemen who purchase the recyclables from the waste pickers to generate high profits. Middlemen can achieve high profits wherever they operate in a monopsonistic market (markets in which there is only one buyer). In Mexico City, for instance, dumpsite pickers must sell their pickings to their leader, who sells the materials to industry at a markup of at least 300%. As a result, Mexico City dumpsite pickers usually earn incomes lower than the minimum wage, are forced to live around the dumps, and have a life expectancy of 39 years.

Similar situations are common elsewhere in the developing world. The formation of recycler co-operatives attempts to improve the living conditions of waste pickers by circumventing the middlemen, thereby enabling the payment of higher prices to co-operative members. Efforts to promote the creation of recycler co-operatives are common in Latin America and Asia, as the following examples show.

Successful recycler co-operatives in Latin America

Colombia

One of the most dynamic recycler co-operative movements in the world today exists in Colombia. The *Fundación Social*, a non-governmental organization, has been assisting waste pickers in the formation of co-operatives since 1986. That year, a sanitary landfill replaced an open dump in the city of Manizales, displacing 150 families that, until then, had been recovering materials at the dump. The Foundation helped the displaced waste pickers to form a co-operative. When the positive impact of that effort became apparent, the foundation began assisting groups of waste pickers in other cities to also create co-operatives. In 1991, the *Fundación Social* launched its National Recycling Programme, which at present includes over 100 recycler co-operatives throughout the country.

The Foundation also awards grants, provides loans for specific co-operative projects, and offers the co-operatives legal, administrative and business assistance, as well as free consulting services. In 1998, the Foundation donated and made loans to the co-operatives for over US$ 800,000. Any new co-operative may decide to join the National Recycling Programme, which developed an organizational structure that includes national, regional and local associations of co-operatives. The Bogota Association of Recyclers, for example, represents seven recycler co-operatives located in the capital city. All five regional associations and the individual co-operatives also belong to the National Association of Recyclers (NAR). The NAR's goals include educating Colombians on the social, economic and environmental benefits of recycling, as well as improving the working and living conditions of Colombian waste pickers. The NAR employs former waste pickers to provide assistance to any group interested in creating a co-operative.

The co-operatives affiliated to the *Fundación Social*'s National Recycling Programme represent a wide variety of working conditions. Some members use pushcarts to transport materials, while other use horse-drawn carts or pickup trucks. Some, such as the *Co-operativa Reciclar*, in Cartagena, are located next to the local dumps, from which members salvage materials. Others follow established routes along city streets, retrieving items from containers placed at the kerbside for collection or from materials littering public places. Still other co-operatives take part in source segregation programmes, collecting recyclables from households, offices, commercial establishments and small industries, sometimes under formal contracts. Recycler co-operatives have formed regional marketing associations, which allow them to accumulate and sell recyclables in significant volumes, obtaining prices that are higher than what would be paid to each co-operative individually. In total, Colombian waste pickers recover and sell over 300,000 tons of recyclables a year, mostly paper, glass, scrap metals, plastics and organics. Co-operative members report a higher standard of living, as well as improvements in self-esteem and self-

reliance compared to when they worked independently and on their own.

The *Co-operativa Recuperar* is one of the most successful recycler co-operatives in Colombia and Latin America. *Recuperar*, based in Medellin, was created in 1983 and today has 1,000 members, 60% of them women. Members of *Recuperar* earn 1.5 times the minimum wage and are affiliated to the Colombian system of socialized medicine. Members can receive loans from the co-operative, scholarships to continue their studies, and have life and accident insurance. *Recuperar* carries out three types of activities

- First, it offers waste collection and disposal services. Co-operative members collect mixed wastes and source-separated recyclables. *Recuperar* signed a contract with the city of Guarne and now collects, transports and disposes of the solid wastes generated in the town. In 1996, *Recuperar* earned 30 million Colombian pesos (approximately US$ 30,000) and the contract saved the city 5 million pesos (about US$ 5,000). The co-operative also operates a materials recovery facility (MRF). In 1998, *Recuperar* recovered 5,000 tons of recyclables, mostly paper, cardboard, glass, metals, textiles, and plastics.
- Second, *Recuperar* provides cleaning and gardening services to the local bus terminal, private companies, public spaces, local fairs and conventions.
- Third, the co-operative offers its members as temporary workers that can be hired by public or private organizations to perform various activities.

Brazil

Important efforts to support the formation of recycler co-operatives also exist in Brazil. Co-operatives have been formed in Rio, Belo Horizonte (See Case Study W), Recife, Niteroi and Salvador. In Rio de Janeiro alone, 14 co-operatives exist with 2,500 members. In Porto Alegre, waste pickers were incorporated into the city's kerbside recycling program, reducing overall costs, and serving 79% of the city's 1.1 million residents.

CEMPRE, an industry association, has prepared an educational kit for waste pickers and NGOs to help them in the creation of recycler co-operatives. *CEMPRE* publishes a monthly newsletter and manages a data bank on solid waste management, as well as a scrap broker hotline that answers questions about recycling. Coca-Cola, Mercedes-Benz, Nestle, Pepsi-Cola, and Procter & Gamble are among the companies that support *CEMPRE* financially. *CEMPRE*'s success has encouraged efforts to create similar programs in Argentina, Costa Rica, Mexico and Uruguay.

Coopamare, one of the most successful recycler co-operatives in Brazil, collects 100 tons of recyclables a month, equivalent to half of what is collected by the government recycling programme in São Paulo, and at a lower cost. *Coopamare* members earn US$ 300 per month, twice the minimum wage in Brazil. In comparison, half of the country's labour force earn less than US$ 150 a month.

Mexico

The *Sociedad Cooperativa de Seleccionadores de Materiales* (*SOCOSEMA*) that operates in Juarez, on the U.S.-Mexico border across from El Paso, Texas, constitutes one of the most successful recycler co-operatives in Mexico. Today, members recover nearly 5% of the wastes arriving at the municipal dump: 150 tons of paper, cardboard, glass, rubber, plastics, animal bones, organic material, and metals each day. Until 1975, before the co-operative was created, a middleman had a concession to recover the recyclables at the dump. The middleman, operating in monopsonistic markets, paid low prices for the materials recovered by waste pickers, and dictated which materials he would buy. As a result, waste pickers had very low incomes. In 1975, the middleman announced that he would buy only paper from then on, and at a lower price. The waste pickers protested immediately. With the assistance of a college professor, supported financially by a local businessman and a sympathetic Mayor, the co-operative was formed. That year, local authorities awarded a concession to the co-operative for the recovery of recyclables contained in the wastes arriving at the dump. The impact of the creation of *SOCOSEMA* was impressive: within a few months of its creation, and the displacement of the middleman, the incomes of the members increased tenfold.

The co-operative also receives donations of recyclable materials – largely paper and scrap metal – from the assembly plants at the border (popularly known as *maquiladoras*). *SOCOSEMA* members provide cleaning services to these plants. As well as now enjoying higher incomes,

members of the co-operative participate in training courses and formal education programmes sponsored by the co-operative, and have access to health care and to legal protection. *SOCOSEMA* has developed good relations with industry, despite initial reluctance to do business with the co-operative. Industrial demand for recyclables in Mexico is strong, and the co-operative often buys materials from independent waste pickers in order to satisfy the demand. Over the last few years, the creation of recycler co-operatives has gained momentum in the region, and co-operatives have been created in Argentina, Venezuela, Peru, Ecuador, Guatemala, and Costa Rica.

Successful recycler co-operatives in Asia

Philippines

The formation of recycler co-operatives has also gained impetus in Asia over the last few years. In Manila (Philippines) the non-governmental group Women's Balikatan Movement created the *Linis Ganda* programme. Originally developed as a formalized system of waste pickers and itinerant buyers of recyclables working for a particular middleman in the city of San Juan in 1983, the programme is now composed of co-operatives. Today, there are co-operatives in each of the 17 cities and towns that comprise Metro Manila. In this programme, waste pickers – called *eco aides* – have fixed routes for purchasing source-segregated recyclables at households and schools. *Eco aides* wear green uniforms and use green pushcarts or bicycles. At present, the programme includes 897 middlemen organized into 17 co-operatives and approximately 1,500 *eco aides*. *Eco aides* affiliated to the programme recover 4,000 tons of recyclable materials per month. The co-operatives can obtain low-interest and collateral-free loans from the Philippine Department of Trade and Industry and from the Land Bank. *Linis Ganda* plans to start composting operations and biogas recovery from market and slaughterhouse wastes in the near future.

India

In Madras, the non-governmental organization *EXNORA* created a waste collection programme in low-income neighbourhoods. The programme formalized recycling activities in those areas. Waste pickers were incorporated as waste collectors, or *street beautifiers*. Communities obtain loans to purchase tricycle carts to be used as refuse collection vehicles by the *street beautifiers*. Before disposing of the waste, the *street beautifiers* recover the recyclables from the wastes they have collected. Residents pay a monthly fee equivalent to US$ 0.30 for refuse collection. Income from the fees is used to pay back the loans and to pay the *street beautifiers'* salaries. Today in Madras, about 900 collection units involving waste pickers exist in the slums, as well as in middle- and upper-income neighbourhoods. The programme has dignified recycling activities, raised earnings, reduced littering, increased refuse collection, and contributed to a cleaner urban environment. In the city of Pune, approximately 6,000 waste pickers formed a co-operative, which in 1995 recycled 25% of the waste generated by the city's one million residents.

Indonesia

Unlike the previous cases that involve industry and NGOs, Indonesia has enacted national legislation in support of recycling workers. In 1992, then President Suharto declared that waste pickers were beneficial to the country's economy and environment. Now the central government supports the formation of co-operatives of dumpsite and street pickers. Private banks have granted loans to recycler co-operatives, and the national government has imposed a duty on imported waste materials, in an effort to increase the incomes of the waste pickers.

Lessons learned

NGO support needed

Non-governmental organizations (NGOs) have played a critical role in assisting the formation and operation of recycler co-operatives. Their energy, creativity and familiarity with the local conditions allow NGOs to develop initiatives that have a good chance of succeeding. They can help co-operatives to obtain loans and grants, or furnish the credit themselves. NGOs also provide essential technical, business and legal assistance to the co-operatives. Newly constituted co-operatives are particularly vulnerable, considering that they may have to deal with opposition from the middlemen being displaced. Industry may be reluctant to have their usual supply channels disrupted. And the authorities may covertly hinder the efforts to create a new recycler co-operative if a patron-client relationship exists between particular government officials and the waste pickers.

Timing in the formation of a co-operative

The timing of the formation of a co-operative is an important factor in its success. A window of opportunity appears during changes of administration, particularly at the local level. A new Mayor, especially one belonging to a different political party than his/her predecessor, may be more inclined to support a recently formed recycler co-operative in order to demonstrate his/her commitment towards the poor and in favour of change. Such an action could improve the Mayor's image and political standing. A mass media campaign conducted by the involved NGO to show the waste pickers' plight, their harsh working and living conditions, as well as the benefits the community receives from their work, may increase public support for the waste pickers and their efforts to organise. Further, a grassroots information campaign can also be conducted among community leaders, schools, and neighbourhood associations. This approach has been successful in several Colombian cities.

Threats and opportunities arising from private sector involvement

Latin American and, to a lesser extent, some Asian countries have taken ambitious steps to involve the private sector. Private sector participation presents both risks and opportunities for waste pickers. Companies awarded contracts to collect and dispose of municipal solid waste usually do not allow waste picking in the disposal sites that they operate. Thus, as sanitary landfills replace open dumps, waste pickers are forced to collect materials on the streets instead, which lowers their earnings and affects their standard of living. On the other hand, private sector participation does provide opportunities for recycler co-operatives. The co-operatives can render – on a commercial basis – services such as the collection of mixed wastes or recyclables, street sweeping, and the operation of composting plants and materials recovery facilities. The incorporation of waste pickers into formal solid waste management programmes and the awarding of contracts to recycler co-operatives can save cities money while providing a steady income to the waste pickers.

Conclusions

Waste picking represents an important survival strategy for the poor in developing countries. Individuals recover materials from waste in order to satisfy their needs. Despite the fact that waste picking occurs in quite different settings throughout the developing world, it shows distinct patterns. Waste pickers are usually poor immigrants from rural areas. The recovery of materials takes place in a wide variety of conditions, from open dumps to garbage floating in canals and rivers. Waste pickers respond to market demand and not to environmental considerations. The underlying factors that cause people to become waste pickers are poverty, the inability or unwillingness of individuals to obtain other forms of employment, and industrial demand for inexpensive raw materials.

Authorities often do not fully realize the social, economic and environmental benefits of the recycling activities carried out by waste pickers. (It should also be pointed out that in some cases waste pickers create illegal dumps, thus causing pollution in congested urban areas.) Development banks also tend to ignore the benefits that recycling renders to society. Consequently, informal sector recycling is often ignored when waste management policies and plans are being prepared. On the other hand, when informal recycling is being considered in waste management plans, the objective is often to eliminate it. As long as poverty and industrial demand for materials persist, recycling will continue. Official efforts to eradicate waste picking have not succeeded and have caused further deterioration in the working and living conditions of recycling workers.

Middlemen perform useful services to industry, by sorting and processing materials, and storing them until they can sell them in the amounts that industry demands. But, particularly at dumpsites, opportunities arise for the development of monopsonistic markets, controlled by middlemen, and thereby the exploitation of waste pickers. The formation of recycler co-operatives can bypass the middlemen, dismantle the monopsonistic markets, and thus increase the earnings of recycling workers.

NGOs can play an important role in organizing recycling workers and in helping them, particularly in the formative and initial stages of the operation of their co-operative. Development banks and bilateral development agencies should consider actively supporting recycling activities. Recycler co-operatives can be a means of achieving a better standard of living for their members, of giving dignity to their members, and of strengthening their bargaining power with industry

and authorities. Equally important for a co-operative is the support of the local authorities, who can legitimize their activities and award concessions or contracts for the provision of solid waste management services. Industry can also strengthen recycler co-operatives by purchasing materials from them and even by taking a more active role in supporting the formation of recycler co-operatives, as *CEMPRE* does in Brazil. The most successful recycler co-operatives in Latin America – *Recuperar* in Colombia and *SOCOSEMA* in Mexico – have learned that diversification can increase their earnings. Both co-operatives also provide cleaning services to municipalities and private industry. Other successful co-operatives add value to the recyclables they gather by processing the materials and engaging in the production of goods such as hoses and compost.

Waste pickers can be successfully integrated into formal solid waste management programmes for the collection and recycling of solid wastes. By supporting recycler co-operatives, low-cost refuse collection services have been extended into low-income communities, creating jobs. Instead of being a problem, waste pickers can be part of the solution to the seemingly intractable problem of collecting and disposing of solid wastes in developing countries. Recycler co-operatives can promote grassroots development in an economically viable, socially desirable and environmentally sound manner. When supported in the right way, waste picking can represent a powerful example of sustainable development.

Case Study U A decentralized NGO system in Delhi

contributed by Sanjay K. Gupta

Introduction

This case study concerns a semi-integrated solid waste management system operated by an NGO (called Naya Savera) in a university and in neighbouring residential areas. The inadequacy of the waste management services provided by the municipal authority motivated the university and residents to try out an alternative solution. The university initiated a pilot project based on a decentralised waste management system. The NGO that provided the service not only replaced the Municipality's collection service, but also set up a system of recycling. This type of decentralised community-based intervention is best suited to small and compact areas. By following the basic principles of composting and recovery of recyclables, it was possible to divert more then 70% of the waste away from the landfill. There are hundreds of educational institutes and residential areas in most of the large cities of India, but only a few of them have adequate waste management systems within their boundaries. In large cities scarcity of land is, perhaps, the single biggest problem with decentralised waste management systems because land is needed for secondary segregation and composting. Interestingly, land is a resource that most educational institutes have in plenty, much under-utilised, and yet empty land is scarce in most urban residential areas. This model has a great potential for replication.

This particular system was a success, but it had not been very well accepted in other residential areas where people were reluctant to pay the service fee, and where the municipality was unwilling to allocate land for composting and segregation. In this case the university paid the NGO a lump sum to cover operating costs, so in this particular scheme there was no problem of collecting fees. In the residential areas the fee was collected by the agency itself.

There is more employment generation in decentralized waste management systems that include recovery of recyclables and composting, because such systems generate additional employment and income.

Origins

A preliminary survey was carried out during the period of April to June 2003. The data describing the area were collected through a series of semi-structured interviews with the key stakeholders, who included NGOs, inspectors, waste collectors and service beneficiaries.

The system was started by a group of environmentally-aware university staff, initially providing only primary collection. Because the secondary collection service was unreliable, and in order to develop a more environmentally-friendly approach, composting and recycling were introduced, so that a much smaller amount of

waste required removal by the municipality. Residents were asked to segregate their waste into wet and dry fractions. The university allocated land for segregation, composting, storage for recyclables and a room where the waste collectors could rest.

The people who were providing the service organised themselves into an NGO and started providing other services and extended their area of operation to include residential areas, where 5000 households were served.

The university also awarded the work of road sweeping, maintenance of parks, cleaning of drains, and pruning of trees to Naya Savera. This led to the integration of waste management services, which, in turn, helped avoid the usual problem of coordination among multiple agencies and has also made the services of the NGO more accountable, as it is the sole agency responsible for all sanitation work.

Workers were provided with uniforms, gloves, caps, boots etc.

Though not included in the contract, the university also bought compost from the NGO for its own gardening, and individual university staff also purchased some. In this way the NGO benefited by having a ready-made market for the compost, which is generally a problem in other places. In the residential areas composting did not take place because of lack of space and the reluctance of the municipality and residents, as they feared unpleasant odours from the composting process. Some of the waste from residential areas was brought to the university for secondary segregation and composting.

Satisfaction

The university campus is very large and yet it is very well maintained and clean. A survey indicated that

- 80% of the respondents said that the area was cleaner than before the scheme started;
- 80% declared themselves well satisfied with the working of the scheme;
- 86% felt that the service frequency and reliability were quite good;
- the residents were aware of the system and gave the workers due recognition for their work;
- all respondents were aware of the complaint system.

The monitoring was also regarded as good and all workers in the scheme were being trained to handle the work on their own. This gave them a sense of importance and self-esteem, and built up motivation for the job.

Lessons learned

- It is important to provide the type of service that the customers prefer. In this case door-to-door collection proved more acceptable than street containers.
- For successful replication of such schemes, operators require – in addition to payment – land for composting and storing recyclables and customer demand for a certain percentage of the compost.
- The success was also due to the fact that, over a period of time, the operator developed a rapport with the clients and so their complaints were easily addressed, which is not the case with the municipal service.
- The success of the decentralized system was also due the inadequacy of the municipal services. People are willing to pay for services if they are efficient and timely. This was demonstrated by the rate of the fee collection.

Case Study V Community and commercialised composting in Southern India

Introduction

This case study describes initiatives in southern India, particularly in the field of composting. Many composting schemes have failed, usually for technical reasons and because insufficient attention has been given to marketing the product. Recent experience suggests that the private sector is able to sell compost in a way that the government has been unable to do, though government loans to farmers and subsidies to reduce transport costs appear essential. A commercialised Corporation was set up in 1975 to

manage a large-scale composting plant. Solid contractors. More recently there have been many small, local decentralised schemes that collect waste from a few hundred houses and compost it close to the point of generation.

Factors favouring the private sector

In addition to the factors favouring the private sector that have already been discussed in Section 2.1 of the main document, there are two other specific factors that apply particularly in India. One is that the liberalisation of the Indian economy has resulted in a greater transparency, and the other is that the recent rulings of the Supreme Court regarding solid waste management have resulted in greater account-ability of the *Urban Local Bodies* (ULBs). Another factor that has enabled innovative approaches to solid waste management is the recently granted right of the municipal corporations to levy a cess or charge to fund services.

Marketing the compost

Plain compost as well as compost enriched with micronutrients are sold within the state and in the neighbouring states. The products are sold to farmers who avail themselves of loans from Central Government to purchase compost, and they also get subsidies for transporting the compost directly to their fields. The Corporation has linked up with a dealer in chemical fertilisers for the distribution of the compost.

The marketing strategies the partnerships decided to adopt were as follows:

- to concentrate on plantation areas where the product has already gained acceptance;
- direct marketing to farmers who have engaged the services of agricultural scientists;
- setting up of about 100 demonstration projects;
- other strategies adopted were large-scale advertisements, public relations materials, seminars and exposure visits to the demonstration sites. The Corporation has also decided to sponsor research on compost as a substitute for inorganic fertilisers and to disseminate this knowledge.

Private entrepreneurs are encouraged to apply for dealerships for selling the Corporation's compost. The conditions that potential dealers must fulfil are kept as light as possible. Credit is also waste was transported to the plant by private available to deserving dealers. The prices are maintained constant anywhere in the state.

The price of the compost is competitive against the inorganic fertiliser only if the transport subsidy which is available for chemical fertilisers is also made available for compost.

With private sector participation in the collection of waste and the transportation and marketing of the compost, the Corporation has been able to increase its profit.

Community composting

There were large pockets of residential areas in the main city which did not have a proper waste collection service. This gave rise to individual residents' associations (RAs) or community-based organisations (CBOs) getting involved in composting. However, only a small fraction of the organic wastes of the whole city – approximately 0.07 percent – was being processed by com-munity composting initiatives.

The issues and factors which led to the setting up of community initiatives are:

- The introduction by Central Government of the Nagarpalika Act, which encouraged many citizens to start such initiatives.
- The media highlighted such initiatives by giving them prominent press coverage, which encouraged housewives and retired personnel to launch such programmes in their localities.
- Overflowing waste containers, lack of waste containers, illegal dumping and unwillingness to use street containers motivated public-spirited residents to initiate door-to-door collection services and community com-posting.

About 25 to 30 community waste management schemes existed in the city during the period 1996 to 2000. These were either only collection schemes or a combination of collection and composting schemes. Most often these schemes were initiated as demonstration projects, in concurrence with the interests of the Nagarpalika Act which stressed the principle of local self governance, with the involvement of local residents' groups.

Though the collaborative efforts of the NGOs and local residents' groups or CBOs were laudable, it was often found that these schemes were

unsustainable in the long run. In the 25-30 schemes, the collection of wastes was always successful, but community composting of wastes was a failure, except for one or two initiatives. Very often the NGOs implementing the schemes misreported the situation in order to protect their reputations in the eyes of international funding agencies which provided them with the funds necessary for initiating community-based schemes.

Typically these schemes would be dependent on outsiders for management and public awareness activities, and also for the provision of consumables such as plastic bags to be distributed to residents. Accounting of compost production and sales was another weak point. Primary collection schemes that depended on municipal secondary transportation would often fail when the waste at the transfer point was not removed for some time.

Because more than 25 such individual composting units had failed in the city, another NGO studied the reasons for the failure and came out with a new strategy for solid waste management, proposing a partnership between CBOs and local government. Some of the reasons identified as causes of the failures have already been mentioned, but two others emerged:

- Lack of accountability: Community composting schemes are usually run by a single person, and so ego clashes among the members of the core group can lead to disagreements that hinder the smooth functioning of the composting process and ultimately result in the neglect of the composting process. The need to sort out petty management issues such as absenteeism among the waste collectors, and the needed investment of time each day deterred residents from getting involved in the schemes. As these groups were often not registered, there was no accountability and withdrawal from such schemes was very easy.
- Some schemes are not viable because the scale of operations is too small, or it becomes too small when some of the residents drop out of the scheme.

Keys to success for private sector composting

The keys to success comprise the following factors:

- Segregation: This should be done at individual household level and be the responsibility of each household. This requires a high degree of motivation and awareness at the individual household level. Here the public and private sectors should join hands and a conduct major awareness and motivation campaigns. Public funds should be made available for this.
- Collection: This should be done at ward level and funded by user charges paid by the residents. Private contractors for collection and transport should be arranged by local government in conjunction with residents' associations.
- Marketing of compost: This should be undertaken only by the private sector. Incentives are needed to promote the use of compost made from municipal solid waste. Banks should provide low interest loans to dealers of compost.
- Sector: Composting activity can be undertaken effectively by both public and private sectors.

Case Study W Municipal support for informal sector recycling

contributed by Sonia Maria Dias

Introduction

This case study describes how informal sector recycling workers have been integrated into a municipal at-source waste segregation scheme and the impact that this has had on their livelihoods and self-image. More information is available from Dias (2001).

Informal collection of recyclables has taken place in Belo Horizonte, Brazil, for more than 50 years. Since picking is not allowed on the sanitary landfill, sorting of recyclables used to take place mainly on the city's streets. Prior to 1993, waste pickers worked under the sun and rain, gathering their materials with manual carts, sorting the waste on the street, and sleeping next to the recyclables because they did not have a proper place for sorting and storage. The treatment given to them, not only by the population but also by the municipal govern-

ment, had always been of negligence and misconception: they were stigmatised as vagrants and often treated violently by the police, who drove them away from the streets.

The municipal recycling system

Since 1993, the municipality of Belo Horizonte, Brazil, has been implementing a segregation at source project, within the framework of the integrated waste management system of its public cleansing agency (SLU). This project has integrated the local Association of Waste Pickers – ASMARE – as a main partner. (This association was set up with the help of a religious organisation after a programme of education and meetings.) The main demands of the pickers were to have the right to collect recyclables in the city and to have a proper place for the sorting and storing of their materials.

The recycling scheme is based on the drop-off concept that requires citizens to deposit recyclables in containers distributed throughout the city. Waste sorting facilities (two warehouses), trucks for collecting recyclables and financial support were provided to the association. Each warehouse is equipped with a kitchen, toilets, individual sorting boxes, and a weighing scale. Literacy and skills training were provided for the waste pickers.

Steps for involving the informal sector

Education and social mobilization have been fundamental in this experience in order to raise people's environmental consciousness and develop social solidarity towards the pickers. The waste management department formed a multidisciplinary team responsible for conducting awareness campaigns in public places such as schools, churches, public and private institutions, encouraging the citizens to use the recycling containers. The educational approach combined the use of more conventional methods (such as workshops, public talks and distribution of folders) with a more emotional approach that used theatrical and musical performances. Group visits have helped to bridge the gap between the population and the pickers. A memorable awareness initiative has been the annual pickers' carnival street parade.

Introductory courses for waste pickers joining the association cover themes such as road safety, recycling and the environment, cooperativism, and human relations.

Impacts

The recognition of the importance of the work being done by this segment contributed to improving the waste pickers' self-esteem, and developed a sense of social solidarity within the city's population, resulting in a more positive public attitude towards them and their work.

The waste pickers' working conditions improved greatly. This helped to attract new members to ASMARE: from an initial membership of 31 pickers in 1993, the association has grown to 380. Additional jobs were created in the sorting and recycling facilities, making the way for those with physical problems and the elderly to have the opportunity to work on a lighter job. In terms of production, collection increased from 15 tons in 1993 to 450 tons per month. The impact in terms of income generation is also notable: 54% of the associates were earning up to twice the minimum wage, 40% between twice and four times, and 6% over five times the minimum wage.

An unresolved issue

One limitation that was identified was the lack of a more comprehensive urban regulatory policy towards the activity of junk shops that operate on illegal and polluting bases within the city. This has meant that the situation of street picking, that was under control in the initial four years of the partnership, has got out of hand since these pickers are not ASMARE associates and they do not comply with the rules for street picking agreed with the municipality. There is no official data on the number of these pickers but it is known that they have increased dramatically. This has meant that the containers have been damaged and recyclables stolen, which means less production for ASMARE and a higher municipal expenditure on the maintenance of containers

Conclusion

The extensive system of partnerships that support the ASMARE experience can bring an important contribution for the establishment of a participatory process of tackling the issue of poverty reduction, making development available for all. This is the association of waste with citizenship empowerment!

Summary information regarding case studies

Note: Some case studies (notably A, H, N, Q, R, T and V) each refer to a number of examples. The information below applies to one or more of the examples mentioned, but not necessarily to all the examples included in any particular case study.

No.	Item	Case Study identification letter																					
		A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N3**	**O**	**P**	**Q**	**R**	**S**	**T**	**U**	**V**	**W**
1	**SCOPE OF SERVICES**																							
a	**Collection and transport services . . .**		x	x	x	x	x	x		x	x	x	x	x		x	x	x	x	x	x	x	x	
	. . . including provision of equipment		x		x	x	x	x		x	x	x	x	x			x	x	x	x	x	x	x	
	. . . excluding the provision of equipment																							
	. . . other (see notes at foot of table)																							
b	**Primary collection services . . .**					x	x	x		x	x	x	x			x	x	x	x	x	x	x	x	
	. . . collection of municipal waste		x	x		x	x	x	x	x	x	x	x			x	x	x	x	x	x	x	x	
	. . . street cleaning/sweeping services		x	x			x	x		x	x	x	x	x		x	x	x		x	x	x		
	. . . segregation/recycling in neighbourhoods						x											x	x	x	x	x	x	
c	**Operation of the disposal site . . .**						x			x	x		x	x				x		x		x	x	
	. . . including provision of equipment		x		x		x			x	x		x							x			x	
	. . . including construction and equipment		x	x	x		x			x	x		x							x			x	
	. . . leachate treatment, biogas collection etc		x		x		x		x	x			x	x						x				
	. . . site owned by public sector		x	x	x		x		x	x	x		x	x						x		x	x	
	. . . site owned by private sector																						x	
d	**Operation of composting facilities . . .**						x				x		x		x					x		x	x	x
	. . . excluding the provision of equipment												x							x				
	. . . including the supply of equipment		x				x				x												x	
	. . . including the construction and equipment						x																x	
e	**Other services provided** (see notes below)		(1)		(2)										(3)	(5)			(6)					

No.	Item	A	B	C	D	E	F	G	H	I	J	K	L	M	N3	O	P	Q	R	S	T	U	V	W
2	**TYPE OF CONTRACTUAL AGREEMENT**																							
a	Public/private joint venture											x			x						x		x	
b	Service contract			x	x	x	x	x		x	x	x	x	x		x	x	x		x		x	x	
c	Management contract																						x	
d	Franchise																	x	x		x			
e	Concession (D) B O O	x																						
f	Concession (D) B O O T	x	x																					
g	Open competition / private subscription																				x		x	
h	Other (see notes below)																				(7)			
3	**CONTRACT VALUE**																							
a	Less than US$ 10,000 per year																x	x				x	x	
b	Up to US$ 100,000 per year																							
c	More than US$100,000 per year	x	x	x	x	x	x	x		x	x	x	x	x	x				x	x	x		x	x
4	**CONTRACTING AGENCY (CLIENT)**																							
a	Municipality	x	x				x		x	x		x		x			x	x	x	x	x		x	x
b	Other public authorities (e.g. Ministries)	x						x			x	x	x											
c	Joint services councils, associations				x	x																		
d	Private sector (e.g. commerce, industry)																							
e	NGO																							
f	Other (see notes below)														(4)							(9)		
5	**TYPE OF SERVICE PROVIDER**																							
a	Single person, family, informal sector																							
b	Co-operative, including informal sector																		x		x		x	x
c	Local enterprise	x		x						x		x				x	x	x					x	
d	International enterprise	x									x		x	x						x				
e	Combination of local and international firms							x																
f	Public sector utility		x		x	x	x																	
g	NGO																					x		

No.	Item	A	B	C	D	E	F	G	H	I	J	K	L	M	N3	O	P	Q	R	S	T	U	V	W
6	**TARIFF SYSTEM**																							
a	Direct user charges						x		x			x		x	x			x	x		x	x	x	
b	Joint billing with water																							
c	Joint billing with electricity							x			x		x							x				
d	General local government revenues			x	x	x	x			x							x				x		x	x
e	Real estate tax		x																				x	
f	Other (see notes below)																				(8)			
7	**REVENUE COLLECTION AGENT**																							
a	Public authority		x		x	x	x	x		x	x	x	x	x			x	x		x			x	x
b	Private sector	x																x	x		x	x	x	
c	Other (see notes below)																							
8	**CONTRACT DURATION**																							
a	Not specified in contract				x	x													x		x		x	x
b	Number of years						5	15		5	15	<5	15	10			0.3			15		1	3	
9	**INVOLVEMENT OF CONTRIBUTOR**																							
a	Municipal employee		x	x							x													
b	Public employee (other than municipal)												x											
c	Private enterprise										x	x				x								
d	Consultant						x	x	x	x					x				x		x		x	
e	Member of NGO											x						x				x		
f	Employee of international agency				x	x					x									x				
g	Informal sector																							
h	Other (see notes below)																x							

Additional information

Reference number	Case study	Item	Comment
1	B	1d	Assistance in developing better billing and payment systems and with environmental education for service users
2	D	1d	Screening of decomposed waste for soil improver
3	N3	1e	N4 also discusses a regional council that was responsible for planning waste management issues
4	N3	4f	A Joint Venture also acted as client on behalf of local government
5	O	1e	This contractor also undertakes cleaning contracts, cleaning offices and trains
6	R	1e	Services provided include the operation of a transfer station.
7	T	2h	Informal arrangements
8	T	6f	Income is also derived from sale of materials.
9	U	4f	Client is an educational institute and residential area

Appendices

Appendix 1 Introducing the resource persons, contributors and reviewers

Ridha Abbès studied mechanical engineering and environmental science in Germany and showed there an early interest in recycling – an interest that has continued for more than ten years. He is working in a GTZ programme in Tunis, with special responsibility for solid waste management. His current interests are integrated waste management and the promotion of private sector participation, including recent studies on a composting plant and a sanitary landfill.

Engr. **Awad Aboud** has about 20 years of experience with the Giza Cleansing and Beautification Authority of Greater Cairo. He is the manager of the Projects Department responsible for the Monitoring and Evaluation of the solid waste management contractors working in the Giza Governorate.

Ing. Juan Arenas specialised in solid waste at the University of Buenos Aires, and has worked for the last 20 years in municipal waste management. From 1996 to 2002 he was a manager of the Municipal Public Waste Company of Lima and general coordinator of the Municipal Supervision of Metropolitan Waste Management Services of Lima (SUMSEL).

P. Bineesha, a consultant working with ERM, is Chief Environment Advisor for the HAWA Project in Bangalore.

Ing. Oswaldo Cáceres is an industrial engineer and specialist in environmental management. He has worked for 20 years in municipal waste management. He is a member of a team which developed Integral Solid Waste Treatment (SITIRS). He was previously in charge of several projects concerned with the creation of waste handling microenterprises (for sweeping, collection, recycling and disposal) in the North of Lima

Héctor Álvarez Carrasco is an industrial engineer who has been working for more than 20 years within local government, with a special focus on the financing of waste management services and private sector participation. He developed a charging system in which the municipal workers are included in the fee collection, thus sharing the benefits between the workers and the municipality. This system has proven itself to be highly effective and efficient.

Sonia Maria Dias is a sociologist who is currently working for a PhD in Political Science. She has been engaged in the solid waste field since 1986, focussing on the incorporation of the social dimensions. She is a member of the Waste and Citizenship Forum and is currently working as a consultant for the Ministry of Cities.

Kirk Ellis is an environmental engineer with more than 22 years of experience in solid waste management. His solid waste management experience ranges from the initial feasibility analysis to implementation of new solid waste system infrastructures. He recently served as the Chief of Party on a Solid Waste Privatization Reform Project in Egypt. The project included the privatization of the solid waste system in the Egyptian Governorates of Alexandria and Cairo. The privatization efforts included the initial data gathering and financial analyses, tendering and contractor selection, contract negotiations, and capacity building through the training of governorate contract management teams. He has also provided solid waste planning and design services in Lebanon and Sri Lanka while managing a regional engineering office in the United States specializing in solid and hazardous waste management and engineering.

Dr. Maheeb Abd El Ghaffar is a professional engineer with a Ph.D. from Purdue University (USA-1992). Besides teaching and training, he works as a civil and environmental engineering consultant. He participated in several development projects with DANIDA, DFID and GTZ. For fifteen months he was the executive manager with the Italian SWM Company "AMA" which serves northern Cairo.

Sanjay Gupta works for the NGO *Toxics Link* in New Delhi

Ralph Hohenschurz-Schmidt studied biology and regional sciences. Since 1987 he has been involved in waste management, since 1995 as the Managing Director of the Waste Management Association Rendsburg-Eckernförde mbH (AWR), a joint public-private venture. His work focuses on enhancing the competitiveness of public utilities (communal companies) as well as biological waste treatment.

Chakir Kasdarli is a civil engineer with specialisation in waste management. His experience includes three years as a GTZ technical advisor in an environmental programme in a Maghreb country. Since 2005 he has been employed in a consultancy firm that specialises in environmental topics (including solid waste management). He considers that PSP is not merely an option but rather a necessity in the Maghreb region.

Maha Khallaf is a consultant with about fourteen years of practical experience in the environmental field in Egypt. She studied chemistry and later obtained her Masters Degree in Environmental Management from the UK. Most of her work is with international donor projects providing technical and institutional support to different governmental entities in Egypt.

Chris Liebenberg, obtained his BSc in engineering in 1974. Initially working as a civil engineer, he became involved in 1987 with waste projects, leading to his appointment as Divisional Director, Waste Management, for a consulting firm in 1993. His special interests are integrated waste management planning, recycling, composting and municipal service partnerships, and the development of appropriate and feasible solutions to waste management problems.

Raymond Lombard BSc PrSciNat is a South African waste scientist who founded, in 1985, the firm Lombard de Mattos & Associates, which specialises in waste management. He is a Senior Fellow and past President of the Institute of Waste Management of Southern Africa (IWMSA). He has served on several waste-related committees and fora, acted as external examiner and taught on University and IWMSA courses. He is the author of many papers and is a strong advocate of the role of the private sector in waste management.

Engineer Juan Alberto Arenas Lizana holds an engineering degree and a special degree in solid waste management from the University of Buenos Aires. He is now studying for his Master's in Environmental Management. He has been working in the public cleansing sector for 20 years, having served as manager of Urban Cleaning in Lima and as General Coordinator of the Municipal Department of Cleaning Services of the metropolitan municipality of Lima (SUMSEL) from 1996-2002.

Luis Lozada is an economist who has been advisor to municipal governments since 2001. He won the integrated waste management concession for Paita. He is currently working on the service concession for the 21 district municipalities of the Lambayeque region in the north of Peru.

Martin Medina has a Ph.D**.** from Yale University. He has worked on community-based SWM, SWM policy, informal waste collectors and scavengers in Africa, Asia, and Latin America since 1991. He has received numerous awards, including four from the Global Development Network. He firmly believes that PSP in developing countries should involve communities and informal sector workers.

Maria Elena Mendoza is a civil engineer specialised in wastewater management, with more than 15 years experience in financial and technical co-operation projects in South America. She has been working in solid waste management since 2002, in the fields of mechanical biological waste treatment, composting and landfill operation, in projects with participation of the private sector.

Al Shimaa Mustafa is a financial manager. As project administrator for a GTZ project, she worked for four years in the fields of private sector participation and local government training. She considers cooperation with local pressure groups, enhancement of participation and capacity building of women in Arabic countries as key elements for sustainable development.

Essam Nada is a chemical engineer, having graduated in 1990. He started working with Arab Office for Youth and Environment (an NGO) in 1991. He has been working in solid waste since 1993. His responsibilities have included managing the Regional Community Solid Management Programme (funded by EC) in four Arab Countries: Morocco, Tunisia, Egypt and Lebanon from 2000 to 2003. His main ambition is to promote integrated solid waste management.

Dr. Johannes Paul studied Geology and Environmental Engineering in Germany, Canada and USA. He has been working in waste management since 1987, currently in a developing country. His message to the world is that private sector involvement enhances the potential for innovation and development efficiency and so enables solutions for waste management issues.

Kamel Ragheb is a mechanical engineer who works as Head of the Environmental Monitoring Center, assisting in preparations for private sector participation in cleanliness projects in Alexandria, Egypt. He has 25 years of experience as site manager, monitoring specialist, SWM coordinator and manager of composting plants. Eng Ragheb is also the Assistant General Secretary for environmental and cleanliness projects in the Alexandria Governorate.

Lisardo Gonzalez Rodriguez has been involved in solid waste management for 15 years. After a first degree in social sciences from Madrid he took a diploma in solid waste management and later obtained an MBA from CESEM, also in Spain. He has worked for the Spanish contractor Urbaser S.A. in Europe, the Middle East and Latin America. He is particularly concerned to develop environmental awareness among political leaders and the general public.

Wa'el Safi is a mechanical engineer with an MSc. in Environmental Science & Technology. He has been working with GTZ as a Solid Waste Management Advisor for two solid waste management projects in the Gaza Strip since May 2002. Before that he worked with the Palestinian Environmental Authority as a Water/Wastewater Expert and in industrial pollution control.

Matthias Siegle has been involved in solid waste management projects in developing countries, especially in Latin America, for more than 10 years. His responsibilities have included coordination, team leading and technical assistance in special areas like hospital waste management and recycling. In these sectors PSP approaches have been developed on different levels.

Manfred Scheu has a BSc in Civil Engineering and an MSc in Water and Environmental Management. With more than 14 years of overseas experience, primarily in the solid waste sector, he has wide-ranging experience in SWM, institutional development, and community involvement. He has been a member of the professional team in the GTZ head office since 2001. He set up a commercialised joint council for solid waste management in Gaza and believes that commercialisation of public service providers is important, because it is hardly possible to privatise inefficient public utilities.

Engr. Teony Alva Vives has been a member of the PROAGUA/GTZ team since 2001. He dedicates his time to decentralized investments in Peru. Currently, he is a member of CEPRI Chiclayo and co-author of various documents on the systematisation of private sector participation.

Stefan Ziemendorff, an economist, has been a member of the PROAGUA/GTZ team since 2001. He is chiefly concerned with decentralized investments in Peru, mainly in the solid waste sector. He has systemized the PSP process in the municipal waste management sector.

Appendix 2 Checklist – factors to consider when planning for private sector participation.

This list can be used to indicate whether any important issues have been neglected in the preparations for involving the private sector. (It suggests many of the key issues to consider, based on the experiences contributed for this publication, but it may not include all relevant issues.) This checklist can also be used to guide the reader to the sections in Part I: *A Review of the Experience* that provide more information and explanation relating to each particular issue. The sequence of the list generally follows the order in which the particular issue is first mentioned in the text of Part I.

Some of the issues mentioned in this list are primarily the concern of the public sector client or grantor, and some are important mainly for the private sector service provider. Others, however, are the concern of both parties, so no attempt has been made to divide the table between the two sectors.

Bold type is used to indicate key words. At the end of this table the keywords are listed alphabetically to assist in locating different aspects in this list. This checklist can also be found among the tools on the CD. When an issue has been considered and incorporated, the box can be ticked. ☑

No.	Factor	Relevant sections
1	What are the reasons for **interest** in private sector participation? ☐	2.1
2	In what ways is the local government service considered to have **failed**? ☐	2.1.2, 2.1.4
	What measures can be taken to ensure that new arrangements do not fail for the same reasons? ☐	
3	How might the work be divided up to facilitate **competition** and the involvement of smaller local companies? ☐	2.1.3
4	What estimates are available for the **costs** of the current (public sector) service, including depreciation of capital costs, all related wages and salaries, and administration? ☐	2.1.3
5	In which aspects of solid waste management has it been most difficult to attract or retain sufficiently **qualified staff**? (Possible examples are management of vehicle maintenance, operation of sanitary landfills, operation of composting plants, planning of collection operations, public relations, labour management.) ☐	2.1.5, 2.1.12
6	Are local decision-makers and political leaders willing to accept a service that uses simple vehicles or **second-hand** vehicles? ☐	2.1.5
	What has been done to attempt to persuade them of the benefits of simple and second-hand machinery? ☐	
7	What level of capital **investment** is likely to be required to provide the required extent and standard of service? ☐	2.1.6
	Are private sector service providers of the type and size that are envisaged likely to be able to access loans of a sufficient size? ☐	
	What can be done to improve their chances of getting sufficient finance? ☐	
	What is the expected economic life of each type of equipment proposed? ☐	
	Does the contract allow enough time for loans to be repaid over the economic life of the equipment? ☐	
8	Which parts of the city or project area are not served or receive an **inadequate service**? How many citizens receive an inadequate service? ☐	2.1.7
	What actions have been taken by community groups, NGOs and other to provide waste collection and drain cleaning services to unserved or underserved areas? ☐	
	What factors influenced the degree of success of these initiatives? ☐	
9	In what particular ways should operating **standards** be improved to make significant reductions in environmental pollution? ☐	2.1.8

No.	Factor	Relevant sections
10	To what extent are local decision-makers and opinion leaders **convinced** of the benefits of private sector participation, and to what extent are they responding – without a sense of ownership and responsibility – to external pressure? ☐	2.1.9
11	Is there a statement of **objectives** to be achieved by involving the private sector? ☐	2.1, 3.4.1
	On what was it based? ☐	
	Who was involved in preparing this list of objectives? ☐	
	Is this statement a tool that is used to develop a strategy or is it regarded merely as a formality? ☐	
	Have the objectives been publicised and discussed widely? ☐	
	Do objectives include capacity building for public sector employees and opportunities for local enterprises? ☐	
	Do the objectives include measures to benefit the poor? ☐	
12	What indications are there of **opposition** to public sector involvement in the provision of public services, amongst politicians and municipal officials? ☐	2.2, 2.3.2,
	What are the origins of this opposition? ☐	
	What has been done to reduce this opposition? ☐	
	What could be done in the future to make the private sector more acceptable? ☐	
	What are the expected consequences of this opposition? ☐	
	How can proposed arrangements be structured to minimise the impact of potential opposition? ☐	
13	What are the proposed measures for minimising the opposition of labour **unions**? ☐	2.2
14	What measures are planned to minimise **corruption** and accusations of corruption at each stage of the process of involving the private sector? ☐	2.3.1, 3.10,
	What measures have been used in the local context to increase transparency? ☐	5.5, 6.11, 8.5
	Which documents and what information will be available to the general public? ☐	
	How will the stages of the tendering and implementation processes be publicised? ☐	
15	To what extent can one expect that both partners will regard the **contract** or other signed agreement as the basis for determining rights and obligations? ☐	2.3.4, 5.3.1a,
	To what extent is it anticipated that the courts or arbitration procedures will uphold the conditions of the contract in an effective and timely way? ☐	6.1
16	What steps can be taken to ensure that collected waste is not **dumped** illegally by service providers to save time and money? ☐	2.3.5
17	Should any special measures be taken to protect the rights and **working conditions** of private sector waste management labourers, or should their employment conditions be the same as for other private sector workers? ☐	2.3.6
	To what extent should contracts require that labourers should be entitled to the status of being permanent employees? ☐	
18	What are the minimum requirements for **training** for manual labourers and how should these requirements be monitored? ☐	2.3.6
19	How will requests to undertake unforeseen **additional** work be managed and paid for? ☐	2.3.7, 3.6.1g, 3.7.2
20	What steps will be taken to ensure a sufficient **willingness to pay**? ☐	2.3.8
	What studies and surveys will be needed before the preparation of the tender documents? ☐	
	Who will be responsible for ensuring adequate communication with the public on this issue? ☐	
21	What is the degree of interest in, and **commitment** to, the involvement of the private sector do local government officials show? ☐	3.1

No.	Factor	Relevant sections
	What has been done to explain to them the benefits of involving the private sector and the changes that this will involve? ☐	
22	What can be learned from the **experience** of others? Are there other locations with similar conditions where private sector service provision has been introduced? ☐	3.1
	To what extent are they willing to share information? ☐	
23	What can be done to ensure that a balanced team of **experts** is formed to develop strategy and the tender documents? ☐	3.2
24	Is current **legislation** appropriate for the envisaged private sector participation? ☐	3.3
	What new laws or amendments may be needed? ☐	
	What is a realistic time frame for any necessary changes to the legal framework? ☐	
25	What measures are being considered to encourage a **balanced** relationship between public and private sectors – to reduce the likelihood of monopolistic domination by a powerful enterprise and to protect smaller firms against late payments and exploitation by the client? ☐	3.4.2, 8.6
26	Has the identity of the **client** (or grantor) been defined? ☐	3.4.3
	What can be done to prevent other individuals or agencies from issuing instructions to the service provider? ☐	
27	What options for the **service provider** are best suited to the objectives? ☐	3.4.4
	What is the most appropriate mechanism for engaging the service provider? ☐	
28	How will the existing **informal** arrangements be affected by a new private sector system? ☐	3.4.5, 5.3.1a
	What is the official attitude towards informal sector waste workers? ☐	
	What can be done to minimise the impacts that the informal sector will suffer? ☐	
	How can the pollution caused be informal sector activities be reduced without excluding poor workers from their livelihoods? ☐	
	Have consultations with the informal sector been initiated? ☐	
29	Has the preferred **duration** of the first contract been determined after consideration of all the relevant factors? ☐	3.4.6
30	Which options are being considered for **gradual** or stepwise implementation of private sector participation? ☐	3.4.7
	How can the benefits of gradual implementation be maximised by data collection and sharing of information? ☐	
31	How should the private sector partner be **selected**? ☐	3.4.8, 5.1
	What flexibility is allowed by existing legislation and rules? ☐	
	Is a prequalification stage recommended, and if so what are the essential minimum criteria for prequalification? ☐	
32	Are the proposed arrangements likely to be **attractive** to the size of enterprise that is envisaged or preferred? ☐	3.5, 3.6.1a
	How will the administrative interface between the service providers and the public authority operate? ☐	
33	Is the work to be done **described** in unambiguous terms, clearly defining services, times, frequencies, standards and locations? ☐	3.6
	Have these descriptions of the work been discussed with other clients and with potential service providers? ☐	
	Do they allow objective monitoring? ☐	
34	Has the work been **divided** up to take account of the capabilities of likely bidders whilst maintaining clear responsibilities? ☐	3.6.1
	Are the areas to be covered clearly defined? ☐	
35	Which **activities**, types of waste and generators and aspects are to be covered by	3.6.1

No.	Factor	Relevant sections
	private sector services? ☐	
36	What provision is suggested in the tender documents for **increases** in quantities and costs during the lifetime of the contract? ☐	3.6.1a, 6.4
37	What is the extent of the service provider's responsibility in cases where the generator does not **segregate** his waste according to legal or other obligations? ☐	3.6.1d
38	What **level of service** is to be provided in each case? ☐	3.6.1f, 5.3.1a
	Has the level of service been discussed with the beneficiaries of the service? ☐	
39	What requirements are to be imposed on the **equipment** that is to be used? ☐	3.6.2b, 3.6.3
	Have the requirements regarding **methods** and equipment that are to be included in the tender documents been reviewed carefully to be sure that they are absolutely necessary? ☐	
	Could the service provider be allowed more freedom to innovate, provided that service objectives are attained? ☐	
40	What are the proposals for **ownership** of land and facilities that are to be used by the service provider, both during the lifetime of the contract or concession, and afterwards? ☐	3.6.4
	Have issues of liability, risks and access been taken into account? ☐	
	How will the buy-back value of any assets be determined? ☐	
	Are the requirements for the condition of the assets – if they are to be returned – realistic and sufficient? ☐	
41	How reliable are the **estimates** of the costs of private sector provision of the required services? ☐	3.7.1, 3.7.3, 5.3.1b
	Do they include all the costs that the service provider will be required to pay, including tax, insurance and social costs? ☐	
	Do they include a reasonable margin for profit and reserves? ☐	
	Can they be cross-checked with contract prices for similar situations or in other ways?	
	What allowance has been made for the client's transaction & monitoring costs? ☐	
42	How will the **risks** be shared between the client and the contractor? ☐	3.7.2, 6.3.4
	How can the uncertainties faced by the service provider be kept low so that bid prices are minimised? ☐	
43	How will the service provider be paid? ☐	3.8
	What methods and tariffs will be used for **revenue generation**? ☐	
	How will any shortfall in revenue be made up from other sources so that the contractor can be paid on time and in full? ☐	
	Is it intended that the fees should also be used to influence practices? ☐	
	What evidence is available to indicate a sufficient willingness to pay among the general public? ☐	
	Is the client willing to pay for high standards of treatment and disposal? ☐	
44	Is the proposed method of **revenue collection** suited to the socio-economic conditions and the level of public awareness? ☐	3.8.3
45	What support will the public sector provide in cases (such as **franchises**) in which the service provider is responsible for collecting the revenue? ☐	3.8.4
46	Which contractual partner will be responsible for public **awareness**? ☐	4.2.1, 6.10
	Should contracts specify methods of awareness that should be used, or is there another way to convince the contractor that it is in his own interests to have an effective information campaign? ☐	
47	Which partner is to be responsible for **public relations**, particularly contacts with the media? ☐	4.2.2
	How will contacts with journalists be co-ordinated between public and private sector partners? ☐	

No.	Factor	Relevant sections
48	To what extent has the general public been **consulted** before decisions are made about issues that affect them directly? ☐	4.3
	How have their views been incorporated into these decisions? ☐	
	What plans have been made for periodic sampling of public opinion? ☐	
49	Which party will be responsible for operating the **complaints** system? ☐	4.4
	How will records of complaints be used in the management of the service? ☐	
	What standards will be required for follow-up of complaints? ☐	
	What other links can be developed between the customers and the monitoring system? ☐	
50	If **tender documents** from other places are being used as a guide for preparation of the present tender documents, what information is available about the problems encountered when these documents were used? ☐	5.2
	Has a consensus been achieved regarding all the issues already mentioned in this checklist so that the strategy that has been developed can be clearly incorporated into the tender documents? ☐	
	Is the time allowed for the preparation of the tender documents considered reasonable – if not, what can be done to ease the constraints that are limiting the time that is available? ☐	
51	What **information** will be provided to the bidders in the tender documentation? ☐	5.3.1
	Is the organisation that is preparing the tender confident of the accuracy and validity of the information that is provided – if not what action will it take on this point? ☐	
52	What arrangements will be made of answering the **questions** of bidders regarding the tender documents and the expectations of the client? ☐	5.3.2
53	What requirements will be made for **bonds**? ☐	5.3.3, 6.6
	Are the amounts required appropriate for the related tasks and not so high that they will discourage the participation of enterprises that would be capable of providing a good service? ☐	
54	Is the **deadline** for the submission of bids appropriate, allowing enough time for preparation of proposals? ☐	5.4
	Under what circumstances and how might the deadline be extended? ☐	
55	Does the contract **define** clearly that tasks that are to be carried out and the related timeframe? ☐	6.3.3, 8.2
	Does the contract also define the measures that the client should take if the contractor fails to fulfil his obligations? ☐	
56	Does the contract allocate responsibility for **delays** in implementation, determining not only who is responsible, but also the compensation that is to be paid by either side if the delay is their responsibility? ☐	6.3.4a
57	What measures can be used regarding the **transfer** of public sector staff to the service provider so that the rights of the staff are protected and the efficiency of the contractor is not compromised? ☐	6.5.1
	Has any concerned labour union or staff organisation been involved in the development of these proposals? ☐	
58	Do the arrangements for **sale** or leasing of vehicles and equipment take account of their need for regular maintenance and the deterioration if maintenance is inadequate? ☐	6.5.2
	Who is to be responsible for the disposal of vehicle junk? ☐	
59	In what ways will the service provider be required to safeguard the rights and **welfare** of the labourers employed by him? ☐	6.7
	How can performance in this area be monitored? ☐	
60	What can be done to ensure that the client fulfils his **obligations**? ☐	6.8

No.	Factor	Relevant sections
	Can penalties for failures or delays be written into the contract? ☐	
	Will such contract clauses be upheld by the courts? ☐	
61	What provision is made for resolving **disputes** between the service provider and the client in a quick and effective way? ☐	6.9
62	What arrangements are proposed for **phased** (step-by-step) implementation of the new service, so that the service provider is able to concentrate his attention on one area for a few weeks before moving on to the next? ☐	7.1
63	What provisions are made for an **outgoing** service provider to provide information for firms preparing bids for a subsequent contract and for the winner of the new contract? ☐	7.2
64	What provisions are made in the contract for defining responsibilities regarding access to sites and obtaining planning and environmental **permissions** for the use of these sites for the intended purpose? ☐	7.4
	Does the contract explicitly state that the service provider will <u>not</u> be penalised for late access to such sites when the delay is caused by a duty that is the responsibility of local government? ☐	
65	Are initial, short-term **remedial measures** (such as cleaning up dumps) included in the contract? ☐	7.5
	How are these tasks to be paid? ☐	
66	What are the proposals for **monitoring** the work of the service provider? ☐	8
	How will the inspectors be recruited and trained? ☐	
	What has been done to explain to decision-makers about the importance of effective monitoring and the need for reliable funding of this work? ☐	
67	Does the contract require the service provider to work according to agreed operating **schedules**, so that operations can be monitored? ☐	8.2
68	What can be done to ensure that **penalties** are enforced according to the contract and that they are not used to reduce the payment that is due to the service contractor? ☐	8.7
	Will the client respect contractual requirements to delay imposition of some penalties, to give time for the omission to be rectified? ☐	

The list of keywords can be found on the next page.

List of checklist keywords, showing their location in the list above

Keyword	No.	Keyword	No.	Keyword	No.
activities	35	equipment (requirements)	39	permissions	64
additional (work)	19	estimates	41	phased (implementation)	62
attractive	32	experience	22	public relations	47
awareness	46	experts	23	qualified staff	5
balanced (relationship)	25	failed (public sector)	2	questions (of bidders)	52
bonds	53	franchises	45	remedial measures	65
client (identity)	26	gradual (implementation)	30	revenue collection	44
commitment (to PSP)	21	inadequate service	8	revenue generation	43
competition	3	increases	36	risks	42
complaints	49	informal (sector)	28	sale (of equipment)	58
consulted (beneficiaries)	48	information	51	schedules (operation)	67
contract (conditions)	15	interest	1	second-hand	6
convinced	10	investment	7	segregate (waste)	37
corruption	14	legislation	24	selected (service provider)	31
costs (estimates)	4	level of service	38	service provider (options)	27
deadline	54	methods (requirements)	39	standards	9
define (tasks)	55	monitoring	66	tender documents	50
delays (responsibility)	56	objectives	11	training (manual staff)	18
described (work, clearly)	33	obligations (of client)	60	transfer (of staff)	57
disputes (resolution)	61	opposition	12	unions	13
divided	34	outgoing (supplying data)	63	welfare	59
dumped	16	ownership (of land, plant)	40	willingness to pay	20
duration (1st contract)	29	penalties	68	working conditions	17

Appendix 3 References

Note: Many of the references below include the statement (Available on CD). This CD has been produced as part of the preparation of this publication and is included with this book.

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Appendix 4 Glossary

This list explains how words are used in this publication. Some of the terms are used differently in other publications and in other languages.

Check also METAP glossary http://www.metap-solidwaste.org/index.php?id=61.

A more extensive list of words that are used in the discussion of private sector participation can be found in Part IV of Cointreau-Levine (2000) (Available on the CD).

availability	The proportion of the time that a vehicle is ready and available for service. Availability depends on the maintenance that the vehicle receives, and also on its age, make, type and usage.
bid	In this context it refers to a two-part submission to the public sector agency that is looking for a service provider. The purpose of this document is to persuade the agency that the firm submitting the bid is best suited to providing the service and should be awarded the work. It generally consists of two parts – a technical proposal explaining how the work will be done, and a financial proposal that gives the price for the work. This document is typically 30 to 200 pages long and is accompanied by a bid bond and other supporting documentation.
bid bond	A certified cheque or bank letter guaranteeing payment that is provided by a bidder to the client organisation together with the proposal of the bidder. The payment is forfeit if the bidder wins the contract but then declines to sign the contract and provide the service. The bonds are returned to the unsuccessful bidders when the contract is signed.
carretoneros	Informal sector solid waste collectors in Mexico (Case study R)
client	The party (usually local government in this context) that defines tasks to be undertaken, selects a contractor to undertake these tasks, and pays the contractor for the performance of these tasks. See also “grantor” and Figure 3.1.
commercialisation	This refers to the establishment of a publicly-owned unit or utility that has a high degree of independence in management and finance.
communal	Belonging to a group of households. Communal storage is a container or collection point where residents from more than one household should put their waste. Communal collection is the collection of waste from communal storage.
concession agreement	A concession is awarded by a municipality or other grantor to a private company, via competitive tendering, to design, build and operate (DBO) a facility for the transfer, treatment or disposal of solid wastes. Variations include build, own and operate (BOO) when the finance is provided by a private sector company, and build, own and transfer (BOT) when the ownership transfers at an agreed date to the grantor. Concession agreements are commonly long-term agreements wherein the private firm makes a significant proportion of the capital investment for a new facility. However, a concession also means that a company is given the opportunity to generate revenue from the waste management activity, typically by charging a gate fee for receiving wastes and through sales of products or recyclables. See also Sections 3.4.4 and 3.8.4b.

contractor	An individual or organisation that undertakes to provide a service at the request of the client and is paid for this service by the client. The male pronouns “he”, “him” and “his” are used to refer to a contractor irrespective of whether the contractor is an individual (male or female) or an organisation. This word cannot be taken to mean all private sector service providers because franchisees and concessionaires are not contractors because they are not paid by the public sector.
coverage	The proportion of waste generators that receive a waste collection service.
disposal	Although some writers tend to use this word to cover all aspects of solid waste management, in this report it is used to mean the final stage in the management of waste. Therefore “disposal” refers to dumping and sanitary landfilling, and any method between these two extremes of placing waste in its final resting place. Incineration and composting both require a later disposal stage, and so are referred to as “treatment”.
force majeure	Any circumstance outside the control of one of the parties which prevents or seriously interferes with the execution of the contract. Some examples are war and civil strife, natural disasters, and impossibility of access to the disposal site or other essential facilities. The courts shall rule on whether a particular circumstance constitutes a case of *force majeure*.
franchise	In this context it refers to the method and agreement by which a municipality awards, via a competitive process, a monopoly to a private company to deliver a particular service, in a defined area and for a fixed period. Generally the private company pays a performance bond to the municipality and pays a franchise fee to cover the costs of monitoring service provision.
generator	A person who discards solid waste that must be collected for recycling or disposal by someone else.
grantor	The individual, party or organisation that offers a contract and signs as provider. The grantor may be also be referred to as the “client” or the “employer”. In the case of solid waste management, the grantor is often the municipal organisation that has legal responsibility for ensuring that solid waste collection and disposal services are provided. In the case of contracting, the grantor pays the contractor, but this is not the case under a franchise agreement.
informal sector	The informal sector consists of individuals or groups who produce goods or provide services in return for payment, as their main source of income, but who do not comply with laws applicable to private enterprise. In general they are not registered as private enterprises and therefore do not pay taxes as a business.
inspection	Observing and assessing the arrangements, condition and impacts of a facility or an item of equipment in order to determine whether it meets defined standards – particularly environmental standards
joint venture	An association of a private enterprise with a public organisation, or a national company with a foreign company for the purpose of fulfilling a particular task. The assets and resources that each party contributes and the risks and responsibilities that each assumes are defined in a contract.
litter	Also called street wastes or behavioural wastes. Solid waste that is discarded by passers-by (pedestrians or riding in vehicles) in public places such as streets or parks.

MSP	Municipal service partnership – the preferred term in South Africa for referring to private sector provision of municipal services, replacing terms such as public-private partnerships and public sector participation.
MSWM	Municipal solid waste management
management contract	An arrangement in which a service is provided using the public sector workforce and equipment, managed by private sector personnel who are contracted for this purpose.
monitoring	Observing and assessing a contractor's performance according to defined standards, in order to determine what action should be taken by the client to penalise or reinforce the contractor's performance. The task can be undertaken by a monitoring inspector.
monopsonistic	A monopsonisitic market is one in which there is only one buyer, so that the buyer has control over the price and the items or materials that he wishes to buy.
municipal solid waste	Solid wastes generated by households, shops, markets, offices, schools and other institutions, street sweepings and non-hazardous waste from industries. (Schübeler, 1996)
NIMBY	*Not In My Back Yard*, referring to the widespread opposition to the siting of any waste treatment or disposal facility close to one's home.
ODA	Official development assistance – financial aid as loans or grants from a donor nation to assist the development efforts of the receiving nation.
open competition	See "private subscription"
PPP	public-private partnerships. This term is used by different organisations and individuals in different ways, and so is not used in this publication. For some it means any form of private sector involvement, for others in means joint ventures having a public sector and a private sector partner, and for others (e.g.GTZ) it refers to a particular programme or development tool.
performance bond	A sum of money that is made available for use at the sole discretion of the client, to be used if the contractor fails to provide the service described in the contract. If the contractor ceases to provide the service, the performance bond can be used to pay an alternative service provider. If a defined proportion of the performance bond is used up, the contractor may be required to top it up, to bring it back to the original amount. The unused money should be returned to the contractor at the end of the contract period.
point of collection	The location at which waste is left to be picked up by the collection labourer, or where waste is handed to a collection worker. In societies in which it is acceptable to enter private property, the point of collection may be outside the back door, but more usually it is at the front gate of the property, at the edge of the street in front of the property or in a communal bin in the street not far from the houses served
private sector involvement	See "private sector participation"
private sector participation PSP	This term is used to cover a wide spectrum of legal arrangements in which private enterprises are involved in the provision of services that elsewhere are – or hitherto have been – provided by government agencies. There is

	always some link with, or accountability to a government or public body.
private subscription	In a situation where a number of service providers are competing for the same work, contracts are made directly between individual waste generators and service providers. Government authorities may require that only service providers that have been awarded a licence may participate. This arrangement is used for both collection and disposal, but in the case of the collection of domestic waste (where small quantities are collected from each house) it results in wasteful duplication of travel. Also referred to as “open competition”.
privatisation	Although this word is often used to mean any form of private sector involvement, it is used here in the strict sense of the selling of public assets together with the transfer of associated rights and responsibilities from the public sector to the private sector. In the case of monopolistic services, there is usually some form of regulation of charges and service quality. There are many ways of involving the private sector that are for a limited time and are smaller in scope, and most of the cases described in this publication are less than full-scale privatisation.
productivity	A measure of the output of (or useful work done by) a labourer or machine in a particular time. The productivity of a street sweeper could be expressed as the weight of waste collected by the sweeper in one hour, or the surface area swept in one shift. The productivity of a waste collection vehicle could be expressed as the weight or volume of waste that it collects in one day.
proposal	See “bid”.
public	This word is use in two basic ways. When used on its own - “the public” - it refers to citizens in general – residents, schoolchildren, shopkeepers, businessmen etc. – who are benefiting from a service. The term “general public” is the same. “Public sector” refers to government – local, municipal, regional or national government – funded directly by tax revenue and ultimately responsible for a wide range of services. In conventional contracting the client is the public sector.
public awareness	Public awareness and education campaigns are designed and implemented to increase the understanding of the children and adults in a particular situation regarding the respect of the environment, health impacts of activities or conditions, or actions that they are required to take (for example by the waste management authorities) in co-operating with waste collection activities. Public awareness and education campaigns can take many forms, including the distribution of leaflets, public meetings, radio and TV presentations, advertisements in printed media, school lessons and various forms of drama. Public awareness campaigns should have simple and clear goals, such as to change the habit or attitude of the public on a particular issue, to inform about new procedures, or to encourage compliance with the requirements of a new collection system. Sometimes it is assumed that providing information is enough to change behaviour, but this cannot be expected if the vital aspect of motivation is ignored.
public-private partnership	See PPP
public relations	Public relations activities are intended to develop positive opinions about a company or organisation in the minds of its customers or potential customers. Public relations activities include advertising, proactively providing positive information to the media and receiving and managing complaints in such a way that the complainants develop a more favourable

	opinion about the organisation.
RfP	Request for Proposals – an invitation with instructions to firms (which usually have been prequalified) to submit proposals (both technical and financial) for providing the particular service. The RfP includes the tender documents which describe the work to be done and the procedures that are to be followed to bid for this work. The terms RfB (Request for Bids) and RfT (Request for Tenders) have the same meaning. More information can be found in Chapter 5 of the USAID *Procedural Manual*.
RfQ	Request for Qualifications – an invitation with instructions to firms interested in providing the particular service to submit their qualifications (including experience record) so that they may be prequalified and so entitled to bid. (See the USAID *Procedural Manual*, Chapter 4, on the accompanying CD, for more information.)
service level	The point from which the waste is collected (door-to-door, house-to-house, street container etc.) and the frequency at which the waste is collected.
supervision	Observation by the contractor's staff of the behaviour, activities and performance of individuals employed by the contractor, and giving the instructions necessary to ensure that tasks are undertaken in an efficient and effective way.
transaction costs	The costs incurred by the government side in the preparation for private sector participation and in monitoring the performance of the private sector service provider. The full costs of private sector participation are the sum of the fees and other payments made to the service provider and the transaction costs. The magnitude of the transaction costs depend on the complexity of the task. (See Rothenberger, 2004)
transparency	A method of conducting affairs in which the criteria for making decisions are clearly specified and these criteria are clearly employed in any decision-making process. It follows that there is no secrecy regarding the reasons for the making of any decision. In the context of this publication, the decisions for which transparency is of particular importance are the selection of the private sector companies to provide services. Transparency is also desirable in connection with the management of public funds, so that the reasons for allocation of funds are clear to the public and so that there is no suggestion of corruption.
waste pickers	Men, women or children who collect items or materials from accumulations of mixed waste in order to sell them for recycling. They may operate in urban areas (street pickers) or at disposal sites (dump pickers). In some countries they are called *scavengers*, but in other countries this term is regarded as demeaning or associated with the collection of excreta.

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