Quality assessment of public and private modes of solid waste collection in Accra, Ghana

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Abstract

In the course of 5 yr, the system of solid waste collection (SWC) in Accra has undergone a fundamental turn from public to private provision. The transition was motivated by the apparent inability of the city's Waste Management Department to deal with the mounting problems of waste collection and the prevailing belief that the market would help to overcome these. The indigenous private sector was called upon to improve service performance. Until mid-1999 public and private modes of SWC co-existed, enabling a systematic comparison between them using a 10-point assessment scheme. The analysis shows that privatisation has benefited consumers in terms of wider coverage, higher frequency, and more reliable services, but that there are also a number of drawbacks, notably worsened labour conditions and increased environmental dangers. The greatest flaw, however, is its lack of financial sustainability. This is related to the non-commercial nature of the service, particularly the social and political sensitivity of cost recovery in a poor country. The central government’s 1999 decision to impose a private monopoly in SWC—in order to speed up the process and solve the waste collection problem in the metropolis once and for all—is criticised. This decision will compound financial problems, hamper the development of an indigenous business sector and fail to build on the potentials of a system that seemed very promising. © 2001 Elsevier Science Ltd. All rights reserved.

Keywords: Solid waste management; Public–private partnerships; Privatisation; Ghana

1. Introduction

The first experience with privatised collection of household solid waste in Accra dates back to 1977 when a West German aid worker initiated donkey-cart collection of refuse in the area of Apenkwa-Tesano-Abeka. Although the use of donkey carts was new to the city—donkeys even

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had to be imported from outside—it seemed quite suitable for an area that was poorly accessible for large vehicles. Furthermore, collection by donkey carts compared very favourably to the prevailing container truck technology used by the municipality both in terms of costs and reliability.\textsuperscript{1} This system exhibited several of the advantages normally attributed to private sector involvement in public servicing, namely its ability to work cheaply and efficiently, and to respond quickly to changing circumstances.

The collection by donkeys was discontinued for various reasons, including the closure of the nearby quarry where the donkey carts unloaded—the location of the dumpsite was a major reason for the original success of the experiment—and opposition against this ‘rural’ type of technology. The idea of privatised servicing, however, has gained increasing interest. Similar to what can be observed in many other developing countries, solid waste management in Accra is no longer a local government monopoly but a domain open to various modes of public–private co-operation. The private sector has either stepped in on its own initiative or has been encouraged through local authorities, NGOs or CBOs.

This paper aims to assess the performance of various institutional arrangements in household solid waste collection (SWC) in Accra from the perspective of both consumers and providers. The analysis will be set against the background of policies of decentralisation and privatisation that have been implemented in Ghana since the late 1980s as these have profoundly changed the institutional landscape. The operation of the various modes of SWC will be evaluated using an adapted version of a framework developed by Baud, Grafakos, Hordijk and Post (2001) which takes into account both socio-economic and environmental factors. Data for the analysis was obtained from a random sample of 400 households proportionally divided among eight research localities, each representing a specific type of institutional arrangement for SWC. The consumer questionnaire was administered in the Summer of 1999. In addition, all 12 private service providers were interviewed using semi-structured interview schedules as were numerous officials and policy-makers of the Accra Metropolitan Assembly (AMA) and the sub-metropolitan administrations during a period stretching from July 1999 to the end of 2000. Although the sample is not representative, and much of the data is qualitative, we nevertheless believe that the survey provides a good picture of prevailing SWC practices in the capital (Obirih-Opareh, 2000).

2. SWC in Accra

Accra is a fast growing and sprawling metropolis. Data on the total amount of solid waste generation in the city are very unreliable due to wide variations in population estimates. These range from an official figure of 1.66 million permanent inhabitants (GSS, 2000) to an unofficial (but probably more realistic) figure of around 3 million. Furthermore there is a sizeable group of transients that live in the city on a temporary basis (estimated at 250,000 at least). Prior to the privatisation of SWC in 1995, the city’s Waste Management Department (WMD) collected and disposed approximately 60% of the total volume of waste in a controlled fashion, while the remaining 40% was collected irregularly or not at all (WRI, 2000, p. 278). Although these figures

\textsuperscript{1}At that time municipal waste collection suffered from severe cuts in government funding related to economic depression as well as high fuel prices due to the world wide energy crisis.
are at most crude estimates, it is very obvious that collection performance, at least until recently, has been far from adequate. The urban landscape used to be filled with mountains of uncollected rubbish, especially in the ill-served poorer quarters. These heaps of rubbish are potential sources of disease. Moreover, large quantities of household waste often flow straight into river basins and bodies of water, creating serious public health risks.

SWC in Accra is based on either the House-to-House (HtH) system or the Central Communal Container (CCC) system, both of which can be run by either the public sector or by private operators. HtH systems are only used in rich and some middle-income areas whilst the CCC system is applied in the remaining areas. By mid-1999, 234 containers had been provided by the AMA and put at various locations in Accra. Accredited private contractors emptied 153 of the containers and the WMD handled the remaining 81. Each area is served exclusively by one provider, who is expected to collect and transport the waste to designated dumpsites. In the CCC system, the AMA normally provides the containers and bears all the costs. In the HtH system, residents are obliged to register with the WMD or the accredited contactor and required to pay a user fee that varies between €8,000 (US $2) and €10,000 (US $2.5) per month depending on the size of their bin (1999 situation; for recent changes see below). The AMA adjusts rates without consulting the people. Nevertheless, consumers are not allowed to opt out of the service as this could jeopardise the viability of the entire collection service. Private franchisers operating the HtH system have to pay a fee to the AMA for dumping at the designated sites. The size of the fee per trip depends on the type of vehicle rather than weight. Fig. 1 shows the major characteristics of both types of service. In terms of relative importance, the CCC and HtH systems cover 70% and 30% of the areas actually receiving SWC services, respectively.

3. Policy reforms and SWC

Research on urban SWC in the developing world has largely developed from the concern for public sector reform. Most studies start by lamenting the failures of public servicing—too many workers, too few supervisors, few incentives for better performance and limited finance—and suggest different methods of privatisation to circumvent these problems. In the literature, the private sector is endowed with qualities such as political independence, economic rationality, efficiency, dynamism and innovation, qualities that make it measure up favourably to public sector enterprises. Although it would be extremely naive to take these salutary effects for granted—reality shows there are many qualifications (see for example Batley, 1996; Lee, 1997; Post, 1999)—privatisation has become the political creed of the 1990s and its importance as a policy instrument must be accepted as a matter of fact. However, at the same time there is wide recognition that when responsibilities are passed on to the private sector, safeguards must be built in to ensure appropriate standards, achieve co-ordinated provision, ensure a competitive environment and avoid a monopoly control of essential services by private providers which are

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2 In the wider domain of solid waste management, the concern for sustainable development in the urban context is another major source of inspiration. The wide range of studies on the recovery and re-use of solid waste are part of this. However the bulk of studies on urban SWC predominantly deal with the organisational and financial aspects of privatisation initiatives, and the capacity of government departments and private contractors to perform their new tasks.
not publicly accountable, and to minimise corruption and inequity (Cointreau-Levine, 1994; Rondinelli & Iacono, 1996; Burgess, Carmona, & Kolstee, 1997). Therefore, privatisation of service provision usually implies some kind of public–private arrangement. In such situations, the government retains some control, while saving on costs, and reducing political interference and red tape.

The discussion on the privatisation of public services is closely connected to the debate on decentralisation. Privatisation places new and qualitatively different demands on governments, especially at the local level. In order to meet these new demands, local authorities need to be empowered, and this is what decentralisation of authority seeks to establish. Besides these arguments, privatisation and deregulation are part and parcel of a prevailing neo-liberal doctrine proclaiming a resurgence of the market and a reduction of state control. In fact, policies of privatisation and decentralisation are imposed on many debt-ridden developing countries as part of structural adjustment programmes regardless of their actual political–economic situation. This implies that domestic political support for these reforms cannot always be taken for granted. The lack of political commitment is probably the most important reason why the implementation of privatisation and decentralisation policies is often fraught with difficulties and often progresses more slowly than anticipated (Burgess et al., 1997).

Ghana is among the countries that have officially adopted such decentralisation and privatisation policies. These have profoundly affected the public service environment. In 1988 a system of local government was put into place based on the idea of empowering the people through the District Assemblies. One of its objectives was to bring many departments directly under District Assembly jurisdiction, thereby severing long vertical lines of control and enhancing responsiveness to local needs. As a result, the Waste Management Department (WMD)—created in 1984 as a separate agency to handle the collection and disposal of solid and liquid waste in the metropolis—came under AMA supervision. However, the WMD has neither its own budget, nor budgetary authority. The AMA controls the size and spending of its budget and decides on policies and courses of action. A major drawback of SWC in the metropolis is the chronic financial problems due to inadequate funding and poor cost recovery. Poor experiences with the

<table>
<thead>
<tr>
<th>Variables</th>
<th>House-to-house</th>
<th>Central communal container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard collection frequency</td>
<td>Weekly</td>
<td>Daily</td>
</tr>
<tr>
<td>Dominant waste storage facility</td>
<td>Plastic bins</td>
<td>Metal containers</td>
</tr>
<tr>
<td>Mode of waste transport</td>
<td>Multi-lift truck, open truck, three-wheeled tractor, pushcart, wheelbarrow</td>
<td>Skip-loader</td>
</tr>
<tr>
<td>Mode of lifting waste bins/containers</td>
<td>Multi-lift trucks (mechanically) or manually</td>
<td>Skip-loader</td>
</tr>
<tr>
<td>Main area of operation</td>
<td>Rich and middle income areas</td>
<td>Poor and middle income areas</td>
</tr>
<tr>
<td>Characteristics of the areas</td>
<td>Good road networks and accessibility of houses</td>
<td>Poor road networks and accessibility of houses</td>
</tr>
<tr>
<td>User fees</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Service provider paid by</td>
<td>Service consumer</td>
<td>AMA</td>
</tr>
<tr>
<td>Private contractor pays dumping fee to AMA</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Fig. 1. Main characteristics of the two SWC systems.
pay-as-you-dump (PAYD) policy introduced in the 1980s have made the introduction of user charges for the prevailing CCC system politically controversial.\footnote{The idea was to have citizens pay a small fee each time they dumped their waste in the communal containers or at designated dumpsites. However, the policy proved counterproductive because indiscriminate dumping practices proliferated as residents tried to avoid payment. While the local authority earned some revenue, this was at the expense of severe environmental degradation and increased public health hazards. In 1991, the PAYD practice was abandoned by order of the central government.}

In 1992, the WMD’s responsibilities were further decentralised by transferring day-to-day operations to the six sub-metropolitan assemblies. The ‘sub-metros’ were given some resources—especially personnel, vehicles and equipment—to carry out their new responsibilities. However, the exercise seems to have created more problems than it solved. The limited logistics available to the sub-metros made servicing extremely sensitive to vehicle breakdown as each area used its equipment solely for work within its own jurisdiction, whereas previously the WMD had used its fleet of vehicles and equipment as a pool which could be dispatched to the areas most in need. The WMD frequently had to organise extra runs in the weekend to collect piled-up waste. In fact, the decentralisation exercise within AMA has helped to further complicate an already highly complex and confusing division of SWC tasks and responsibilities.

The absence of sufficient funds for the local authorities to operate SWC services properly reinforced the argument for private sector involvement. The desire to move in this direction was already spelt out in various policy documents, including the influential World Bank sponsored Urban Environmental Sanitation Project (World Bank, 1996). Remarkably enough, privatised services were already an accomplished fact and an accepted practice long before it became official policy. The faith in the private sector was confirmed by a 1995 pilot programme set up by the AMA with a few local contractors to collect SWC in certain areas under franchise. The success of these experiments marked the start of the WMD’s privatisation campaign that was supposed to bring 80% of collection operations under private sector responsibility by 2000.

Recently, a major central government intervention has entirely changed the situation in Accra. In July 1999 City and Country Waste (the CCW), a Canadian–Ghanaian joint venture was granted a monopoly in SWC services in the capital. Under the contract, the AMA procured solid waste disposal equipment at a total cost of US $10.3 million for the CCW on a 5-yr lease. The reason for the government to interfere in local government affairs—and in direct opposition to the idea of decentralised government—was its growing indignation about the failure of the AMA/WMD to adequately deal with the mounting problem of SWC, despite modest improvements made through its privatisation policy.\footnote{The agreement was shrouded in so much secrecy that even members of parliament from the government party for Accra did not know what it entailed when the issue was put before the assembly for approval. Despite questions and a press conference with the opposition parties, both the (NDC-controlled) parliament and the AMA were forced to swallow the government’s decision on the issue.} With the help of a Canadian loan, new equipment was bought—the familiar package deal that can be observed throughout the developing world—to replace the old and inadequate stock of the WMD. The AMA was ordered to relinquish all of its collection trucks, equipment and workshops to the CCW, effectively removing the WMD out of business. Although the CCW is under no obligation to engage the
infant local waste collection industry, it has sub-let several areas to well-performing local contractors.\textsuperscript{5}

**4. Institutional arrangements in SWC**

Household SWC in Accra is organised through various institutional arrangements, that is, enduring mutually beneficial patterns of relationship between two or more actors based on a written or verbal agreement, and having a concrete, physical manifestation. In the case of SWC the relationship manifests itself in things such as rubbish bins, transfer stations, dumpsites, and collection vehicles. Institutional arrangements may be either formal or informal (i.e. supported by the rule of law), and those that are embedded in established social practices. It is important to note that in our perception, consumers are also important actors within the arrangement despite the fact that they are usually not contract partners. They actively participate in the arrangement by offering their waste for collection and sometimes by paying for the service.

The institutional arrangement that has materialised in a particular area depends on numerous factors, including wealth, physical characteristics, strength of community organisation, and prevailing policy of the local authorities. The current institutional environment in Accra is heavily influenced by privatisation policies. An attempt was made to identify all the existing institutional arrangements in SWC in the metropolis. To this end, the situation across the city was observed, leading to the selection of 8 research localities, each representing a particular type of arrangement. Sometimes such an arrangement was very common and could be found at numerous localities, sometimes it concerned a unique arrangement that could only be identified in that particular place (Fig. 2).

After having studied the results of the household survey it appeared that in fact only two independent variables really mattered: the mode of collection (CCC versus HtH) and the type of provider (public versus private). This reduces the number to four distinctive arrangements. The other aspects that were used to distinguish various institutional arrangements were not significant from a consumer perspective. Of course, the type of technology used and the question of who provides the containers can make a difference to the service providers and the workers involved, but the limited number of interviews on the supply side only allowed us to make a few qualitative remarks in that respect. For the sake of the current analysis, we will largely confine our discussion to the four basic types of institutional arrangements. All of these are officially recognised (formal) either because the service is run entirely by the WMD or by its accredited contractors. However, occasionally there are ‘informal’ arrangements in addition to the dominant type, such as in Adabraka where about 90% of the inhabitants pay waste pickers to carry their rubbish to the container sites, and in Achimota and Kaneshie where residents pay a small fee of \textsterling 100 to a person hired by the assemblyman to keep the site tidy. Most of these informal arrangements have ceased since the arrival of the CCW.

\textsuperscript{5}This sudden move interrupted the planning of our research project. The household questionnaires were carried out before the CCW entered the scene, while it was planned to interviewed a little later. The decision to grant the CCW a monopoly in SWC took them entirely by surprise and made them reluctant to co-operate (out of a fear of losing their jobs). By mid-2000—when the situation had calmed down a little and most were still in business (although the anxiety continued)—a new attempt was made and about a dozen interviews with contractors were completed.
5. Quality assessment of basic institutional arrangements

Various attempts have been made in the literature to assess the performance of public versus private modes of SWC. Batley, for example, distinguishes between three dimensions: service effectiveness, productive efficiency, and allocative efficiency (Batley, 1996, p. 743). Baud et al. tries to take the assessment beyond mere socio-economic considerations by linking up with the debate on sustainable development. These authors devised a 9-point indicator system combining ecological criteria with criteria that reflect economic, social and public health concerns (Baud et al., 2001, p. 3). The Accra survey provides data to carry out a similar exercise. However, it would be wrong to suggest that this qualifies as a comprehensive and exhausting sustainability assessment, especially since we did not investigate the impact of collection practices on the quality of the natural environment. The system that will be used is presented in Fig. 3.

5.1. Financial viability

An institutional arrangement may be regarded as financially viable if it can sustain itself. Unfortunately in this case, it is impossible to carry out a cost-benefit analysis that would allow firm conclusions to be drawn. The providers are unwilling to disclose data, and the WMD does not really work like a genuine business unit. While its operational costs are covered from general assembly revenues, investments are usually covered by central government grants or donor funding. Nevertheless, a few observations can be made. First of all, as the CCC system does not currently have user fees, all costs must be borne by the AMA. Therefore, all institutional arrangements using this system are, strictly speaking, not viable and only survive because of the ‘public good’ nature of SWC. Secondly, the AMA pays CCC-contractors on the basis of recorded trips to dumpsites using a form that has to be signed by the sub-metropolitan sanitation officer and the WMD-officer at the dumpsite. In addition, the assemblyman in the area must also certify

<table>
<thead>
<tr>
<th>Locality</th>
<th>Socio-economic status</th>
<th>Reason for selection</th>
</tr>
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<tbody>
<tr>
<td>Achimota</td>
<td>Low/middle income</td>
<td>CCC-system provided and run by AMA-WMD</td>
</tr>
<tr>
<td>Kaneshie</td>
<td>Middle income</td>
<td>CCC-system provided and run by private contractor</td>
</tr>
<tr>
<td>Nima</td>
<td>Low income</td>
<td>CCC-system with containers provided by AMA, but run by private contractor</td>
</tr>
<tr>
<td>La</td>
<td>Low/middle income</td>
<td>CCC-system provided by AMA but run by CBO (La-Mansaamoo Kpee)*</td>
</tr>
<tr>
<td>Airport Residential/ Cantonment</td>
<td>High income</td>
<td>HIH collection by AMA-WMD using high technology (compaction trucks)</td>
</tr>
<tr>
<td>Roman Ridge/Dorwulu</td>
<td>High income</td>
<td>HIH collection by private contractor using low technology (open trucks)</td>
</tr>
<tr>
<td>Abelenkpe</td>
<td>High income</td>
<td>HIH collection by private contractor using high technology</td>
</tr>
<tr>
<td>Adabraka</td>
<td>Middle income</td>
<td>Mixture of HTH and CCC-system; waste pickers collect rubbish from houses and dump it in containers provided by AMA and run by private contractor</td>
</tr>
</tbody>
</table>

* Later on it became clear that there had been a misunderstanding. The CBO was only involved in the collection of liquid waste, whereas SWC was run by AMA-WMD

N.B. the figure presents the institutional arrangements that existed prior to the take-over of SWC responsibility by the CCW.

Fig. 2. Selected areas, their socio-economic status and the reason for inclusion.
that the contractor has satisfactorily performed his service. In the CCC-system this certification is of vital importance since authentication is required by the WMD to pay the contractors. However, if the private provider works up to standard the CCC-system is sufficiently rewarding to keep them in business, and all interviewed providers were keen to continue their CCC-services. The most important financial problem encountered in the privatised CCC-service were late payments by the AMA-WMD (leading to occasional interruptions of service). Thirdly, the financial viability of the arrangements based on HtH collection is considerably better than that of the CCC-system. In 1999, the services generated revenues between $8,000 and $10,000 per month per bin (depending on the size of the approved bins, but not on the technology used). Although the fees are said to cover only the costs of pickup and dumping (e.g. excluding costs for developing and maintaining the dumpsites as well as the transaction costs related to contract management and performance monitoring) they do provide the WMD with working capital. Private operators involved in HtH collection used to work (until mid-1999 when the CCW took over) on a franchise basis and collected user fees themselves. They have been very successful in both high and middle-income areas, managing to recover over 95% of the fees (the only problem being some delays in payment). This corresponds with the results of an earlier study by Schweizer and Annoh (1996, p. 48) who found that default rates were only about 10% for privatised HtH services. The same cannot be said about the performance of publicly provided HtH waste collection. Here, the rate of default can be as high as 30–40% (Schweizer & Annoh, 1996, p. 48). Whilst the private sector employs all means available to collect fees—as payment of wages and salaries depend on it—public sector agencies do not. Part of the explanation for this free-rider problem is that government officials living in government houses do not pay themselves but through their departments, and these agencies are notorious defaulters. Finally, all the private contractors involved in SWC demonstrated a strong preference for staying in business (as opposed to beginning another line of work), underscoring the viability of their activities. Their positive

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Aspect</th>
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<tbody>
<tr>
<td>Socio-economic viability</td>
<td>1. Financial viability of the institutional arrangement</td>
</tr>
<tr>
<td></td>
<td>2. Quality of collection services within the institutional arrangement in terms of frequency and costs</td>
</tr>
<tr>
<td></td>
<td>3. Employment and labour conditions within the institutional arrangement</td>
</tr>
<tr>
<td></td>
<td>4. Legal and social legitimacy of the institutional arrangement</td>
</tr>
<tr>
<td>Environmental impact</td>
<td>5. Prevention of illegal dumping and unhealthy practices within the institutional arrangement</td>
</tr>
<tr>
<td></td>
<td>6. Control of final disposal of collected waste within the institutional arrangement</td>
</tr>
<tr>
<td></td>
<td>7. Contribution of the institutional arrangement to waste reduction, recycling and re-use</td>
</tr>
<tr>
<td>System concerns</td>
<td>8. Relative importance of and changes in the importance of the various institutional arrangements</td>
</tr>
<tr>
<td></td>
<td>9. Financial viability of the entire SWC system</td>
</tr>
<tr>
<td></td>
<td>10. Effectiveness of performance monitoring of the institutional arrangements</td>
</tr>
</tbody>
</table>

Fig. 3. Assessment scheme for institutional arrangements in SWC (obviously, some aspects that would be essential for assessing the contribution of solid waste management practices to sustainability are not included because the institutional arrangements in collection do not have any bearing on them (e.g. cleaner production methods in order to reduce waste volumes, or the method of final disposal)).
disposition, should be put in a proper perspective, however, as it partly depends on the use of very old equipment (saving on costs of depreciation) and on economizing on labour costs (see below). Ensuring profitability of HtH SWC seems to be most difficult in the less-affluent and more densely populated areas where the costs of service provision are relatively high (both rubbish collection and fee collection are more time-consuming). It seemed that more established enterprises were reluctant to provide HtH services in middle-income areas at the official AMA-set rate, leaving this less-attractive niche to companies that are willing and able to operate at a bare minimum.

The situation since mid-July 1999, when the CCW took over SWM in Accra, is entirely different. The company is paid the cedi-equivalent of US 30.28 (at a fixed cedi–dollar exchange rate of €7,000 this makes €211,960) for each tonne it brings to the disposal site either by its own vehicles or those of local contractors. Although this is an all-in rate it contrast sharply with the €10,000 per tonne paid until recently (1999) to the indigenous contractors for lifting and hauling waste containers in the CCC-system.\(^6\) For the time being, the CCW still calls upon private contractors to continue their operations on a contract basis. Several companies operating HtH services complain that the fee they receive is less than what they made themselves under the franchise arrangement. Gee Waste, for example, was forced to lay off some of its workers for that reason. The general fear among the local collection companies is that they will gradually be phased out. All the indigenous SWC firms are distinct in their disapproval of the new system, feeling that they are being degraded to mere sub-contractors at the mercy of the CCW.

5.2. Quality of service

Quality was tested by looking at the actual frequency of collection and the cleanliness of the service. The officially stipulated frequency is once a day for the CCC service, and once a week for HtH collection (which is generally considered to be too low in wet tropical climate conditions; Cointreau-Levine, 1994). Dissatisfaction about the frequency of services was the most important problem identified by the residents (62% mentioned it as their main objection). In the CCC-system the major reason for this is irregularity of services, leading to waste piling up at container sites. There is a significant difference between the performance of CCC under public and private provision. Local contractors generally provide better services, probably because they are being paid according to the number of containers they transport to dumpsites. This incentive is lacking in the WMD operation. Furthermore, the WMD, having overall responsibility for SWC, had to allocate its limited vehicle fleet on the basis of ‘shared suffering’ and, therefore, could not guarantee regular hauling. Since the CCW took over, however, the situation has improved considerably in areas such as Nima, with a high population density and a limited number of containers and container sites; this area now receives regular twice per day waste collection. For HtH services the appreciation of frequency is highest in the Cantonments and Airport Residential Area run by the WMD. These areas receive a twice a week service, which is probably related to the fact that they are the wealthiest areas in Accra, and house prominent government officials, top foreign dignitaries, and high-level businessmen. Residents are able to ensure prompt and regular servicing, by practices such as tipping collection workers.

\(^6\) Following persistent criticism by the public and pressures from private contractors AMA reduced the amounts from US $30.28 to US $20.14 per tonne, while CCW agreed to pay the private contractors US $5.20 per tonne.
Appreciation of the cleanliness of services (degree of littering) is considerably lower in the CCC-system compared to the HtH system. In theory, the latter ensures an effective removal of waste from the premises, whereas the CCC service—especially when services are unreliable and/or container sites are far from houses—incites people to dump indiscriminately. Contrary to expectations, the satisfaction about cleanliness was slightly (yet significantly) higher in publicly than in privately run services. This seems to be related to the type of equipment that is being used. The WMD is comparatively better equipped than its local private counterparts because they receive financial and logistical support from the government and foreign donors, whereas the latter often utilize old dilapidated vehicles (usually open trucks) and equipment.

5.3. Employment and labour conditions

The retrenchment of public sector workers in the 1986–1992 period seriously affected the performance of the WMD. Considering the virtual ban on recruitment in the public sector, privatisation was the only available avenue to increase the labour input in SWC. Privatisation has indeed created additional employment opportunities in the sector (several hundred extra jobs throughout the city), especially while most privately run schemes have adopted labour-intensive technologies. The workers have been recruited from among former government employees and the city’s unemployed. Apparently, there is a large representation of migrant workers coming from the northern part of the country.

Working conditions for all those working in SWC are rather unattractive. They have to work under unhygienic conditions and at low wages. Although protective clothing (e.g. gloves, boots) is supposed to be provided, in actual fact workers seldom wear them. When comparing employers, it appeared that remuneration levels for various categories of workers are pretty much the same between the indigenous private sector, the WMD (until 1999) and the CCW (since 1999) and correspond to wage levels set by the government. However, fringe benefits for government workers and the CCW (that absorbed most of the WMD executive personnel), including allowances for housing, transportation, risk and hazards, and full medical care for the worker and his/her family, are substantially better than in the local private sector—namely about 20–30%. In addition, employees in the local private sector are usually not reimbursed for hospital and medical expenses, do not have clear employment contracts, and are frequently troubled by irregularity of payment. Because these workers are not organised, their bargaining power is very weak. This helps explain why labour turnover in the indigenous private sector is so high.

5.4. Legitimacy

Issues of public interest and acceptability are clearly at stake in SWC. Therefore, the question as to whether an institutional arrangement is legitimate in the eyes of the law as well as the general public is justified. Law supports all four basic arrangements. Even though the inclusion of waste pickers in SWC in Adabraka is not officially recognised, the authorities condone it. However, social legitimacy—public acceptance—of the arrangements differs. There is a general dislike of the current CCC-system largely because of the low density of container sites and irregular collection. At the same time, residents in low and low-to-middle income areas acknowledge almost unanimously (94%) that they cannot afford current rates of servicing for HtH. In other words,
upgrading to HtH would meet with considerable public resistance in these areas. For an improved CCC-system, however, most residents seem to be willing to pay €100 per day (in 1999 prices) without jeopardising their acceptance and participation.

An overwhelming majority of consumers in all localities prefer private service providers to the WMD. The dissatisfaction with past government performance has translated itself into a strong pro-privatisation attitude. This is somewhat remarkable considering the fact that most respondents simultaneously believe that privatisation will lead to price increases. Apparently there is a strong public desire for better services, and a belief in the private sector’s potential to deliver these. Nevertheless, residents feel the AMA should remain in charge of setting and regulating user fees in order to avoid overpricing by profit seeking entrepreneurs.

5.5. Environmental practices at the neighbourhood level

The CCC-system is most likely to generate environmentally unsound practices within the areas concerned. The lack of collection points and containers, and the corresponding distance people have to travel to dispose of their waste encourages illegal dumping. This practice is a source of environmental degradation and a public health hazard, especially for children (dumpsites frequently serve as playgrounds). Children, who may not be bothered very much by environmental concerns, often carry waste to dumpsites. Another problem the system faces relates to uncertainty about the responsibilities for cleaning collection points. Both WMD truck drivers and those working for private contractors just lift containers, without cleaning litter and spillage. Absence of site supervision is also a key reason why solid and liquid waste often gets mixed up in and around containers, threatening the health of visitors and collection workers alike. Occasionally, assemblymen (e.g. Kaneshie, Akweteman/Achimota) have taken the initiative to hire attendants for site supervision and sanitation and require residents to pay a fee of €100 per dump to pay for this service. Since 2000, the CCW has put its own attendants at every CCC collection point to maintain and clean the area without collecting any dumping fee from users. The idea is that residents will be charged for the CCC-service and, eventually, that the AMA will collect rates from the households. So far, however, this cost recovery instrument for the CCC-system has not been put into practice.

Low frequency and irregularity of SWC also has a detrimental impact on public health and environmental quality. In areas using the CCC-system primary storage usually uses polythene bags, carton boxes, buckets etc. This type of provisional storage results in more litter and less hygiene than when approved plastic bins are used. However, poor people will not readily spend money on storage containers. In the HtH system, people usually do have appropriate containers. However, if the frequency of collection is only once a week, waste will decompose and begin to stink. Accumulation of decaying waste is a breeding ground for insects and vermin that may spread diseases. As collection workers scarcely use protective clothing and gloves, their bodies are highly exposed to health risks. Poor public health inspection and lack of sanctions are additional reasons for these negative environmental impacts.

5.6. Environmentally sound transportation and disposal

Although Ghana has placed a ban on the importation of vehicles older than 7 yr, there is no restriction on using old vehicles inside the country. Most local contractors engaged in SWC can
only survive on the low rates set by the AMA by using over-aged, second-hand vehicles which usually are a serious source of air pollution. Furthermore, contractors predominantly use open trucks even though they are expected to cover the waste with nets in order to prevent littering during transportation.

All collection vehicles are required to dispose of their loads at official landfill sites. There is no reason for WMD workers to evade this requirement. As mentioned before, contractors involved in CCC-handling have a good reason to abide by the rules, because their payment depends on the number of full containers they register at the dump. However, some contractors and/or drivers active in HtH collection avoid going to the dump and paying dumping fees to the AMA. Residents at Teshie-Nungua Estates and particularly those in Grader Estate, for example, have on numerous occasions complained about a private contractor unloading its vehicles at unauthorised places. In such instances private gain produces a public loss. However, it also points to the weakness of public monitoring and sanctioning by the WMD, which should have prevented such practices from occurring in the first place.

5.7. Waste minimisation, recycling and re-use

The system of household SWC in Accra does not encourage people to sort their rubbish in order to reduce waste flows going to the dump. All arrangements are based on the collection of mixed wastes. In the poorer communities of Accra it is common practice to use organic waste (food leftovers) to feed domestic livestock, and some people even sell organic waste to livestock owners. However, contrary to many other poor cities across the world, there is no substantial sector of waste pickers in Accra who collect and sort household waste on behalf of merchants, recycling firms or composting units. Separation at the source, therefore, is largely confined to items that people can either use themselves or give to their neighbours (and, in fact, cannot be regarded as ‘waste’).

5.8. Scope of operation

Prior to the privatisation of SWC, the WMD was virtually the sole service provider—except for a number of semi-public institutions having their own provisions (Police, Army, University of Ghana, Legon) and some informal private waste collection. It is said to have collected 60% of the city’s waste on a regular basis. Since the private sector got involved, the share of the WMD witnessed a tremendous decline. According to ‘unofficial’ (not publicised) data provided by the AMA Head Office its share in the collection of waste was only 34% in 1998 and dropped to an average of 18% in 1999 (by the end of 1999 the CCW had taken over completely). Nevertheless, appreciable improvement in SWC has been observed since the private sector stepped in both in terms of coverage and volumes of waste collected. Some private companies such as Gee Waste brought in their own containers to add to those provided by the WMD. Furthermore, a number of residential areas that were previously not or under-served have been put under private provision (e.g. areas along the Spintex-Tema road), while servicing in some middle-income areas has been upgraded from CCC to HtH collection. The overall annual collection performance went up from 639,000 m³ in 1998 to 753,000 m³ in 1999, of which by the end of
1998 about 70% was collected by private service providers. Fig. 4 displays the geographical distribution of the major modes of collection in 1998.

At face value, the overall waste collection performance seems to have improved since the CCW entered the scene—as one may expect considering the huge rise in costs. However, as the CCW is only obliged to operate on roads accessible to the company’s vehicles under normal conditions, many outlying and poorly accessible areas remain unserviced.

5.9. System viability

The viability of the totality of institutional arrangements in SWC in Accra depends on the sustainability of their financing. The AMA has seen its spending on waste management (which is

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7In early 1999, private performance (of the indigenous companies) witnessed a decline which was due to late payments by the AMA and low rates to service providers. However, monthly waste collection figures by the end of 1999 (under the CCW responsibility) peaked at twice the volume collected by the private sector during the last months of the previous year (before the short-lived reduction set in).
more than collection) increase from €1.27 billion in 1995 to €2.24 billion in 1998, while income (largely from publicly provided HtH services) rose from €494 to €949 million in the same period. The net deficit went up by 40% and constitutes over 10% of the revenue collected by the AMA itself in 1998 (e.g. disregarding contributions from the District Assembly Common Fund and Ceeded Revenue). The difficulties arising from this mounting deficit are apparent in the inability of the AMA to pay local contractors; the AMA owed €800 million by July 1999 for unpaid services in the CCC-system for eight months. Despite the progress made in service performance through privatisation the constrained financial situation of the local government did not enable it to push it much further, at least without serious efforts to increase cost recovery.

With the arrival of the CCW, the costs of SWM have skyrocketed and moved even further beyond local government affordability. Whereas the AMA collected €13 billion from its own sources in 1999 the contract with the CCW is for €22.5 billion per year (1999 prices; the contract stipulates that the CCW receives the cedis equivalent of the cost of the service, e.g. corrected for inflation)! The idea is that a substantial part of the cost will be recovered through user charges. However, as the franchise system was abandoned and local firms (with some exceptions) were obliged to continue as sub-contractors, they also ceased to collect user fees. Therefore, an important source of revenue ran dry, at least in the short term. Partly in recognition of the AMA’s inability to pay the CCW, and also to support the sanitation requirements of other cities, the Cabinet decided to provide national budgetary support through its National Environmental Sanitation Policy (Ahwoi, 1999). Nevertheless, great pressure will be brought to bear on local authorities to deliver their share of the burden, possibly at the expense of other public services.

Meanwhile, the AMA has taken initiative to increase cost recovery. It has divided Accra into four classes of residential areas based on their development. In April 2000 the following rates were approved: €40,000 per month in first-class areas, €25,000 in second-class areas, €10,800 in third-class areas and a daily rate (yet to be fixed by the AMA) for the fourth class areas. Considering the weakness of the AMA’s own revenue collection capabilities, three private firms have been selected to collect user fees. This is expected to generate enough money to fulfil the CCW contract. However, it remains to be seen whether this will really work as planned. For political reasons, the billing for 2000 SWC services was postponed to until after the presidential and parliamentary elections (December 2000). Residents in wealthy areas have already expressed their dislike for differential rates, which they consider as forced subsidisation. It is very likely that they will seek to frustrate its implementation. Furthermore, accurate data on the number of houses are lacking, which will seriously hamper the billing process. It will take many years before this problem is overcome. Finally, it is far from certain if the authorities will succeed in getting residents in poor communities to pay for the CCC-services, despite expected gains in performance (cf. bad experiences with the PAYD system).

The sustainability of the system is also under fire from an entirely different angle. Although solid waste management is a local government responsibility, the current system in Accra has been imposed by the central government, in direct violation of the principles and provisions of 1993 Local Government Act 462. The increased dependence on central funding will probably lead to a tightening of central control and a hollowing-out of local autonomy. By overruling the AMA and its WMD, the willingness on the part of the administration to provide loyal support to the CCW’s activities cannot be taken for granted. Furthermore, by giving the CCW monopoly rights, a basic principle of privatisation—i.e. free competition, is violated. As the company will take over all
responsibilities across the city—whereas the National Environmental Sanitation Policy specifies that local government authorities should at least provide 20% of waste collection services in their areas—there is no opportunity left to monitor the reliability of the costs of service. This gives the company virtually a free hand. Finally, as the CCW is under no obligation to use the services of indigenous contractors, this initiative might end up in killing a young and dynamic sector capable of providing satisfactory services at comparatively low costs.

5.10. Monitoring

The official actors in SWC are the WMD (sanitation officers) and the Environmental Health Department (health inspectors), who are expected to regulate and monitor the quality of service delivery and sanitary conditions, respectively, and sanction possible offenders. In addition, consumers themselves (by filling complaints) and their representatives (notably the assemblymen, but in the future probably also the new unit committees) have a watchdog function. In actual fact, official monitoring is exceptionally weak due to bad logistics, under-staffing, low remuneration and corruption. The problems are most pronounced in the CCC-system. Although offences by residents in CCC-areas are rampant, prosecution is more the exception than the rule. The situation is comparatively better in the areas serviced through the HtH system. When people have to pay for the service, they will demand value for money.

When responsibilities for service provision are passed on to the private sector, it becomes even more imperative for local authorities to ensure that performance standards are upheld. Evidence shows that the local service providers continuously flout contract specifications and/or sanitary byelaws. However, despite an extensive list of complaints—waste collectors not wearing protective clothing, using the same containers to collect solid waste and night soil, failure to cover open containers with nets during transportation, poor record-keeping of complaints etc.—they are hardly ever sanctioned by the authorities. Although our material does not allow differentiation in terms of complaints and the handling thereof between public and private HtH systems, the franchise system, in theory at least, does offer a clear advantage. By establishing a relationship of direct dependence between contractor (offering a service and collecting a fee) and consumer (receiving a service and paying a fee) adequate and reliable servicing is fostered. However, these advantages largely pertain to the quality of the service in the narrow sense of the word, for consumers are largely indifferent to the labour conditions inside the firm or its environmental practices.

It is entirely unclear whether the performance of the CCW will be adequately monitored. The WMD staff was completely bypassed in the decision-making process leading up to the take-over by the CCW and has since meanwhile been virtually dismantled. The sub-metros lack the capacity to monitor. Careful supervision, however, is advisable in order to avoid deterioration of service standards by a monopolistic provider eager to maximise profits.

6. Conclusion

Policies of decentralisation and privatisation have completely altered the setting of SWC in the Ghanaian capital. Over the past decade, a multitude of new institutional arrangements in SWC have emerged. Although this paper has paid ample attention to the public–private distinction, it
must be admitted that the most decisive factor in determining differences in performance is the mode of collection: CCC versus HtH. In the eyes of the residents, the CCC-system suffers from a number of weaknesses, notably the low frequency/irregularity of container pickup, and the lack of cleanliness. Furthermore, the number of container sites and containers is severely limited and this incites people to opt out of the service. Much improvement could be made by simply addressing these points, and also by increasing the scope of HtH servicing, which seems a viable alternative in many middle-income districts.

The HtH service is troubled most by the low frequency of collection (albeit less pronounced in high-income suburbs) and the costs of service in relation to officially accepted rates (especially in middle-income areas). However, the quality of the service is much better than the CCC-system. The indigenous private contractors showed a keen interest in the franchising arrangement that enables them to keep control of their own revenues. Sadly, this option has evaporated with the arrival of the CCW.

The privatisation of SWC in the pre-CCW period brought with it several advantages. It has helped to broaden the scope of operation throughout the city, enhance regularity of container pickup in areas working with the CCC-system, and has encouraged the regular payment of service fees by residents in the HtH-system. Furthermore, there is tremendous public support for privatised SWC. At the same time, however, the evaluation shows that private operators often use old (polluting) vehicles and equipment—especially in middle-income areas—and continuously try to circumvent sanitary regulations. They also seem to stretch the exploitation of their workers to the limit. Therefore, the environment and the labourers are paying for part of the benefit.

The financial viability of SWC at the city level partly depends on cost recovery. In Accra there is an undeniable potential in this respect as is apparent in the payment of user fees in the areas with HtH collection, but also in the willingness of people in poorer areas to contribute to container site management and cleaning. However, policy-makers should always recognise that market conditions for this service are imperfect and that many poor people simply cannot pay according to their consumption. Besides, all the overhead costs, as well as the development of container sites and sanitary landfills must be borne by the local authorities and, therefore, their continued financial involvement must be accepted (Post, 1999).

The strain of SWC costs on the overall local government budget is already extreme. This was probably the major reason why a further expansion of the scope of operations and quality of services was not feasible in the 1990s, despite the positive contribution of privatisation (at least without some sort of cost recovery in the CCC-system). To a certain extent one can say that the indigenous private contractors are now threatened with being phased-out, not so much because of poor performance, but because the AMA/WMD was unable to generate the necessary means to make privatisation work. In turn, this signals a weakness of decentralisation: local government departments and sub-metropolitan service units were neither equipped nor able to do their work properly. Furthermore, a decade of organisational turmoil has certainly not contributed to the development of a professional government agency which can efficiently and effectively handle new contract management and performance monitoring tasks.

Meanwhile the CCW has taken over the entire sector at costs that were unimaginable a few years ago and will leave the AMA at the continuous mercy of the central government (contrary to the idea of devolution). Moreover, granting a monopoly to the CCW jeopardises efforts on the
part of the World Bank and other donor agencies to build a vibrant local business class in SWC. Undoubtedly, the CCW will succeed in substantially improving service performance. Whether the system will prove sustainable in the long run is debatable. A similar large-scale central government intervention together with a foreign firm (Chagnon Group International, the parent company of CCW in Accra) in Abidjan (Ivory Coast) collapsed after some years for financial reasons, and left the city in shock. What would happen, for example, if the CCW folds, and local capacity to take over is not available? Furthermore, can one really argue whether the same improvement could not have been realised at considerably lower costs by supporting the indigenous contractors? If they were paid slightly higher rates, and helped to get their businesses on track (hiring out WMD vehicles and equipment; providing loans to buy new equipment) they would have been able to perform better, expand their services and obey sanitary and labour regulations. Within the prevailing neo-liberal climate, however, the idea of protecting nascent home industries was simply not considered.

The strength of the SWC-system that arose in the course of the 1990s was its diversity, the ability to develop arrangements that fit the peculiarities of the area and its inhabitants. This process was still evolving, but now seems to be nipped in the bud by an overzealous central government preoccupied with concerns of public health and city beautification at the cost of more appropriate, cheaper, locally grounded, and publicly supported solutions. By building upon the strength of what was already there and improving its imperfections, the quality—and, in the end, sustainability—of SWC in Accra would probably have been served better.

Finally, attention needs to be paid to an aspect that has been painfully neglected in the past, namely community participation. In this case, policies have been designed in a traditional top-down manner without the consultation of residents. In order to enhance participation in SWC services and improve cost recovery, it is of vital importance to give people a say in the design of the arrangements in their areas—for example on the question as to whether upgrading to a HtH service is desirable—as well as in determining fees (accepting the need of continued government support to finance the SWC system).

References


