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Solid waste collection in Accra: The impact of decentralisation and privatisation on the practice and performance of service delivery

Obirih-Opareh, N.

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1 Introduction

Since the 1990s, attention for solid waste management has been increasing in international circles, academic literature and policy practice. In Ghana, there has been an upsurge in concern for the urban environment in recent years, in particular with regard to the management of municipal waste. This arises from the inability of local authorities to cope with the escalating volume of waste production, particularly in the country's urban areas. The Accra metropolitan area, like many areas in Ghana, is saddled with enormous waste management problems. Heaps of uncollected refuse and indiscriminate dumping of household waste into open spaces, drains and water bodies are a common sight at many locations in the metropolis. These are frequently in close proximity to houses, schools and, above all, market places. The AMA estimated that, on the average, each resident in Accra produces about 0.51 kg of solid waste each day (AMA, 1993; Ghana Vision, 2020, 1996). With a population of over 1.65 million people (GSS, 2000) and an unofficial figure of about 3 million inhabitants³, – plus a floating population of about half a million – Accra produces between 840 and 1530 tonnes of solid waste daily.⁴ To manage such large volumes of waste requires effective collaboration and coordination of all stakeholders.

In Europe and other high-income countries, waste bins or underground waste containers are provided at vantage points such as bus stops, train and metro stations, as well as along the streets. These bins, which are emptied periodically by the waste service providers, help to reduce littering to the barest minimum. The absence of such facilities in most parts of Accra contributes immensely to littering the environment. Besides, the few bins available are not emptied regularly, thereby creating a filthy and stench-filled environment. Weak institutional structures, inadequate funding and poor sanitary habits are the key factors identified as responsible for the acute waste management problems in the metropolis. Poor urban planning and the

³ In 1999, during the City and Country Waste Limited's (CCW) inauguration into solid waste management and the centenary celebration of AMA (1898-1998) by the then Minister of Local Government and the Accra Metropolitan Chief Executive respectively, the population of Accra was put at 3.0 million, excluding a floating pollution of between a quarter and half a million a day.

⁴ The World Resources Institute (WRI, 2000: 278) puts the per capita waste generation in Accra at 0.41 kg. The wide discrepancy and disparity between the official and unofficial population figures and waste generation seriously affect comprehensive planning (including logistics) for waste management.

non-enforcement of physical planning regulation⁵ compound these, thereby making refuse collection difficult and expensive. Akuffo (2001) argued that more than half of all waste management problems in Accra could be solved through planning controls. The fact that a new residential and/or industrial development could generate waste and create filth should be one of the important considerations for the granting of planning permission. In Ghana, despite the fact that planning permission procedures are in place, they are not rigorously enforced. As a result, development proceeds rather haphazardly, unsanitary conditions predominate and their solution is a protracted process.

Expressing concern about the lack of discipline, lawlessness and ignorance that appear to be creeping into the Ghanaian society, President Kuffour⁶ (2001) said these developments have made the society lose the capacity to do things that underpin social advancement and civilisation. He said it would be simplistic of Ghanaians to live with the impression that the lack of money is responsible for the serious environmental degradation in the country. "...We do not need money to keep our surroundings clean or to stop putting plastic bags and other debris into our environment, which then clog the gutters and make it impossible for water to drain. Showing some level of responsibility could minimise the environmental degradation and its attendant public health problems, and catastrophes such negative practices bring" (Kuffour, 2001). But what accounts for a radically differential performance of various cities and urban settings? Is it indeed a question of funding? Does the answer lie with institutions (see North, 1996)⁷ *i.e.* with the weakness of institutions governing people's behaviour, or in the lack of collaboration between the government and citizens (social capital⁸ (Collier, 1998; Feldman and Assaf, 1999; Grootaert, 1998; Knach, 1999; Pargal *et al.*, 1999)) or cultural norms and values? Or is it a combination of these? This study set itself the task, at least partially, of answering this question.

⁵ Physical planning operates under a series of regulations, which are broadly referred to as Town and Country Planning Regulations.

⁶ John Agyekum Kuffour succeeded Rawlings as the constitutionally elected president of Ghana on 7 January 2001.

⁷ Douglass C. North (1996: 7) wrote: "The answer hinges on differences between institutions and organisations and the interaction between them that shapes the direction of institutional change. Institutions, together with the standard constraints of economic theory, determine the opportunities in a society."

⁸ See www.worldbank.org/poverty/scapital/wkrpp: working papers on social capital.

1.1 The problem of solid waste collection in the context of decentralisation and privatisation

This study illustrates a micro impact of macro policies. At present, decentralisation and privatisation are considered to be major agents of institutional change, which influence the patterns of development. Hence, these policies have become topics of growing interest in both the developed and developing countries. Two main reasons account for this. The first deals with the need for the strengthening and capacity building of local government, which had been the weaker link in governmental relationship. The second refers to public sector failure to deliver services or run enterprises efficiently and effectively due to its fiscal indiscipline and the financial squeeze. It also stems from the belief that the private sector is the engine of growth.

The new intellectual paradigms in development call for a slim public sector and a push for more market-led policies (Martins, 1993; Rondinelli, 1987, 1993, 1997, 1999, 2000; World Bank, 2000). Privatisation of the provision of public services, which is a world-wide drive towards the rolling back of the frontiers of the state, has also become part of Ghana's comprehensive public sector reforms. Ghana's decentralisation policy defines the district assemblies as operational units where key strategies for development can be harnessed (PNDCL 207, MLG and RD, 1994, 1996, 2000). The whole concept of decentralisation at the local level is said to bring democracy and decision-making authority to the doorsteps of the people. Privatisation is seen as a means of mobilising non-public sector resources in partnership with other development agents to provide services. However, there is a growing concern that policies of decentralisation and privatisation have also resulted in a number of negative effects, such as a fragmentation of services, a weakening of local authority as regards the management of public services delivery, the shirking of public responsibility, inequity in the allocation of resources, political manipulation favouring the interests of particular power holders, a lack of transparency in the divestiture of state-owned enterprises and the awarding of contracts, and a weakening of local private service providers. This study was also prompted by overriding concerns of the preliminary impressions of the impact that these reform policies have on service delivery and how they contribute to urban sustainable development.

The study evaluates the new governance situation resulting from decentralisation and privatisation reforms on the practice and performance of service delivery in solid waste collection in the Accra metropolitan area. The study comprises two parts. The first part examines the roots, attributes and outcomes of local government reforms in Ghana – and Accra in particular – with an emphasis on the latest (1988) decentralisation reform and the district assembly concept. This part aims to reveal the historical roots of the decentralisation reform implemented since 1988,

to distinguish the levels of political and functional decentralisation that were achieved in practice, and to identify the differential impacts of reform on local finance which influence local authorities' capabilities to provide services and development. It provides a background to the core of this study. The second part deals with the impact of the reforms on solid waste collection in Accra. It examines changes in the structure and organisation of solid waste management in the Accra metropolitan area since the 1970s, with emphasis on the implications of the 1992 decentralisation of activities of the Waste Management Department (WMD) for the sub-metropolitan assemblies and 1997 privatisation of solid waste collection on urban management strategies. It also identifies the political, ideological and economic roots of the reforms, and the attempts to distinguish the effects on metropolitan solid waste management.

The time scale adopted for this study is twenty years, *i.e.* the period since the early 1980s. However, references are made to a longer historical perspective, without which it is difficult to understand the main roots and forces that have shaped the landscape of Ghana's institutional arrangements for local governance and urban sustainable development, particularly solid waste management in the Accra metropolis.

1.2 Problem statement, objectives and research questions

Despite political reforms, the sanitation situation in most part of Accra remains far from solved. The aim of the study is to investigate the functioning of institutional arrangements in solid waste collection. Sub-objectives are:

1. To improve our understanding of the vicissitudes of decentralisation and privatisation reforms in an African urban setting⁹ and their bearing on the nature and performance of solid waste collection.
2. To improve our understanding of the various public and private institutional arrangements, which arise in response to new forms of governance.
3. To provide recommendations to improve overall performance of institutional schemes for solid waste collection, using the capacities of various actors in a more efficient way.

In order to realise these objectives, we addressed five research questions:

1. What is the magnitude and what are the major causes of solid waste collection problems in the Accra metropolitan area?

⁹ Though Accra is used as the case study, references are made to other African cities such as Tema, Kumasi, Tamale, which are all in Ghana, Abidjan (Ivory Coast), Cotonou (Benin) and Nairobi (Kenya), to compare and contrast urban settings in these areas.

2. What is the scope and what are the characteristics of the various public and private institutional arrangements for solid waste collection?
3. How do stakeholders perceive or respond to the arrangements in solid waste collection in terms of accompanying and conflicting interests at the various levels of organisation?
4. What is the impact of decentralisation and privatisation policies in Ghana on the nature and performance of various institutional arrangements for solid waste collection in the Accra metropolitan area?
5. How do the various institutional arrangements in solid waste collection contribute to urban sustainable development?

1.3 Relevance of the study

In Ghana, most studies and policies concerning urban environmental management (Benneh *et al.*, 1993; Konadu-Agyemang, 1999; MacGranaham *et al.*, 2001) have been somewhat one-sided, siding with the views of only one of the actors involved rather than all major stakeholders. They have also fallen short by not indicating how recent policy reforms have affected the solid waste collection landscape. Diane Dawson (1995: 10) argued that, in order to understand why individuals and firms make particular choices and how they could be persuaded to act differently, we have to study them not in isolation but in conjunction. Such a study is necessary to indicate the critical roles of stakeholders at various levels and the institutional responses to the failure of the authorities in solid waste management, as well as the inability of the private sector to fill the vacuum created by the receding public sector. Though cities have a great many needs in the area of basic infrastructure and services, solid waste collection is a pressing problem with solutions being increasingly demanded by urban residents (Altaf and Deshazo, 1996). Waste management is one major area in urban management which has a major impact on urban livelihood and people's health and yet has not been given the attention it deserves in many Ghanaian cities. The consequences have been disastrous. The rise of malaria – responsible for the annual loss of about US \$1.7 billion or 1% of Gross Domestic Product (GDP) in Africa – is a striking example.

Various health statistics in Ghana on the effects of malaria on the country's resources attest to disturbing developments. Amofah, Knott and Amexo (2001) noted that malaria is Ghana's major health problem, the country's number one source of death, currently killing about 25% of children aged under five, accounting for over 40% of all outpatients in health centres across the country and contributing more to the health care burden at home, in the business community and on the health services than any other disease. An important source of this problem is poor waste management practices and unsanitary habits. Indiscriminate dumping of waste into

gutters and streams blocks the drains and provides fertile conditions in which mosquitoes can easily breed. The primary concern of any local government should be the health of the citizens. Besides, the potential of Accra as a huge foreign investment and tourist centre has not been realised because of poor appreciation of forces that influence development. Not only does poor sanitation affect the health and socio-economic status of the people, it is also a disincentive to potential investors.

The significance of this study for theory and practice can be summarised as follows:

- In Accra, as in many other African cities, studies on solid waste collection from different angles/perceptions of all the stakeholders involved are still missing. Until now, studies have been undertaken too much from a purely public management or top-down perception.
- The study tries to analyse the problem of solid waste collection from the perspective of overall changes in the governance of Accra, notably the combined impact of recent decentralisation and privatisation policies.
- The study assesses the performance of various modes of solid waste collection from a (limited) sustainable development perspective rather than from the conventional perspective of service efficiency and effectiveness that is so customary in the privatisation literature.
- The study analyses the implication of poor solid waste collection for the quality of life in the different areas studied.

The study hopes to contribute to the existing theories on decentralisation and privatisation within the broader development debate (neo-liberalism); on urban management, environment, public private partnerships and their linkage to decentralisation and privatisation; and on solid waste management. It will show that the failure of decentralisation in the delivery of public service in solid waste collection has prompted privatisation. Hopefully, the recommendations in this study will contribute to developing a more sustainable waste management policy in Ghana, and Accra in particular.

1.4 Structure of the study

For practical reasons, the actual fieldwork was split into two parts, *i.e.* the organisation and performance of solid waste collection and the policy impacts on solid waste collection. The first part describes and analyses the perceptions and practices concerning solid waste and its collection among members of the community, local government representatives and service providers. The second part builds on the first and deals with the overall research question of what is the impact of decentralisation and privatisation on solid waste collection. Besides the literature search

and review of official documents, the study encompassed three phases: (i) an exploratory phase with semi-structured interviews; (ii) an evaluative phase with structured questionnaires and loosely structured interviews with major actors, and (iii) a feedback phase with semi-structured interviews with key informants. These three phases can be observed in both parts of the study.

The empirical analysis will be presented in two ways. First of all, the results of enquiries among the stakeholders involved will be presented. This analysis is linked to the debate on urban environmental governance and partnerships in the sense that it tries to disclose facts and viewpoints from the actors concerned with respect to the functioning and performance of distinguished institutional arrangements. Next, it will present an assessment of the performance of these various modes of solid waste collection in terms of contributions to urban sustainable development using a framework developed by Baud and Johan (2001).

1.4.1 Methodology¹⁰

We used direct surveying to generate the required quantitative and qualitative data for this study. This was done for several reasons. Most importantly, no sufficiently detailed data existed at the level of households and firms. More specifically, there were no data sets on stakeholders' appreciation of indicators such as frequency, cost and cleanliness of collection, preparedness to pay, the affordability and performance of service providers. Moreover, there was no data indicating whether and when consumers are prepared to pay for better waste collection services, required for assessing the performance of the institutional arrangements. Nor was qualitative data available on the views of consumers and other stakeholders. This kind of information is an important input in the design of an efficient and effective waste collection system. Furthermore, even where data was available, it was not of a relevant quality, being largely based on small samples. A direct survey was therefore deemed the most appropriate method.

Consequently, the study is mainly based on primary data. This data was collected through the administration of a structured questionnaire, from a sample of 400 households in eight research localities in Accra, Ghana. In the household survey, the head of the household or any adult person was referred to as the respondent to our questionnaire. Data was also obtained on service providers and policymakers mainly by qualitative methods since the structured questionnaire largely failed in these aspects (see below). The survey started in July 1999 and stretched to the end

¹⁰ For a further look or detailed description of the methodology the reader is referred to Obirih-Opareh (2000).

of 2000. In addition to this data, the study also used information obtained either through interviews with senior officials of or secondary data from AMA, the Ministry of Local Government, the Ministry of Environment Science and Technology, the Office of the Administrator of District Assembly Common Fund (DACF), the Ministry of Finance, and Ghana Statistical Services (GSS).

1.4.2 Structure of the research phases

As already stated, the study was carried out in three phases. In the exploratory phase, we relied mainly on qualitative techniques to collect the data required. After assessing the organisational framework of solid waste collection and the most prominent problems connected with it, we proceeded to develop the survey questions for the evaluative phase. The evaluative phase (survey) consisted of two main parts. The first part used a structured questionnaire to collect data from a sample of consumers and service providers. Research assistants completed the questionnaires under my supervision.

At city level, we took inventories of the prevailing institutional arrangements in solid waste collection that could be found throughout Accra's residential areas. We found eight such institutional arrangements, namely: (i) a central communal container provided and run by AMA; (ii) central communal containers provided and run by private contractors; (iii) central communal containers provided by AMA but run by private contractors; (iv) central communal containers provided by AMA but run by a community-based organisation; (v) house-to-house system collection by AMA using high technology; (vi) house-to-house collection by private contractors using high technology (*e.g.* compaction truck); (vii) house-to-house collection using low technology (*e.g.* open trucks); (viii) house-to-house by private contractor using low technology; mixture of house-to-house and central communal containers whereby waste pickers collect waste from some houses and dump it into central communal containers provided by the AMA.¹¹ Subsequently, we selected eight appropriate research localities, each exemplifying a specific institutional arrangement. We went on to pre-test the questionnaire, selecting one locality for each institutional arrangement. The questionnaire for the consumer survey sought both quantitative and qualitative data. The questions dealt with issues such as mode of storage, disposal and collection, payment of service, frequency of collection, cost of collection, cleanliness of service, collection methods, preferences, preparedness to pay, affordability, cross-subsidisation, and the opinion about the performance of service providers. We used random sampling for the household consumer survey

¹¹ More information on the eight institutional arrangements for solid waste collection can be found in Chapter 6.

because the houses were not numbered properly, if at all. We continued until we had data from 50 households for each of the eight selected localities (*i.e.* 400 households interviewed). In the consumer survey, the unit of analysis was the household. In addition, we observed area characteristics such as socio-economic status, income levels and cleanliness.

We also carried out a quantitative and qualitative survey among twelve service providers. The questionnaire sought their opinion on key issues such as (i) mode of collection; (ii) the technology used for collection and disposal, (iii) payment of service; (iv) suitability of collection vehicles and equipment to the area; and (v) the economic viability of their business. Special attention was paid to the economic viability of waste collection. Data on ideas, attitudes and experiences of service providers with regard to solid waste collection was also collected. In the service provider survey, the unit of analysis was the firm/service provider, whilst the units of observation were facilities for solid waste collection, frequency of collection, and cleanliness of area. The use of a structured questionnaire largely failed (see Section 1.4.4). Consequently, we gathered qualitative data through open interviews. However, this strategy for data collection alone was not entirely adequate with regard to providing the sort of answers we needed for our study. This makes the quality of the data somehow weak

We used various observation techniques to gather additional data during the field-work. At household level, we observed the socio-economic status of the individual households, socio-economic status of households and the area, the areas' characteristics (type of houses, road accessibility, etc.), cleanliness of service, littering, cleanliness of the streets, and (where applicable) commercial exploitation of the area and its impacts. At the level of service provider, we observed type and physical condition of vehicle, office accommodation, use of protective clothing, etc. At policymaking level, we observed whether the local authority and related agencies monitor activities of service providers and consumers.

This additional method of investigation provided insights into ideas, practices and policies regarding solid waste collection at three levels of social organisation: the household, service provider and local government authority. The ideas and practices of stakeholders at these three levels of organisation were compared and contrasted in order to arrive at a more profound understanding of the dynamics and conflicting interests in solid waste collection in Accra.

The second part of the evaluative phase focused on policymakers. We confined the data collection on policymakers mainly to the Accra metropolitan area because

solid waste management is basically a local issue. Data was collected on the role of AMA's Waste Management Department (WMD) in solid waste collection since 1988. The interviews dealt with issues such as appreciation of the costs of service provision to the local authority under the existing collection arrangements, costs and benefits of the existing house-to-house institutional arrangements to AMA/WMD, economic viability and environmental impact of existing institutional arrangements, personal interests of members of the WMD in the various arrangements and how these affect waste collection policies. We also paid attention to policymakers' assessments of consumers' and providers' views on these arrangements. A semi-structured questionnaire, interviews, observation techniques and a study of documents were used to gather the data. In addition, but to a lesser extent, we also collected data from the Ministry of Local Government, the Greater Accra Regional Administration and the Office of the Administrator of the District Assembly Common Fund (DA CF). The Ministry of Local Government is the ministry directly responsible for the operation of the district assemblies. The Greater Accra Regional Administration was contacted in as much as the Accra metropolitan area falls within this region, and has an oversight responsibility over the latter. The ministry and the regional administration deal with policy formulation on the district assemblies at ministerial and regional levels. We used semi-structured interviews as well as study of official documents to collect the data.

The feedback phase involved predominantly cross-checking with officials, service providers and some residents to validate the data collected in the previous rounds, particularly in the second phase. We also carried out inquiries on issues not fully covered in the second phase. The major activities carried out in this phase include the (i) continued application of the questionnaire for service providers; (ii) interviews with top government officials involved in solid waste management; (iii) three sets of focus group discussions on three separate occasions with a few selected residents of Akweteman (Achimota), Labadi and Nima to find out their opinions on how best to improve solid waste collection in their area; (iv) personal observation of performances of the service providers; and (v) observation of new developments with regard to the institutional arrangements for solid waste collection.

1.4.3 Data processing and analysis

The survey on the institutional arrangements started with the assumption that there were eight institutional arrangements, one for each of the eight selected research localities. We processed the data thoroughly and analysed the quantitative data from the consumer survey using Statistical Package for Social Sciences (SPSS). The sample for the solid waste consumer survey is large enough (400) to justify conclusions

on the investigated arrangements.¹² We ran various cross-tabulations using Pearson's Chi-Square. When the results were analysed we realised that there were marginal differences between some of the arrangements and, in fact, there were only four dominant institutional arrangements for all the eight selected research localities. These are (i) publicly provided house-to-house collection, (ii) privately provided house-to-house collection, (iii) publicly provided central communal container collection, and (iv) privately provided central communal container collection. Contrary to what the residents made us believe at the start of the research (i.e. during the exploratory phase), the community-based organisation (CBO) in La (La Mansaamooloo Kpee) did not collect solid waste, but was only involved in liquid waste management. Waste collection in the area was actually carried out by AMA. In the analytical chapters (6, 7 and 8) we assess the socio-economic and environmental performance of these four institutional arrangements in the selected localities.

When analysing data from the solid waste consumers' survey, we first ran straight frequencies for the entire sample population, and then made an attempt to qualify the most meaningful aspects. Several independent variables were selected and combined with a number of dependent variables for more detailed analysis. After studying the results, it soon became clear that the two most important independent variables were those which also defined the four main institutional arrangements, i.e. mode of collection (house-to-house or central communal container collection) and type of provider (public or private). The study shows the main results of the cross-tabulations of these two factors with seven selected dependent variables in order to single out the impact of each of these.¹³ The seven dependent variables are (i) the most important problems; (ii) the frequency of collection; (iii) the cost of collection¹⁴; (iv) the cleanliness of the service; (v) the waste collection methods; (vi) the preparedness to pay; and (vii) affordability.

The simplest way we examined the impact of the independent variables on a particular dependent variable was through cross-tabulation of the dependent variable with independent ones using Chi-square tests.¹⁵ In principle, we adopted a similar

¹² The data on service providers and policy-makers was not extensive enough to merit computer analysis.

¹³ Results on cross-tabulations with other variables not included in the main text can be found in the report to NIRP, 2000.

¹⁴ In the case of the cost of collection, even though the central communal container system is officially free of charge to consumers, the analysis is based on both the House-to-house and central communal container collections. Occasionally, people using central communal container do pay a small amount to the assemblyman who arranges for container sites to be cleaned.

¹⁵ The variables and sample size did not permit the use of more sophisticated multivariate techniques.

approach for the section on service providers in the consumer survey. Due to the small sample size, however, we made only a qualitative analysis of the point of views of service providers on certain crucial matters. We adapted a structured interview method, trying systematically to get entrepreneurs' responses to certain key variables. We were unable to compare the institutional arrangements for such a small survey using statistical analysis. Nonetheless, we acquired majority and minority views on the functioning of the institutional arrangements. The analysis of policymakers was confined to perceptions or views on functioning of institutional arrangements only.

1.4.4 Limitations of the study

No other data was available to enable comparison with other cases. Moreover, our data also contains weaknesses. Firstly, the period for the quantitative data collection covered only five months and a relatively small sample. Resource constraints did not permit a longer period and a larger sample size. Unfortunately, the study could not acquire data on waste collection before the 1992 decentralisation in order to carry out time series analysis. The AMA does not have proper records of waste collected monthly, quarterly or annually. In addition, there were weaknesses in the data due to difficulties encountered during the administration of the questionnaire.

In case of the consumer questionnaire, there was lack of cooperation between some communities and individuals. In the poor areas, *e.g.* Nima and La, the people said they were more concerned about such things as how to get money to feed their children rather than about answering questionnaires which will not improve their living standards. In the rich areas like Airport Residential Areas, Cantonment, the situation was even worse, because it was often very difficult to go into the house. Most of the houses in these areas have wild dogs, which bark ferociously immediately one knocks at the gate or rings the bell. The housekeepers in these areas are under strict instructions not to allow strangers in without permission from the owner or occupant of the house. Occupants of houses in these areas are high government functionaries, top businessmen and officials of foreign embassies, most of whom were often not at home when we visited. In some cases and particularly in the Airport Residential Area and Cantonments, we had to visit some homes several times in order to deliver one questionnaire. Whilst some of the residents were reluctant to provide specific information since they mistrusted and questioned the purpose of the exercise, others demanded money before divulging any information. Many respondents also complained that they had not seen any results or improvements after similar exercises in their localities. In the poor areas, in particular, many thought the exercise was for taxation purposes and consequently did not cooperate. In an effort to reduce the number of non-responses, we visited the houses

of people who were reluctant to provide answers to the questionnaires several times (in some cases up to more than five times) to get the response. Such repeated visits had a positive effect on the administration of questionnaire as well as the quality of the data.

Another of the study's weakness lies in the fact that the consumer survey took place prior to July 1999, when the City and Country Waste (CCW) entered the solid waste collection scene in Accra (see Chapter 6), whilst the interviews with service providers took place much later after CCW had come into play. Frustrated by the CCW's contract (particularly with regard to uncertainties in their future operation), some service providers were reluctant to cooperate in providing answers to the questionnaire. It became difficult to get reliable quantitative data for each company involved. This seriously affected data collection for the service provider questionnaire.

Ideally, we wanted to administer the two sets of questionnaires (*i.e.* for the consumers and service providers) during the same period and under the same institutional arrangements for solid waste collection. The entry of CCW into the waste collection scene at the peak of the fieldwork forced a delay in data collection among service providers for almost a year. As a result, the conditions for two data collection were not the same for the two surveys. The changes in the institutional arrangements were far beyond our expectations because of the secrecy involved in the CCW contract agreement. Financial constraints did not allow a fresh survey to be undertaken. Despite these shortcomings, the fact that the sample has not been representative and that much of our data is of qualitative nature, the material collected proved to be sound and we do believe the survey provides a good picture of prevailing solid waste collection practices in the capital.

Another limiting factor was the constantly changing situation with regard to the institutional arrangements. After the first (exploratory) phase we went back to the field to discover a substantially changed situation. The institutional framework, which we had started with, had changed considerably and kept on changing during the second (evaluative) phase, mainly as a result of the arrival of the CCW in the waste collection scene. The rate at which things were changing in solid waste collection, particularly with regard to institutional arrangements, clearly affected the focus of the study. During the exploratory phase, for example, we identified several firms with different technologies for waste collection. For example donkey-carts were used to transport solid waste in the Apenkwa area. After three months, this method had been phased out due to, among others, disease and death, and the donkeys were replaced with open trucks. During the exploratory phase and the pre-testing of

questionnaires, we identified the open truck as the dominant form of technology for house-to-house solid waste collection in the Abelenkpe area and as being invariably used as one of the institutional arrangements for the solid waste collection in Accra. By the time we started the evaluative phase, (*i.e.* the second phase of the fieldwork), the service provider had switched over to hi-tech compaction trucks.

The City and Country Waste (CCW) involvement in solid waste collection has fundamentally altered waste management operations in Accra. Since then, the WMD ceased to collect waste in Accra and handed over its equipment, including workshops, to CCW. AMA has given the monopoly in waste management to CCW and CCW took over areas formally collected by AMA's WMD. Later it started to take over some areas from the local private waste contractors. Since the beginning of the year 2000, CCW has asked all the private waste contractors to work under it. Though private local contractors vehemently oppose this, they eventually could not resist. In mid-February 2000, AMA informed the public that it would soon operate a house-to-house user-fee collection for areas currently operating a free central communal container -system, though this had not yet materialised by mid-2002. These changes clearly affect the premises with which we started the study and the type of conclusion. The situation is becoming even more complicated as more changes in solid waste collection are rapidly taking place. For example the free central communal container system was identified as the main cause of the solid waste collection financing problems. By November 1999, AMA had received approval from the government for a new rating system of user fees for all categories of residents in Accra, including those serviced through the central communal container system.

A final weakness was with the policymakers' questionnaires. It was difficult to get senior government officials to honour their appointments. Schedules were often rescheduled, but most of them were never fulfilled. Officials were often sceptical about divulging certain critical information claiming they had taken an "... Oath of Secrecy" as enshrined in the Ghana Government Civil Service Code of Conduct. In such situations, they often used delaying tactics by saying that they required clearance from their superiors before divulging certain information. A case in point is the CCW issue. Up till now, neither the AMA nor the Ministry of Local Government has answered questions about the CCW contract. They have refused to give information, for example on the effects of the contract on local private waste contractors, and where the AMA would get the money to pay CCW. The AMA could not pay the local contractors the fees which were several times lower than what CCW demands for removing the same volume of waste under the central communal container system. It was impossible to tell whether or not such information was

classified as confidential. Often, the permission was never forthcoming. Such shortcomings affected the quality of the data that was critical to the study.

We have carried out this investigation as part of a policy oriented research project and that we have therefore, not aimed at testing a set of hypothesis derived from the theoretical debate. The presentation of the theoretical arguments in chapters 2-4 is meant to provide a background to the study. They enable us to see if our findings offer any new or qualifying insights relevant to current debates. In Chapter 9, we will indicate briefly what lessons we can draw from our material in that respect.

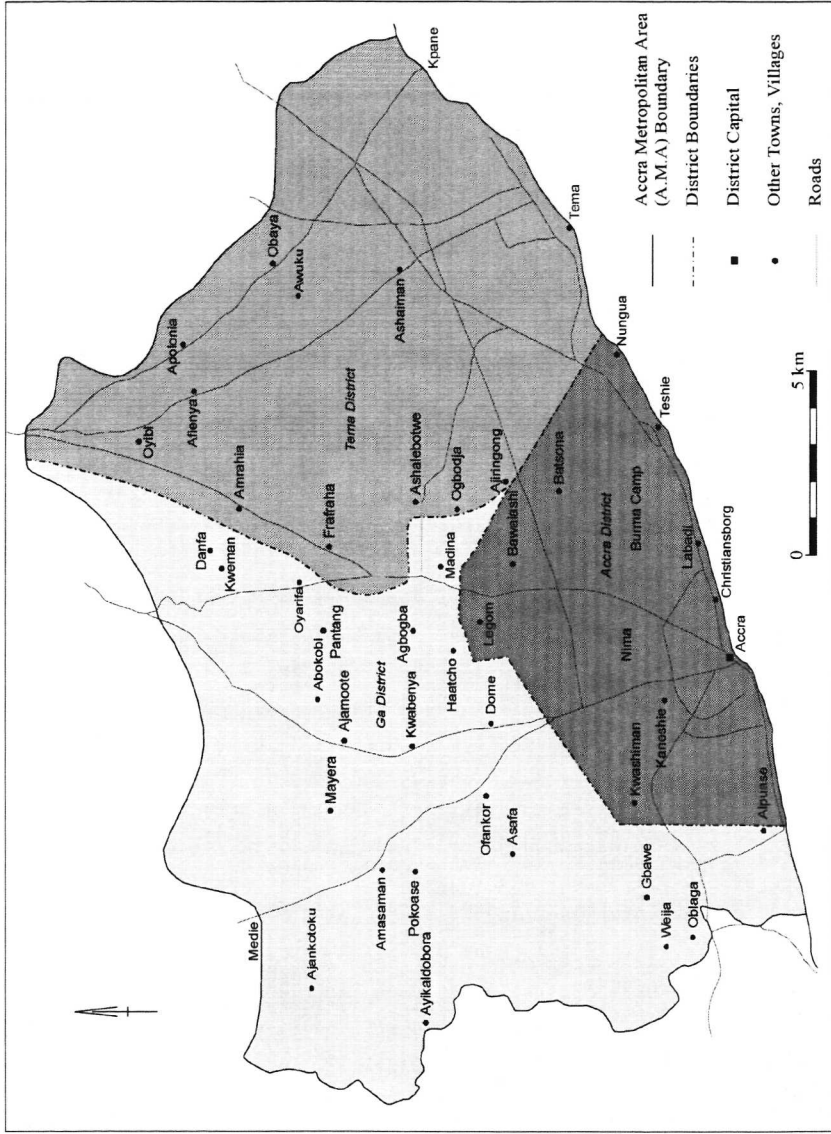
1.5 The study area (Accra metropolitan area)

Fieldwork for this study was carried out in Ghana's capital, Accra. Accra is the largest of five districts in the Greater Accra region and located along the coast.¹⁶ The main indigenous people of Accra, and the districts of Tema and Ga are called the Gas. Those in the other two districts of the Greater Region, *i.e.* Dangwe-West and Dangwe-East, are called Dangwes. In 1877, the British colonial power in the country transferred the seat of British administration from Cape Coast to Accra. This event marked the turning point in its development. Founded in the 16th century as a small coastal fishing village, Accra grew rapidly (but generally in an unplanned manner) and became a pre-eminent centre in Ghana. The population of the settlement that was 16,000 in 1891 increased to about 1.6 million in 1991, which is about 100 times within a period of hundred years. According to the census survey of 2000, it has since then increased to around 1.65 million in 2000 (GSS, 2000), but an unofficial (and probably more realistic) estimate indicates 3 million inhabitants¹⁷ in the same year (MLG and RD, 2000: 15). The primacy of Accra metropolitan area as an administrative, educational, industrial and commercial centre continues to be the major reason for rapid population growth, with immigration contributing to over 35% of this growth. With an annual growth rate of 4.1 per cent (GSS, 2000), which is more than the national average of 3.1%, Accra is one of the fastest growing districts in Ghana. Both the survey and secondary data indicate that single-family households dominate in the high-income areas, while multiple households living in one house are characteristic for the low and middle income areas. Households are large in size because of the presence of families with an average size of six for rich households and eight family members in poor households, respectively (GSS, 2000).

¹⁶ Municipal authorities like Accra, which administer national capitals, have the added task of having to grapple with national and regional issues as well.

¹⁷ According to the then Accra Metropolitan Chief Executive in 2000: "our population is about 3 million inhabitants and a daily influx of about 800,000 visitors (MLG & RD, 2000:15).

Map 1.1 Accra district with the other two districts: Tema and Ga districts



The Accra metropolitan area, with a landmass of 300 square kilometres (0.12% of the national land area), is the city with the most diversified economy in Ghana. The Accra economy, together with its satellite harbour city Tema contributes about 15-20% of the GDP and accounts for almost 18% of the employment in the manufacturing industry, 31% of the construction industry, 22% of the wholesale and retail trade, 30% in transport, storage and communication and 56% in finance, insurance and real estate (AMA, 1988; Benneh *et al.*, 1993). According to the Minister for Trade and Industry, Dr Kofi Apraku, 84% of the industries established in the country in the last 18 years were located in the Accra-Tema Metropolitan Area (Accra Mail, 8 August 2001).

The AMA as constituted today was inaugurated in 1989 with a membership of 103. Of these, 68 members are elected and 35 members, including the Metropolitan Chief Executive, are appointed (MLG and RD, 2000: 15). Two districts, *i.e.* Tema Municipal Assembly and Ga District Assembly which until 1973 were administered as part of the Accra City Council (ACC), partially surround the Accra metropolitan area (see Map 1.1) are part of the Greater Accra region. Accra's rapid population growth has led to urban sprawl and uncontrolled physical expansion from its municipal boundaries into the neighbouring districts. There has also been increased crowding in low-income areas and slums, leading to higher occupancy ratios (Benneh, *et al.*, 1990: 17-19, Konadu-Agyemang, 2001; Laryea-Adjei, 2000).

1.5.1 Major characteristics of city of Accra

Accra still bears some of its colonial features. In the colonial times, the city was divided into two: a well-planned European residential area, around which were clustered the houses of a few wealthy merchants, and an unplanned indigenous area consisting of a compact mass of buildings separated by narrow winding paths. This division can still be clearly seen (Gough, 1999). In the Accra district, except for the few high and medium class residential areas, the bulk of the population lives in largely unplanned residential settlements. This dual structure reflects the character of all Ghanaian cities of colonial origin. Whilst the European sector was planned, the African or indigenous city was often left on its own, except for a few regulations to control the frequent outbreak of epidemics.

Accra is a city of contrasting features. On the one hand, it has the most beautiful places that exist in Ghana, such as the Airport Residential Area, Dzorwulu, Cantonment, East Legon, Osu Ringway Estate, Labone, Roman Ridge. The architecture and skyline of these neighbourhoods compare favourably with many buildings in fashionable cities of the world. On the other hand, it has perhaps some of the dirtiest places such as Avenor, Sukura, Zongo Line, Zamramra Line, Timbre Market, Russia, Chorkor, Nima, and "Sodom and Gomorrah". Beautiful buildings in the central busi-

ness areas and along the streets in the middle and poor neighbourhoods have been shrouded, obscured and, in fact, disfigured by wayside fitting shops, derelict vehicle shells, unauthorised kiosks and enclosures on public spaces.

Many kiosks and temporary structures¹⁸ permitted by the city authorities to function as provisions¹⁹ stores, market stalls and petty ware stalls in the developing part of Accra are without permanent facilities. Many of them have been converted into permanent houses, even though they had no proper sanitary fittings. In several cases observed, families of up to four (*i.e.* man, wife, and two children) or more lived in such places which they use for both commercial and dwelling purposes. They either use the already over-stretched public places for their sanitary needs or create a temporary facility nearby which is inconsistent with the design and land use of the areas. These structures and their use are an affront to the beauty of the city and maintenance of proper urban health conditions.

It is therefore not a surprise that Accra is overwhelmed with social and environmental problems, similar to those of other expanding metropolitan areas in many African countries (Benneh *et al.*, 1990; Benneh *et al.*, 1993; Konadu-Agyemang, 2001; Laryea-Adjei, 2000; MLG and RD, 1995; Aryeetey and Anipa, 1989). Uncontrolled urban growth means that the expanding metropolitan fringes are choked with new private shelters without proper access roads and adequate community services. The city centres are often congested with unauthorised trading activities and structures that conflict with pedestrian and vehicular traffic. Overcrowding, congestion and the rapid development of slums adversely affect the development and management of the city. There is a clear distinction between waste conditions and cleanliness in the various residential areas. Some parts of the low-income areas are filthy; littered with plastics bags and gutters often filled up with all manner of waste due to poor waste practices. However, a greater part of the city is fairly clean, particularly in the high-income and some middle-income areas.

The geographical pattern of investment in Accra has not changed significantly. It has even tended to consolidate polarisation and the inequitable distribution of resources.

¹⁸ There are also kiosks or temporary structures along certain streets in Europe. In Amsterdam, there are no less than fourteen markets, such as Dapper Market, Albert Cuyp, Kinker Market, Gulden Winckel, Plantsoen Market, which operate not just on the pavements but also in the streets. In London, there is the famous Liverpool Street market. However, in contrast to the situation in Accra, for example at the Kaneshie Abbossey Okai, Okashie and Makola areas, those in Europe have a specific time that they are closed so that waste managers can clean the area. In Accra and elsewhere in Ghana, these temporary structures are never removed to allow cleaning and that is a recipe for filth and epidemics.

¹⁹ This is the Ghanaian parlance for essential commodities (e.g. milk, sugar, toiletries and beverages).

These together with other factors act in concert to perpetuate the solid waste collection problems. Firstly, the lack of consistent planning, as well as the failure to prepare and systematically review and update settlement structure plans, have led to the deterioration of the physical environment at an increasingly rapid rate. Secondly, ineffective development control, and an absence of coherent land use policies, partly in the light of problems associated with land ownership, compounds the situation.

1.5.2 Research localities

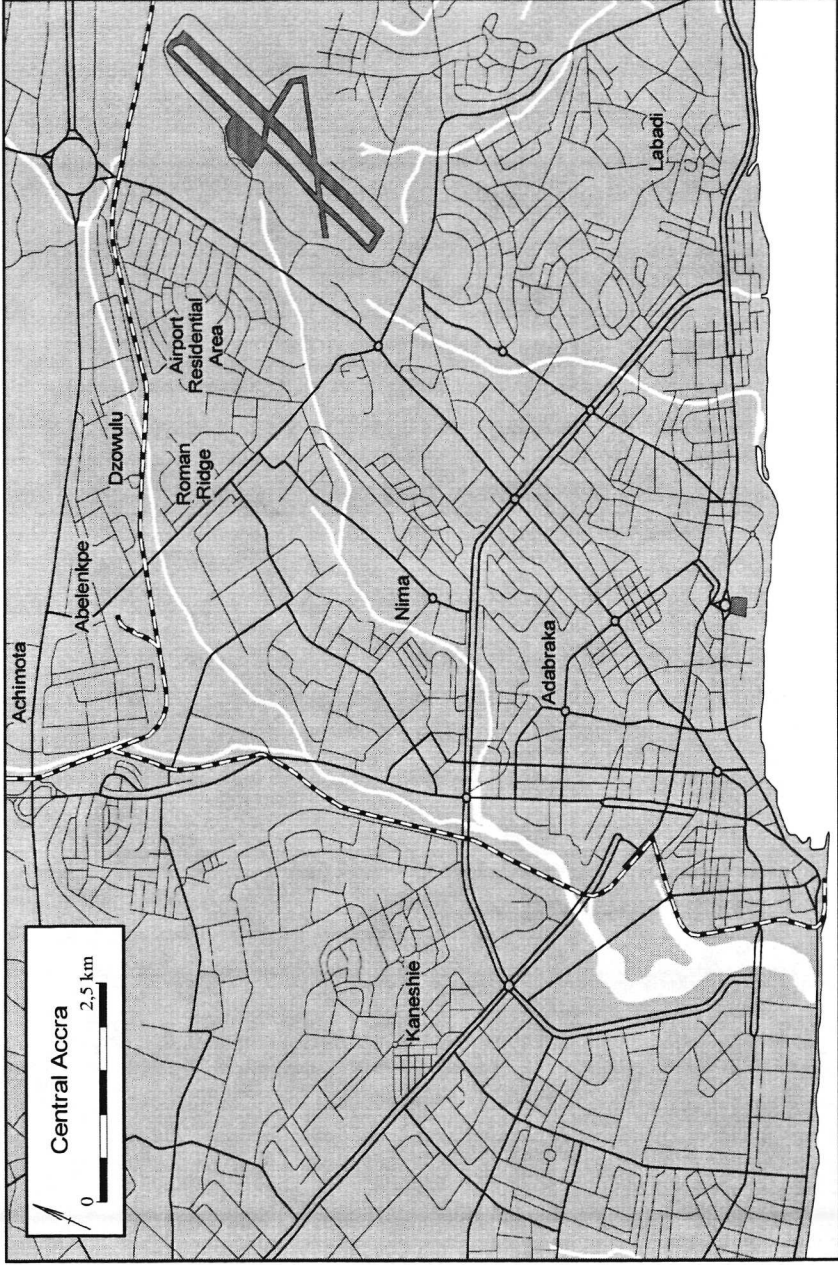
We selected eight research localities: Achimota, Nima, La, Kaneshie, Adabraka, Abelenpke, Dzorwulu-Roman Ridge and Airport Residential Area-Cantonment²⁰ (see Map 1.2). These were grouped as low, middle and high-income areas. Though the selection of the localities is based on presumed dominant institutional arrangements in the area, there is a correlation between the type of waste collection and income level.

Low-income areas with central communal container system.

Nima, La, and Achimota, which are located in Ayawaso, Kpeshie and Okaikoi sub-metropolitan assemblies respectively, are predominantly low-income areas with pockets of middle-income and high-income houses. All these three areas are highly populated. However, Nima is the most densely populated, least developed and most deprived area of the three, whilst La has the highest concentration of the indigenous Gas. Generally, the central parts of these areas are inaccessible by road due to the haphazard manner in which residents build their houses. There are no proper drainage systems, except the ones along the major roads. Wastewater therefore flows freely. Rivers and streams such as the Odaw River, which run through these areas, suffer from indiscriminate dumping of all manner of waste, as do the few gutters and drains and, as a result, the drainage system is choked. Most young people in this area are involved in commercial activities and street vending and are a permanent feature along the major roads. You really have to see the impact of these uncontrolled activities for yourself and the consequences are difficult to put into words. There is litter everywhere along the streets, particularly in the vicinity of lorry stations. The most deprived areas lack basic social amenities like portable drinking water and places of convenience. Areas without pipe-borne water rely on water vendors. There is also severe pressure on the few public toilets in these areas, where a large portion of the population does not have their own private toilets. Waste management practices in these parts of the city, like most poor areas, leave a great deal to be desired. The dominant institutional arrangement for solid waste collection is central communal container system.

²⁰ Airport Residential Area and Cantonment are dealt with as one research locality. Dzorwulu and Roman Ridge are also treated as one research locality.

Map 1.2 Showing research localities



Middle-income areas with central communal container system.

Kaneshie can be classified as a middle-income area with few high-income neighbourhoods. In terms of infrastructure development, it has some of the best road networks and well-planned estate development in the metropolis. Kaneshie has the second largest market place in Accra, after the central business area. Many traders from all over the city and neighbouring towns such as Kasoa, visit this market every day to sell their wares. Brisk commercial activities have turned the whole area around the market into one big market place. As a result, most dwellings, as well as some toilets and bathrooms have been converted into stores, forcing most residents and traders to rely on public toilets (Obirih-Opareh, 2001). Business activities go on virtually for almost 24 hours a day, seven days in a week and throughout the whole year. There is no time to properly clean the area. This impacts negatively on the environment. The Obetsebi Lamptey Circle to Odorkor - Mallam road divides Kaneshie into east and west. Whilst the eastern part has nice estate buildings and good road accessibility to every single house, the western part is virtually blocked by traders of all kinds, particularly spare parts dealers. The predominant institutional arrangement around the market place is the central communal container system.

Adabraka is an area with both middle and high-income residents. Unlike most part of the sub-metropolitan area, Adabraka is a well-planned area with one of the best road networks, with virtually every house being accessible. Though Adabraka is also a commercial centre with famous shops along the principal streets, there is very little litter. Street vendor activity is almost absent in this area except near to the Kwame Nkrumah Circle. Part of Adabraka operates house-to-house collection whilst the predominant institutional arrangement for most part of the area is central communal container system.

High-income areas with the house-to-house system.

The three high-income areas for this study are Abelenkpe, Dzorwulu-Roman Ridge and Airport Residential Area-Cantonment. The first four are located in the Ayawaso sub-metropolitan area. These four areas form one single uninterrupted rich belt of modern housing complexes in Accra. The Airport Residential Area is arguably the most developed of the four areas, followed by Roman Ridge, Dzorwulu and Abelenkpe. In terms of beautiful and splendid buildings, Dzorwulu perhaps has the edge in terms of exotic houses but the area has not been developed in its entirety since there are pockets of uncompleted buildings and bushes in between.

Whilst the Airport Residential Area and Roman Ridge were developed long ago, at least before the 1970s, Dzorwulu and later Abelenkpe saw their development take shape starting from the late 1970s and 1980s. Estate development is still going on

in Abelenkpe and to some lesser extent Dzorwulu where there are still pockets of uncompleted buildings. At the moment, the rich part of Abelenkpe is just a small stretch of land leading to Dzorwulu on the other side of the road, which joins up with the motorway. The majority of Abelenkpe is not so developed and could be described as a middle-income area with some low-income houses as well. Cantonment, on the other hand, is the Kpeshie sub-metropolitan area. It is one of the most developed areas in the city and compares favourably with the Airport Residential Area in terms of level of development. Most public and top government officials, as well as top business executives, foreign diplomats and embassy staff reside in this area. In the Airport Residential Area and Cantonment there are plenty of trees offering shade in and around every single house as well as along the streets.

These high-income areas are devoid of outdoor commercial and street vendor activities. Waste management practices in these areas are among the best. Households in the Airport Residential Area, Dzorwulu, Roman Ridge and the rich part of Abelenkpe use AMA's approved waste containers as primary storage facilities. Waste in the house is handled by grown-up house boys or maidservants who collect the waste and make it available at the entrance of the house for waste collectors. There are no communal containers in these areas, except in the poor areas of Abelenkpe. The only institutional arrangement for solid waste collection in the rest of these areas is the house-to-house system. Waste collectors often get tips or gifts from rich households for their services. This is an additional motivation to provide better services.

1.6 Structure of the thesis

After having described the nature and characteristics of this study and the study area in this introductory chapter, we will present the theoretical framework in the Chapter 2-4. The theoretical framework hinges on three domains. Chapter 2 discusses decentralisation and privatisation within the broader development debate and the perspective of the African state (Ghana). Chapter 3 puts urban environmental management in a theoretical perspective, linking it to current thinking about urban governance and sustainable development. Solid waste management, decentralisation and privatisation policies and their interrelations are addressed in Chapter 4. Chapter 5 deals with decentralisation in Ghana. It gives a historical perspective of local government in Ghana, with emphasis on the situation before and after the 1988 decentralisation policy, with special emphasis on the fiscal consequences of the reform. Chapter 6 deals with waste practices in Accra and analyses the survey results, whilst Chapter 7 highlights the attitudes and perceptions of consumers, service providers and policy makers with respect to waste and solid waste management. Chapter 8 assesses the socio-economic and environmental performance of public and private modes of solid waste collection in Accra. Chapters 6-8 all make

use of the results of the Accra investigation, with the Chapters 6 and 7 presenting the results of the survey as such, and Chapter 8 assessing the survey results from the specific angle of sustainable development. Chapter 9, the concluding chapter, provides a summary of the major conclusions in each of the preceding chapters structured along the research questions as spelt out in Chapter 1, links the findings of the thesis to the theoretical debate (Chapters 2-4) and makes recommendations for policy and further research.

