



UvA-DARE (Digital Academic Repository)

The effects of decentralisation and privatisation on urban environmental management: waste management in the Accra Metropolitan Area

Obirih-Opareh, N.; Razin, E.; van der Geest, S.; Post, J.

Publication date

2004

Document Version

Proof

[Link to publication](#)

Citation for published version (APA):

Obirih-Opareh, N., Razin, E., van der Geest, S., & Post, J. (2004). *The effects of decentralisation and privatisation on urban environmental management: waste management in the Accra Metropolitan Area*. (NIRP research for policy series; No. 22). KIT publishers.

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

NIRP Research for Policy Series 22

The effects of decentralisation and privatisation on
urban environmental management:
waste management in the Accra Metropolitan Area

**Nelson Obirih-Opareh, Eran Razin,
Sjaak van der Geest and Johan Post**

Colophon**NIRP Research for Policy Series****Part 22: The effects of decentralisation and privatisation on urban environmental management: waste management in the Accra Metropolitan Area**

The Netherlands-Israel Development Research Programme (NIRP) was established jointly by the governments of the Netherlands and Israel and coordinated through DGIS (Ministry of Foreign Affairs, The Hague) and MASHAV (the Centre for International Cooperation, Ministry of Foreign Affairs, Jerusalem). The Netherlands Government, through Nuffic (the Netherlands Organisation for International Cooperation in Higher Education) is the principal sponsor of the Programme. The organisation and administration of NIRP are the responsibilities of Nuffic (The Hague) and Haigud (the Society for Transfer of Technology, Jerusalem).

Publication Board:

Prof. V. Azarya, Hebrew University, Israel
(as from No. 19)
Prof. R.E. Isralowitz, Ben-Gurion University, Israel
Prof. L.W. Nauta, University of Groningen, the Netherlands (retired)
Dr. E.B. Zoomers, CEDLA, University of Amsterdam, the Netherlands

Mrs. M. Bar-Lev (Secretary)
CINADCO/Haigud
P.O. Box 30
Bet-Dagan 50250, Israel
Telephone: 972 - (0)3 9485441/5868
Fax: 972 - (0)3 9485761
E-mail: miriamb@moag.gov.il

Mrs. L. Minkman (Project Officer)
Training & Fellowships Desk/
Department for Human Resource and
Institutional Development, Nuffic
P.O. Box 29777
2502 LT The Hague, The Netherlands
Telephone: 31 - (0)70 4260192
Fax 31 - (0)70 4260189
E-mail: lminkman@nuffic.nl
Website: www.nuffic.nl/programma/research/nirp.html

© 2004 - Nuffic, Haigud and the contributing institutions.

All rights reserved. No part of this publication, apart from bibliographic data and brief quotations in critical reviews, may be reproduced, recorded, published or cited in any form including print, photocopy, microform, electronic or electromagnetic record, without written permission of the publisher.

Published by:
Royal Tropical Institute
KIT Publishers
P.O. Box 95001
1090 HA Amsterdam
The Netherlands
Telephone: 31 - (0)20 5688272
Fax: 31 - (0)20 5688286
E-mail: publishers@kit.nl
Website: www.kit.nl

Text: Nelson Obirih-Opareh, Eran Razin, Sjaak van der Geest, Johan Post
(edited by Mirjam A.F. Ros-Tonen)
Editor-in-Chief: Dr. Mirjam A.F. Ros-Tonen
Graphic design: Wil Agaatsz BNO, Meppel, the Netherlands
Printing: Veenstra, Groningen, the Netherlands

ISSN 1568-279X
ISBN 90 6832 6872
NUR 130/600/741

Contents

Preface	5
1. General information	7
I.1 Framework of the study	7
I.2 Objectives and research questions	8
I.3 Methodology	9
I.4 Theoretical orientation	10
I.4.1 <i>Decentralisation and privatisation</i>	10
I.4.2 <i>The concepts of urban management, governance and environmental management</i>	11
I.4.3 <i>Solid waste management</i>	12
2. Results	15
II.1 Decentralisation in practice since 1988	15
II.2 The magnitude and major causes of solid waste collection problems in the Accra Metropolitan Area	18
II.3 The scope and characteristics of the institutional arrangements for solid waste collection	22
II.4 Stakeholders' perceptions and conflicting interests with regard to the arrangements in solid waste collection	24
II.5 The impact of decentralisation and privatisation policies in Ghana on the institutional setting for solid waste collection in the Accra Metropolitan Area	27
II.6 The performance of the institutional arrangements in solid waste collection	29
II.7 Conclusions	32
3. Discussion	35
III.1 Scientific relevance	35
III.1.1 <i>The drawbacks of decentralisation</i>	35
III.1.2 <i>Private providers perform better</i>	36

<i>III.1.3 The urban governance approach</i>	38
<i>III.1.4 The partnership approach</i>	39
<i>III.1.5 The guiding hand of the state</i>	40
<i>III.1.6 Lack of concern for the environment</i>	41
III.2 Recommendations for further research	41
III.3 Practical applicability	43
IV. Recommendations	45
References	53
Appendices	
I. Participating researchers and institutions	57
II. Follow-up of the project: capacity building and project-related publications	59

Preface

This study deals with new institutional arrangements for solid waste management in Accra, the capital of Ghana. It was carried out with the aim of making clear how government's decentralisation and privatisation policies affect the practices and performances of service providers in the Accra Metropolitan Area. The outcome is the result of a collaborative research effort carried out under the Netherlands-Israeli Research Programme (NIRP) by Ghanaian, Israeli and Dutch researchers between 1997 and 2001.

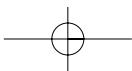
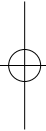
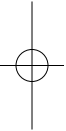
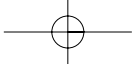
NIRP aims to encourage development-related research focused on socio-economic and cultural change. Being policy-oriented in nature, NIRP aims to make the results of research accessible to anyone interested in solving the problems investigated. The target groups for such knowledge include policy makers, representatives of non-governmental and donor organisations, and the scientific community. With this aim in mind, the Publication Board has launched the NIRP Research for Policy Series as a channel for the publication of "user-friendly" summaries of more than 30 scientific reports.

The Publication Board wishes to thank Dr. Mirjam A.F. Ros-Tonen for editing the summary on which this monograph is based. Thanks are also due to Howard Turner for revising the English.

Last but not least, the Publication Board wishes to thank the research team for the successful completion of this study.

PUBLICATION BOARD:

Prof. Victor Azarya
Prof. Richard Isralowitz
Prof. Lolle Nauta
Dr. Annelies Zoomers



I. General information

I.1 Framework of the study

The overall project of which the present study forms a part evaluated the relationship between governance of the greater Accra Metropolitan Area and management of environmental problems. The roots, attributes and policy outcomes of local government reforms in Ghana and in the Accra region were outlined with an emphasis on the latest decentralisation reform, distinguishing between political, functional and fiscal decentralisation. The impact of the reforms on solid and liquid waste management was then studied in detail.

The first phase of the project included a qualitative assessment of changes and reforms in governance of the greater Accra region since the termination of colonial rule. Detailed information was gathered on the functioning of the present structure, which has been in place since the 1988 decentralisation reform. The Ghanaian system was defined in a comparative perspective of local government systems in the developed and developing world (Razin, 2000). Detailed financial data was then gathered and analysed on each of the District Assemblies in Ghana, before and after the decentralisation reform. This revealed variations in the fiscal capacity of Ghana's district assemblies: local governments in the capital city region and in the second largest Metropolitan Area were the most financially sound, whereas those in remote regions and in rural areas were at the other end of the scale (Razin and Obirih-Opareh, 2000). The early years of structural adjustment were associated with growing disparities, in particular since poorer districts are at a very substantial disadvantage when it comes to self-generated revenues such as taxes and fees. However, the fiscal centralisation that accompanied the decentralisation reform (particularly since the introduction of the substantial District Assembly Common Fund development grants in 1993) has reversed this trend. Grants from the central government did not favour the poorer districts, but disparities in grant allocations were far smaller than the disparities in the capacity to generate revenues. Hence, a substantial increase in the

component of central grants in local governments' budgets will lead to reduced disparities in the financial situation of poorer and stronger regions.

The second phase of the project included an analysis of waste management in the Accra Metropolitan Area, with an emphasis on solid waste collection. A qualitative assessment of the effect of the decentralisation and privatisation policies on liquid waste management (Van der Geest and Obirih-Opareh, 2001) was followed by a more extensive study of solid waste collection. The study on new institutional arrangements for solid waste collection in Accra shows the impact of the government's decentralisation and privatisation policies on urban governance and environmental management in the Accra Metropolitan Area. It also discusses implications for the debate on decentralisation and privatisation and formulates policy recommendations. This booklet focuses on this part of the project, which formed the core of the overall research project.

1.2 Objectives and research questions

The aim of this study is to investigate the functioning of institutional arrangements in solid waste collection in the Accra Metropolitan Area, as a case study of the broader issue of the impact of decentralisation and privatisation on the management of urban environmental problems. Five research questions are discussed:

1. What is the magnitude and what are the major causes of the solid waste collection problems in the Accra Metropolitan Area? (Section II.2)
2. What is the scope and what are the characteristics of the various public and private institutional arrangements for solid waste collection? (Section II.3)
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? (Section II.4)
4. What is the impact of decentralisation and privatisation policies in Ghana on the institutional setting for solid waste collection in the Accra Metropolitan Area? (Section II.5)
5. What is the performance of the various institutional arrangements in solid waste collection? (Section II.6)

For a proper understanding of the specific context in which changes in solid waste management have taken place in Ghana, we will first pay attention to Ghana's decentralisation process as implemented since 1988 (Section II.1). In Part III, we will attempt to link the research findings to the theoretical debate about decentralisation and privatisation in the

8 African urban context. We will also aim to indicate some policy lessons with

regard to waste collection in Accra, focusing on what can be done to overcome the identified constraints (Part IV).

1.3 Methodology

The assessment of reforms in governance of the greater Accra region since the termination of colonial rule was based on a thorough survey of local government units, central government agencies and other relevant organisations. The survey included written material obtained from these organisations, as well as open interviews with staff affiliated to these organisations. Detailed financial data was gathered for each of the District Assemblies, before and after the decentralisation reform.

The assessment of the impact of decentralisation and privatisation on waste management problems in the Accra Metropolitan Area consisted of three steps. First, an assessment was made of solid and liquid waste management arrangements in the Accra Metropolitan Area, based on open interviews with actors involved and secondary material (reports by government agencies etc.). Secondly, surveys were carried out of stakeholders in solid waste management in the Accra Metropolitan Area. Eight research localities were chosen, based on the prevailing institutional arrangement of solid waste management (Box 1). In the eight research localities a structured survey of 400 households was carried out, focusing on attitudes and perceptions related to solid waste management. The data collected covered such issues 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 people's opinions on the performance of service providers.

Box 1 Institutional arrangements in solid waste management

Eight institutional arrangements for solid waste management were found and these formed the basis for the selection of research locations:

1. Central communal containers provided and run by the Accra Metropolitan Assembly (AMA);
2. Central communal containers provided and run by private contractors;
3. Central communal containers provided by AMA but run by private contractors;
4. Central communal containers provided by AMA but run by a community-based organisation;
5. House-to-house collection by AMA using high technology;
6. House-to-house collection by private contractors using high technology (e.g. compaction truck);
7. House-to-house collection using low technology (e.g. open trucks);
8. House-to-house collection by a private contractor using low technology; a mixture of house-to-house collection and central communal containers whereby waste pickers collect waste from some houses and dump them into central communal containers provided by the AMA.

Thirdly, a quantitative and qualitative survey was carried out among twelve service providers.¹ 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 was also collected on ideas, attitudes and experiences of service providers with regard to solid waste collection.

In addition to this data, the study also used information (open interviews and secondary material) from the 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 Theoretical orientation

The basic theoretical concepts on which this study is based are decentralisation and privatisation and solid waste management. An extensive discussion of these concepts can be found in Obirih-Opareh (2003). Below we focus on their definition.

1.4.1 Decentralisation and privatisation

Generally, four major variants of decentralisation are distinguished, *i.e.* deconcentration, delegation, devolution and privatisation have been identified (Bird *et al.*, 1995; UNHCS, 1996).

Deconcentration is the transfer of functions from a central unit to a local administrative office. It involves the dispersal of some amount of power of central government ministries with decision-making authority either vested in the regional offices or maintained by the central office. Delegation involves in most cases the transfer of certain powers to parastatal agencies of the central state. While the parastatals have some autonomy in day-to-day management, government usually controls them ultimately.

Delegation of authority lies between deconcentration and devolution, and involves independent sub-national jurisdictions, which are given service-delivery responsibilities. They are, however, subject to supervision by the central government with regard to the level and quality of service to be provided, how the service is to be provided, and/or how the service is

¹ Two main types of solid waste service providers have emerged in Accra. These are public (AMA) and private service providers, the latter comprising Gee Waste, Daben Cleaning Service, J.S. Owusu, Ako Waste, ABC, Liberty Waste, Meskworld, Almanuel, Yafuru, Yama and Zontec.

financed. Many politicians as well as social scientists consider devolution as “real decentralisation” since power and functions are actually transferred to sub-national political entities which, in turn, have real autonomy in many important respects.

Devolution involves independent sub-national governments, which are given the responsibility for determining the level and quality of services to be provided, the manner in which those services are provided and the source of funds to finance the delivery of those services. Arguments in this study with regard to decentralisation will largely relate to this third form of decentralisation – devolution – unless otherwise stated.

Privatisation ultimately, involves the transfer of power and responsibility for certain state functions (productive activities or services) to private groups or companies. It is a term associated with the transfer from the public to the private sector of assets in terms of ownership, management, finance or control (Bach, 2000). In its narrowest sense, it has been used to describe the sale of public assets to the private sector. It has also been used to refer to an increase in the individual’s responsibility for his or her own welfare. In its broadest sense, privatisation includes all efforts to encourage private sector participation in running public affairs.

1.4.2 The concepts of urban management, governance and environmental management

The urban management model deals with the development and day-to-day running of cities (Devas and Rakodi, 1993: 43; Devas, 2001, 1999: 2) and includes topics such as economic and physical planning, education, health, public works and public service delivery such as water supply and waste collection. It is an attempt of using business-like approaches to management and finding better ways of running a city, recognising the dynamics and uncertainties of development and the need to adapt rules, regulations and working attitudes swiftly to changing circumstances. The concept is borrowed from business management and applied to the organisation of public affairs, calling upon non-public actors whenever and wherever possible in order to benefit from their resources and comparative advantages.

In the course of the 1990s, urban management developed into urban governance, which recognises that the (local) state is only one of the actors involved in running the city and shaping its future development. It is an attempt to broaden the scope of attention and to disconnect it from the predominance of public management. Urban governance tries to break with the top-down, state-led ideas of running cities to emphasise the role of

partnerships (including public-private partnerships) and diverse institutional arrangements. Governance includes the whole range of actors within civil society, such as community-based or grass-roots organisations, NGOs, trade unions, religious organisations and businesses, both formal and informal, alongside the various branches of government and governmental agencies, both national and local (Devas *et al.*, 2001). Generally, governance can be thought of as a means to establish order among stakeholders whose interests may conflict.

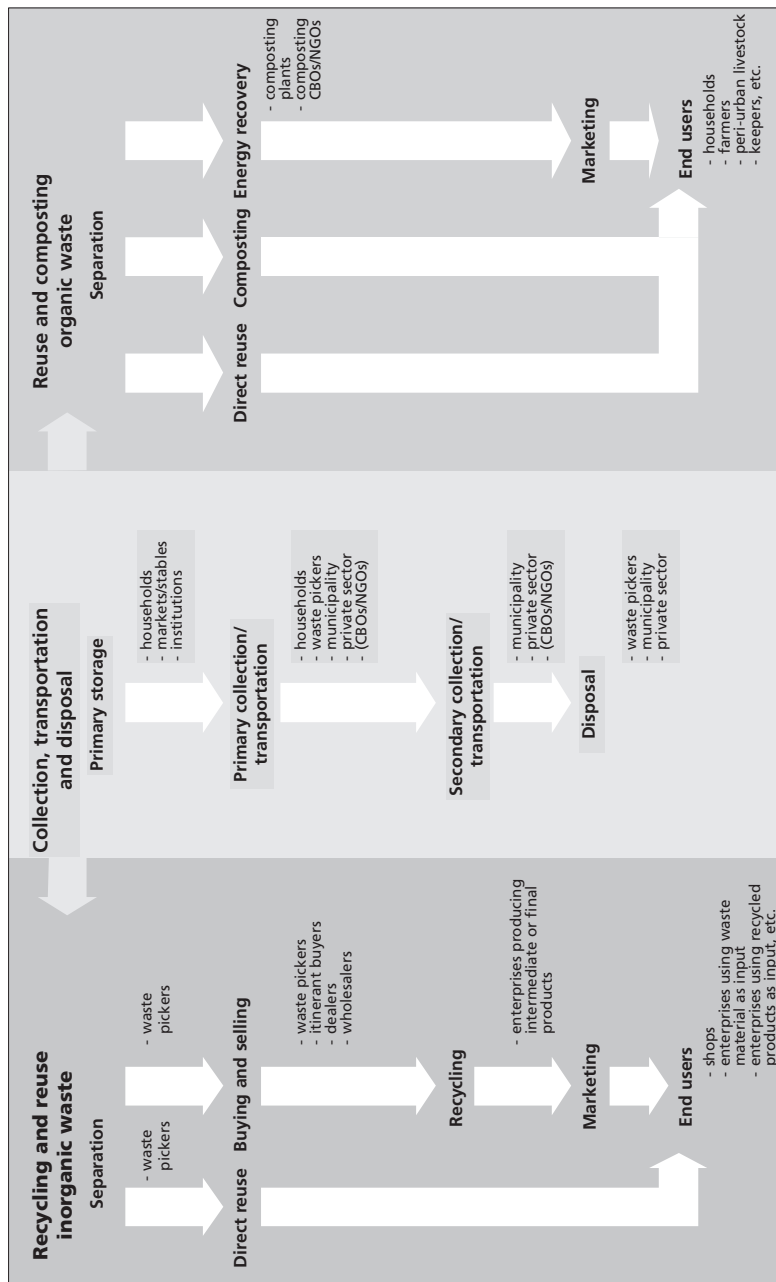
Urban environmental management is based on similar principles as urban management, the most important difference being that urban environmental management looks beyond the city boundaries more, especially in terms of environmental consequences of urban development. In the case of urban management, environmental concerns are often narrowed down to “brown agenda” problems (*i.e.* environmental health issues), paying only lip service to broader environmental concerns. Urban environmental management takes a broader approach of sustainable development. It includes four major elements: satisfaction of the “brown” agenda, notably access to decent housing and services; healthy working conditions and a healthy living environment; a development pattern that reduces the use of natural resources and does not deplete sinks and hence respects ecosystems and biodiversity; and seeking to include all actors in planning, decision-making and implementation as well as to integrate different sectors of the economy.

1.4.3 Solid waste management

The third part of the theoretical background deals with solid waste management (Obirih-Opareh, 2003). Solid waste management comprises different actors and activities, including household storage, waste collection, transportation, re-use, recycling, composting and waste disposal (Figure 1). Problems of solid waste management abound in many cities in the developing world, notably with regard to collection and disposal. House-to-house collection is too expensive for many households and the streets of many poor neighbourhoods are too narrow for modern collection vehicles. Collection points can easily become small garbage dumps, especially when collection is intermittent. Solid waste collection often creates one of the most visible environmental problems in low-income communities.

In recent years there has been a considerable shift and major differences in opinion as to how solid waste should be managed. One of such thorny issues is whether solid waste management should be decentralised, privatised, under community participation or managed under

Figure 1 The solid waste management cycle



a combination of these. The mainstream neo-liberals argue that solid waste management is a service, aspects of which could best be handled by the private sector (Cointreau-Levine, 1994; Batley, 1996; Rondinelli, 1997). This view is connected to their belief in a slim minimal state and the efficiency of the market in resource allocation. Some critics oppose this view and contend that because of the nature of solid waste management as a public good, it cannot be left entirely to the market and should be under public control. The third school of thought reflects the debate on decentralisation, privatisation and public-private partnerships. It argues for partnership between public, private and other non-public organisations – NGOs, community-based organisations, and particularly the informal sector (Ostrom, 1996; Baud *et al.*, 2001; Hordijk, 2000; Post and Obirih-Opareh, 2002). This school recognises the increasing role of the informal sector, waste pickers, itinerant buyers, retailers and wholesalers in liquid and solid waste management. As a result of this line of thinking, new institutional arrangements in waste collection are emerging. Box 2 illustrates this for liquid waste management; Part II of this booklet illustrates this for solid waste management.

II. Results

II.1 Decentralisation in practice since 1988

In order to understand the present arrangements in solid waste collection in Accra, we will first focus on Ghana's decentralisation process as implemented since 1988. Decentralisation has become a dominant feature of Ghana's return to a liberal-democratic system of government. Although it is certainly not new² on the country's political agenda, it was newly justified, according to Richard Crooks (1994), with a set of much broader and ideologically rooted arguments deriving from the prevailing neo-liberal orthodoxy (rolling back the state, promoting people's participation, etc.). In addition, decentralisation seemed the only feasible way to stabilise the political system and to mitigate resentment towards the government in Accra. The system that was introduced in 1988 was clearly initiated from above by the central government, perhaps under some pressure from international organisations such as the World Bank and International Monetary Fund (IMF). Ghana's approach to decentralisation was based on four macro objectives:

- To democratise state power in a manner that would create an opportunity for a majority of Ghanaians to take part in collective decision-making and have access to political authority. The system that came into being in 1988 was based on the idea of empowering the people through the district assemblies.
- To restructure the machinery of government and reform local governments to take responsibility for local administration and development and to make public administration more efficient and responsive to local needs.
- To restructure the allocation of resources and reassign functions and responsibilities to the three levels of government (national, regional and district) in order to promote the efficiency of management.

² It has been tried before (e.g. in 1974), but without success due to a change of government and the lack of political will to implement the original proposals.

NIRP RESEARCH FOR POLICY SERIES 22

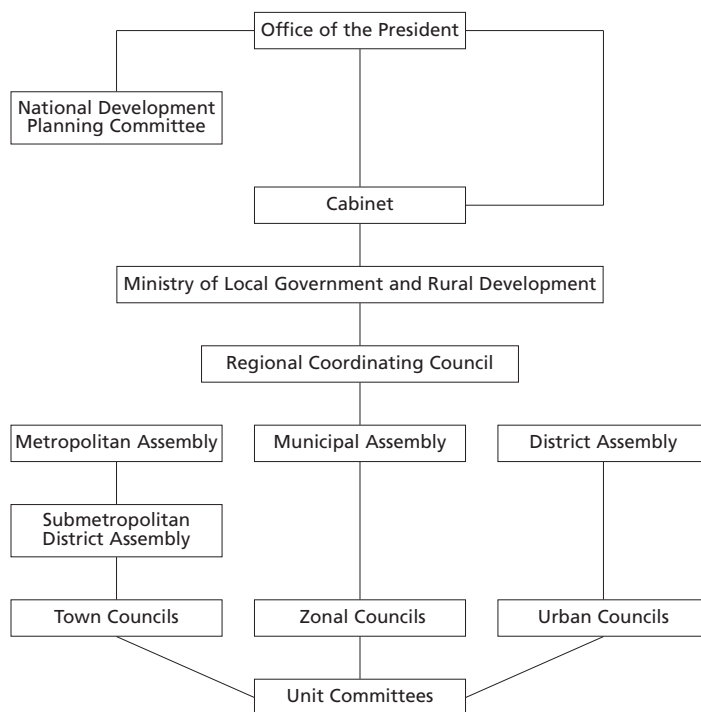
- To promote local development, with involvement of the people, as a special pre-occupation to improve living conditions in all localities in the country.

The country's decentralisation policy defines the district as an operational unit where the key strategies for development can be harnessed. The district assembly is therefore the focal point for planning, decision-making and implementation of development policy in the district. It is composed of 70% elected members and 30% unelected officials appointed by the President of Ghana. The appointed officials include technocrats, chiefs who are the custodians of the land and representatives of civil organisations (including trade unions). Members of parliament from the district are non-voting members of the assembly. Decentralised organisations operating within the area are expected to be integrated into the district assembly and the staff of the departments comes under the direct supervision of the District Chief Executive to ensure better coordination of development activities in the district. The district is expected to have one composite budget for its departments, including the decentralised departments. The new structure is expected to completely eliminate the concept of line departments with branch offices at the regional and district levels for the implementation of programmes and projects.

Ghana's 1992 constitution makes comprehensive provisions for local government decentralisation, confirms the system established in 1988 and strengthens the role of district assemblies in the governance of their districts. Since the implementation of the district assembly concept in 1989, Ghana's system of public administration has been basically a five-tier one (but six-tier in the case of metropolitan assemblies), with the central government at the apex. This is followed by a regional coordinating council (RCC) occupying a hybrid position of being both an extension of the central government and the coordinator of the activities of the local government (see Figure 2).

The fulcra of the local government system are the district assemblies, described in the 1992 constitution as the "highest political authority in the district". The Local Government Act of 1993 (Act 462) designates the district assemblies as the political, administrative, planning, development, budgeting and rating authorities in their respective geographical areas of jurisdiction. The sub-district structures comprise a series of urban, zonal, town and area councils and a countrywide network of unit committees. The metropolitan assemblies have an additional structure just below the

Figure 2 The organogram of local government administration in Ghana, since 1988



assembly – the sub-metropolitan assemblies. The new local government system is a four-tier metropolitan system with three-tier municipal and district assemblies, *i.e.* metropolitan assemblies have four levels, whilst municipal and districts have three.

The 1988 reform mainly involves the creation (from 65 district councils) of 110 district assemblies, including three metropolitan assemblies. The new structure caters for the cross-sectoral coordination of policies and plans at national and district level through the National Development Planning Commission (NDPC) and the district assemblies. It has led to the election of members for the district assemblies and the unit committees. These processes are intended to enhance grassroots participatory democracy further, or to bring the system of government to the “doorsteps” of the people. The reform has led to the creation of the Ceded Revenue and, more importantly, the District Assembly Common Fund (DA CF). The decentralisation also involves the transfer or integration

of the line departments within an area into the district assemblies and a composite budget to include all the line departments.

The decentralisation reform not only entails a transfer of political administration and decentralised public services delivery from the centre to the district assemblies, but also within the district assemblies to the lower levels and structures of authority. In the Accra Metropolitan Assembly, for example, this involves the transfer of responsibilities for the provision of some public services from the AMA head office (*i.e.* the centre) to the six sub-metropolitan assemblies (Ablekuma, Ashiedu Keteke, Ayawaso, Kpeshie, Okaikoi and Osu-Clotey). Each of these sub-metropolitan assemblies handles, or has a supervisory role for specific public services within their area of jurisdiction. These include revenue collection (such as market toll, land poll and property rates), primary schools, maintenance of roads, solid and liquid waste management, maintenance of public toilets, etc. The sub-metros have made tremendous impacts in some areas (such as the collection of market tolls) and are constantly improving their skills in delivering these services. District assemblies are constantly training and equipping personnel, particularly those in the lower structures to perform decentralised service delivery. However, in general, the sub-metros in Accra have proved incapable of discharging their duties in some decentralised public services. One of such failures is in solid waste collection. Despite the logistics given to the sub-metros, they could not cope with the escalating volume of solid waste being generated in the city. Other services in Accra with regard to which the sub-metros have failed woefully include sanitation, the sanctioning of offenders, the enforcement of bye-laws and contract agreements. Although the decentralisation programme has indeed brought some positive results, it is fraught with difficulties.

Closely related to the 1988 decentralisation exercise is the policy of privatisation. The latter is part and parcel of the same neo-liberal paradigm that aims to reduce state power and give greater prominence to the market. Privatisation has become a key component of Ghana's reform policy. How this affected solid waste collection will be highlighted in Section II.3

II.2 The magnitude and major causes of solid waste collection problems in the Accra Metropolitan Area

There is a clear relation between the waste management practices and the cleanliness in the various residential areas of Accra. Though a greater part of the city is fairly clean, particularly the rich and some middle-income areas, some parts of the poor-income areas and market places are filthy,

littered with plastics bags and gutters often blocked by all manner of waste due to poor waste practices. Many factors act in concert to reinforce and perpetuate the problems.

Firstly, the volume of waste generation is huge compared to the available capacity for its collection. Given that the per capita solid waste generation in Accra is 0.51 kg/day³ (AMA, 1992; Ghana Vision 2020, 1996) then in 2000, when the population was over 1.65 million people (GSS, 2000) and the unofficial figure being about 3 million inhabitants, Accra produced between 841.5 and 1,530 tonnes of solid waste daily respectively. Moreover, the total maximum solid waste collection capacity (by both the public and private sectors) is only 60% of the volume waste generated (WRI, 2000: 278; AMA, 1992). According to the AMA, as at 2000 the remaining 40% is collected either irregularly or not at all. Although these figures are, at most, crude estimates, it is very obvious that collection performance, at least until recently, is far from adequate. This results in periodic formation of mountains of uncollected garbage particularly in the poor and middle-income areas. These heaps are potential sources of epidemics and other communicable diseases to residents. As the Ghana Vision 2020 document⁴ (1996) noted, tonnes of domestic refuse spills into open fields, streams, creeks or sewage systems in the Metropolitan Area each day. Large quantities of household organic matter generated in Accra flow straight into the river basins and water bodies creating serious public health problems (Ghana Vision 2020, 1996). According to the Ministry of Health of Ghana, the causes of most illness in these areas are attributed to poor sanitation and inadequate environmental awareness. If sanitation could be improved, sanitary-related illness would be reduced significantly. Ghana's health statistics show that many of the illness could be prevented through proper sanitation.

Secondly, a major factor affecting efficient and effective solid waste collection in the metropolis is the attitude of residents towards waste in general. Residents have a paradoxical attitude towards waste. Few people seem to care about waste unless it ends up near their front doors. Indiscriminate dumping takes place at the same time as protests against the placing of communal containers nearby the houses. Officials do not set a good example. They do little to enforce regulations and a lack of resources, capacity and political will do little to improve the situation.

³ There has not been any comprehensive empirical study on the per capita waste generation in Accra. Therefore all such per capita waste generation figures are estimates.

⁴ Vision 2020 is the policy document of the government of Ghana (under the Rawlings administration) on its vision for Ghana's development from 1996 to 2020.

NIRP RESEARCH FOR POLICY SERIES 22

Thirdly, most houses in the deprived areas are inaccessible by road. This means that it is difficult to remove garbage from those areas, at least by way of the standard motorised vehicles. Usually, the inaccessible areas are serviced by the central communal container (collective container collection) system, but considering the effort people have to put into bringing their garbage to the reception points and the substantial average distance to the container sites, many people are inclined to opt out from the official system. Although people would like to have more facilities, they simultaneously object to the containers being located near their houses. Existing sites are neither properly cleaned nor maintained and containers are often collected untimely, thus resulting in spillage, horrifying stench and flies.

Fourthly, enforcement procedures for offenders of bye-laws for waste and sanitation are weak.

Fifthly, the waste management sector faces an acute financial shortage (Table 1). Poor cost recovery, inadequate funding and over-dependency on financial grants from the central government put the long-term financial sustainability of the system into serious jeopardy. In some cases, the resources have been diminishing in real terms, when discounted against inflation. Lack of transparency and accountability in revenue collection and disbursal affect the success of the operation. The collective container collection system, which accounts for about 70% of total waste collection in the metropolis, is free of charge to consumers. This puts a severe financial burden on the local authority and its ability to pay waste contractors regularly, resulting in irregular and often unreliable services. User fees from the house-to-house services are not enough to pay for the entire waste

Table 1 Income and expenditure of solid waste collection in Accra Metropolitan Assembly

Year	Total income (mln. cedis)			Total expenses (mln. cedis)			Variance (inc.-exp.) (mln. cedis)	Expenses of solid waste collection
	AMA	SWC (revenue)	SWC % of AMA's revenue	AMA	SWC (expenditure)	SWC % of AMA's expenses		
1995	8,778.30	494.1	5.60%	7,882.23	1,266.60	16.07%	-772.50	156.30%
1996	14,974.85	492.8	3.20%	13,378.66	1,524.80	11.40%	-1,032.00	209.40%
1997	16,707.03	749.1	4.48%	16,469.70	2,070.00	12.57%	-1,320.90	176.30%
1998	29,614.98	949.0	3.20%	27,352.83	2,242.70	8.20%	-1,293.70	136.30%

Source: Based on data from the AMA and Local Government Finances Section of the Controller and Accountant General, Ghana, December 2000.

collection in the city. This makes financial considerations the most obvious constraint to an effective solid waste collection system in the city.

The absence of efficient land-use and building permit policies and the fact that they cannot be effectively enforced and implemented is a sixth factor which hinders efficient waste collection in the metropolis. The lack of an effective land-use policy and ineffective enforcement of building permits ensure continuous haphazard housing development, thereby reinforcing and perpetuating the waste collection problems. A lack of decent housing, congestion and overcrowding also generate filth.

The seventh factor refers to the high rate of population growth and the migration to the city which puts severe pressure on existing infrastructure for waste collection. The rapid population growth rate in Accra is estimated to be in excess of 4.1% per annum – which is several times higher than the national average of 2.3% (GSS, 2000) – and is responsible for at least an equivalent increase in volume of waste generation. In addition to the population growth, the nature of the waste itself is also changing because of development-related changes in consumption patterns (Doan, 1998: 28). For instance, consumers in Accra have begun to make extensive use of both polythene bags and other plastic packaging, which create a whole new category of waste and its associated disposal problem.

The eighth factor refers to the low regard for waste collection workers and high labour turnover. Labourers engaged in waste collection services are not interested in the work, which they consider filthy and a “temporary” means of survival whilst they search for a “better job” elsewhere. As a result, besides the fact that workers do not do their best in this sector, the industry has to contend with a rapid turnover of staff. This severely affects efficient delivery of service in waste collection.

Finally, there is the problem of the shortcomings of the waste collection vehicles. The type of equipment used for waste collection can have a significant effect on the effectiveness and efficiency of solid waste collection. The types of equipment used by some waste service providers also create other environmental problems such as littering from open trucks, which do not use nets, as required by the AMA bye-law, to cover the waste during transit to the disposal sites.

Considering the extent of the solid waste problem, it is ironic that in the planning stages, the local authority pays inadequate attention to waste collection, which is the largest single item in its recurrent expenditures, in addition to being the most visible environmental problem and a potential threat to public health if uncollected. Planning in Accra is biased towards

physical development and development control (albeit very ineffectively) rather than the full range of aspects included in development. It still demonstrates a traditional view on the role of planning in urban development and a virtual neglect of the problems of service provision (Adarkwa and Post, 2001).

In fact, the major causes of solid waste collection problems in Accra can be attributed to ineffective urban governance. The policies fail to link up with the current governance perspective of having stakeholders jointly work towards achieving collective goals. They do not sufficiently link to promising successful actions on the ground (such as self-organised house-to-house collection in parts of Adabraka, using waste pickers in areas where officially the communal collection system is operating) that could perhaps be scaled up so that it could acquire official approval. This inadequacy translates into a vicious circle of waste collection problems, in which one problem affects or leads to another, reinforcing each other and perpetuating the problem. Four main dimensions can be distinguished in this respect:

- The failure to empower the district assemblies due to shortcomings of the decentralisation policies, including poor cost recovery mechanisms and poor monitoring.
- A lack of involvement and participation of the community in the design of waste collection arrangements, a lack of civic responsibility towards waste collection and lack of trust in the local authority.
- A lax attitude among the residents (exemplified in free riding and indiscriminate dumping into open spaces, streams and river bodies), as well as among policy makers (exemplified in lack of commitment and ineffective enforcement of bye-laws).
- A focus on service efficiency and effectiveness rather than concern for the environment (*i.e.* public health aspects, environmental deterioration and lack of attention to waste as a resource).

II.3 The scope and characteristics of the institutional arrangements for solid waste collection

Two broad modes of solid waste collection operate in Accra. These are the house-to-house and the central communal container (collective container) collection systems. Each of these modes of collection has both publicly and privately provided institutional arrangements. Thus, there are four basic types of institutional arrangements for waste collection systems in Accra, namely (i) publicly provided house-to-house collection; (ii) privately provided house-to-house collection; (iii) publicly provided communal container collection; and (iv) privately provided communal container

collection services. The house-to-house system operates in rich and some middle income areas, whilst the collective container collection system operates mainly in the poor areas and the remaining middle-income areas of Accra. In terms of percentages, by mid 1999, the collective container collection and house-to-house collections serve 70% and 30%, respectively, of the areas with waste collection coverage within the metropolis. A comparison of house-to-house collection and communal container collection is presented in Table 2.

Table 2 Major characteristics of institutional arrangements⁵

Variables	Institutional arrangement	
	House-to-house collection	Collective container collection
Standard collection frequency	Weekly	Daily
Dominant waste storage container	Plastic bins	Metal containers
Mode of transporting solid waste	Multi-lift truck, open truck, three-wheeled tractor, pushcart, and wheel barrow	Skip-loader
Mode of lifting waste bins/containers	Multi-lift trucks (mechanically) and manually	Skip-loader
Dominant places where it operates	Rich and middle income areas	Poor and middle income areas
Characteristics of area	Good road network, excellent accessibility to houses	Poor road network and often poor accessibility to houses
User fees	Yes	No
Service provider paid by	Service consumer	Local authority (AMA)
Private contractor pay dumping fees to AMA	Yes	No

In rich areas where the house-to-house collection system operates, the service is comparatively more reliable with fewer interruptions and the service consumers pay the user fees regularly. These high-income areas have all the trappings for a house-to-house collection service: a good road network, accessibility to houses, a preparedness to use approved containers and a willingness to pay user fees. In general, all the institutional arrangements for house-to-house collection are viable for both the local authority and the private service providers because they have adequate cost-recovery measures. Most of the service consumers in the house-to-house collection system are satisfied with service provision. In contrast,

⁵ For more detailed information about mode of storage, disposal and collection, collection methods and other characteristics of solid waste management under various arrangements, the reader is referred to Obirih-Opareh (2003).

the communal container collection system, which operates predominantly in low-income and some middle-income areas and covers more than two-thirds of the waste collection system in Accra, is free and financially unsustainable for the local authority which bears the cost. It is characterised by communal collection points and communal containers and suffers from service unreliability and a lack of cleanliness. There is a general dislike of the current communal container collection system largely because of the low incidence of container sites and irregular collection. At the same time, the residents in low-income areas (Achimota, La and Nima) acknowledge almost unanimously (100%) that they cannot afford the current rates of servicing in the house-to-house collection system. For an improved communal container collection system, however, most residents seem to be willing to pay $\text{¢}100$ per day (US\$ 0.03 in 1999 prices) without jeopardising their acceptance and participation.

In terms of institutional arrangements, it is not only the communal container collection versus the house-to-house collection arrangements that indicate major differences, but also the public versus private arrangements. The public system usually has better technology, which it often receives from the central government and also from the donor community. The privately provided house-to-house collection services use all manner of vehicles, including power tillers and open trucks. However, the trucks of the better-funded private contractors such as Gee Waste and Daben Cleansing compare favourably with the public ones. Despite this difference, the private providers were found to offer good quality services, well attuned to the variation in the local situation.

II.4 Stakeholders' perceptions and conflicting interests with regard to the arrangements in solid waste collection

There are three main stakeholders in solid waste collection, namely the local government authority, service providers and consumers. Each stakeholder has its own interests, which invariably influence its perceptions on how solid waste collection should be carried out (see Box 2). In Accra, the conflict of interest is obvious and self-evident. People have private interests in public institutions or services and no matter where and in whatever position they find themselves in a public sector, they do whatever they can to maximise their private interests and those of their families and relations. The personnel responsible for solid waste collection in Accra are no exception. The conflicting interests in solid waste collection as a "public good" pose a policy dilemma for public officials. Officials want a clean environment, but do not put enough funding and effort into

Box 2 Perceptions of stakeholders in solid waste collection*Perception of consumers*

According to the consumers, the most important problems facing their areas, ranked in order, are low frequency of waste collection (including the unreliability of service provision), the cost of collection and the cleanliness of service (including problems related to vehicles and equipment which are inappropriate for waste collection). These problems are the first most important for 61.8%, 14.0% and 61.8% of the respondents respectively. The improvements people desire are therefore primarily related to increased frequency and the reliability of the service. Areas where the collective container collection system is operative have the additional problem of inadequate communal containers. Consumers in these areas would like there to be more collection sites, containers and labour. A lot is expected from privatisation, though some fear increased prices due to greater private sector participation in solid waste collection. The frequency of collection is a larger problem in areas serviced using house-to-house systems, whilst cleanliness of service is more problematic in the areas with collective container collection systems. In the areas serviced by the WMD (AMA), 23.0% of the consumers perceive the frequency of collection as too low and 35.0% think cleanliness is poor. In areas operated through private contractors, these percentages amount to 32.5% and 45.5%, respectively.

As regards user fees, there is a major distinction between the collective container collection and house-to-house systems. Collective container collection is free of charge, but in some neighbourhoods residents pay fees to the assemblymen and waste pickers. In areas under collective container collection, 19.6% of the residents perceive the costs as too high. House-to-house collection is carried out in return for user fees, perceived as too high by 13.3% of the residents of these areas. The most remarkable finding is that the majority of the respondents in all the localities are willing to pay for improved services – even those in areas which officially enjoy free collective container collection.

Perceptions of service providers

The service providers operating under the collective container collection system mentioned that they encounter seven main problems. These are an inadequate number of containers, tardy payment by AMA, low contract fees set by AMA, labour problems, a lack of site cleansing by AMA, a lack of AMA support and the frequent interruption of services due to the breakdown of vehicles. The problem of an inadequate number of containers is one of the major causes for spillage and untidiness at the collection points. It is also a contributing factor to the dumping of waste at open spaces and other unauthorised sites. Where containers are inadequate, residents have no other alternative than to dump too much waste into the available containers, thereby creating overflows and spillage and the overloading of trucks during transportation. Tardy payment by AMA leads to frequent interruptions to service due to a lack of money to pay workers, buy fuel to run the vehicles or repair vehicles and equipment. The lack of AMA support extends to the granting of monopoly to City and Country Waste Ltd (CCW) since July 1999 and the failure to sanction free riders and irregular payers. Many of the service providers think that refuse collection is good business (though profitable thanks only to extremely low wages and through using very old equipment), but an unhealthy job. They acknowledge the fact that poor people cannot afford commercial tariffs, as a result of which there should be government subsidy and cross-subsidisation. They think that the community should take greater responsibility, not only in the cost-sharing arrangement for refuse collection, but also by ensuring that they do not litter the area.

Perceptions of government officials

The AMA is satisfied with the institutional arrangement for house-to-house collection. It is, however, worried about the financial burden of the collective container collection system, which constitutes more than 70% of the waste collection in the metropolis. Since stopping the Pay-As-You-Dump system in 1991 – introduced in 1985 with a view to generating additional income for waste collection – the AMA has

NIRP RESEARCH FOR POLICY SERIES 22

tried in vain to devise better cost-sharing arrangements to mitigate its acute financial problems. In terms of performance, the AMA thinks the indigenous private companies are doing their best albeit with occasional interruptions to services. According to the AMA, the delay in the payment of private waste collection contractors is not deliberate but due instead to insufficient funds at the time they have to be paid. The AMA thinks the granting of a monopoly to the CCW was intended to afford the latter economies of scale. Besides, it felt the performance of most of the private contractors was below par. Since the AMA was divesting itself from waste management, it became necessary to find an organisation to fill the vacuum. Officially, the AMA felt that the CCW, which has the expertise and logistics at its disposal, was better placed to take up that responsibility than the poorly resourced local contractors.

ensuring that. Service providers want high tariffs for their services in order to acquire more profit. Consumers, on the other hand, want a clean environment and regular collection of their waste, but they do want to minimise their contribution to that goal. Consumers prefer private service providers, but fear that privatisation could lead to increased prices. Such conflicting interests among stakeholders hamper the performance of the institutional arrangements.

The problem is that nothing much is done to harmonise conflicting interests and to negotiate solutions. There is no proper management of the problem. Under current conditions, the local government should take the lead, but for various reasons they are incapable or unwilling to do so. The fact that there are few efforts being made to bring these interests together is another demonstration of the lack of effective governance. It is interesting to note that the franchise system in house-to-house collection provided an arrangement that linked providers and consumers (harmonising conflicting interests between these stakeholders) and performed very well, albeit from a narrow perspective of service efficiency and effective removal of waste from the areas concerned.

In recent times, local private service providers have complained of the relatively lower rate of tariffs the local government authority set for them compared to what was paid to City and Country Waste Ltd (CCW) for similar services. The CCW was a joint Canadian and Ghanaian company which the central government imposed on the Accra Metropolitan Assembly in July 1999, and which was granted a monopoly status to collect waste in Accra. It operated until July 2001 when its contract was abrogated by the government. The local authority, on the other hand, decries the increasing costs of solid waste collection and its inability to shoulder the cost alone, particularly for the communal container collection system. The findings from this study suggest that partnerships, involving all the

stakeholders, would be a better option out of this predicament. This study indicates that the public-private arrangements in solid waste collection have performed best, at least until one of the partners failed to deliver (*i.e.* the AMA failing to pay the contractors).

II.5 The impact of decentralisation and privatisation policies in Ghana on the institutional setting for solid waste collection in the Accra Metropolitan Area

The institutional arrangements that evolved in solid waste collection in Accra since 1992 and 1997 were a result mainly of the decentralisation and privatisation policies. More basic services have been transferred to local governments and the lower structures in the district assemblies. However, the operational difficulties that have characterised the partial implementation of the decentralisation policy in solid waste collection in the AMA demonstrate the fact that laudable as this policy might be, it does not clearly reflect issues on the ground. Moreover, though decentralisation has brought major institutional changes such as making the district assemblies the pivot and focal point of planning and development, public administration in the AMA, like in many district assemblies in Ghana, continues to be weak. Central government ministries, departments and agencies continue to wield tremendous authority and make spending decisions in a highly centralised fashion. As a result, local governments have little authority to make strategic decisions and few methods of raising the tax revenues they need to be effective, for instance, in solid waste collection. The correlation between funding gaps and poor service delivery, particularly in the areas serviced by the communal container collection system serviced is quite obvious. Better cost-recovery measures seem the only means to bring about improvement in the functioning of waste management services.

The findings also point to a big gap between formal rules and actual practices in all aspects of the solid waste collection policies. Decentralisation of solid waste collection in Accra was simply a matter of a de-concentration of responsibility from the centre to the sub-metros. Decentralisation did not achieve the expected results in solid waste collection because the problem was more one of inadequate funds to operate solid waste collection rather than centralisation per se. In the absence of adequate funding, the decentralised bodies (*i.e.* the sub-metros) performed poorly in solid waste collection. Unfortunately, though decentralisation promises to give more powers and responsibilities to the local level through participatory democracy and consultations, the

communities have neither been involved in the design of the institutional arrangements for solid waste collection, nor have been sensitised and motivated to contribute to its successful implementation.

However, there is a clear distinction between the impacts of decentralising solid waste collection services to the six sub-metros constituting the AMA (*i.e.* the public administration of the service) and the impacts of privatisation of the service. The privatisation policy came in as the best available option, since it involves bringing in additional resources and private sector managerial thinking. Since 1997, the system of solid waste collection in Accra has undergone a fundamental shift from public to private provision. The transition was motivated by the apparent failure of the city's waste management department (WMD) to deal with the mounting problems of waste collection and the prevailing belief that the market would help to overcome these. The privatisation of solid waste collection has been a top-down exercise, decided upon by the local government, but with considerable influence of international donor institutions, notably the World Bank, in view of local government's incapacity to deliver the services adequately. The indigenous private sector was called upon to improve service performance. It is important to note that the local government's decision to privatise the service was not taken from a genuine belief in the potentials of privatisation. On the contrary: there was considerable opposition from within the local administration and the assembly of the AMA – but rather because there was no other option available and because AMA's WMD was put under considerable pressure from the central government and donors.

A striking feature of solid waste collection in Accra is the impact of extra-local pressures. There is a high tendency for central government interference in the affairs of the assembly due to the fact that Accra is the seat of the central government. Furthermore, Accra is also the seat of the Greater Accra Regional Administration. Therefore, there is interference from these levels of government as well. In addition, the donor community that pushed for privatisation of solid waste collection (in exchange for technical and logistical support) has strongly influenced policies in Accra. However, political commitment to the idea of privatisation is still minimal and the administrative machinery is totally unprepared to guide such a process.

Though the contracting approach, in principle, enables the local authority to keep a firm grip on the entire process through specified contract performance measures, enforceable contract sanctions, rigid performance monitoring and cost accountability, this has not been fully

realised in Accra. Furthermore, although privatisation of solid waste collection became official policy, the lack of appropriate provisions on the part of the local authorities proved to be the Achilles' heel. It was not so much poor performance by the private sector, but rather the AMA's endemic financial and managerial weaknesses that turned against the incipient local business class. An overzealous central government thought it could solve these shortcomings in a technocratic manner. Contrary to the widely admitted need for competition to make privatisation work, the state granted monopoly rights to a foreign firm. This intervention, despite possible gains in service effectiveness, is extremely costly and seems to be far beyond what local authorities and inhabitants can contribute.

II.6 The performance of the institutional arrangements in solid waste collection

Until mid-1999, public and private modes of solid waste collection co-existed, enabling a systematic comparison between them. Obirih-Opareh (2003) and Obirih-Opareh and Post (2001) showed that privatisation has benefited consumers in terms of a wider coverage, higher frequency and more reliable services. A number of drawbacks have also been observed, 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 decision (taken in 1999) to impose a private monopoly in solid waste collection in order to speed up the process and solve the waste collection problem in the metropolis once and for all is criticised by the general public and policy analysts. This decision compounded the financial problems of the local authority, hampered the development of an indigenous business sector and failed to build on the potentials of a system that seemed very promising.

The most important financial problem service providers encountered in the privatised communal container collection service was tardy payment of their invoices by the AMA/WMD, leading to occasional interruption of services. The financial viability of the arrangements based on house-to-house collection is considerably better than that of the communal container collection system. In Accra, the allocative efficiency is poor in the areas using the communal container collection system, as this type of service still does not attract user fees. Allocative efficiency is substantially better if local contractors provide the house-to-house collection service. At the same

time, the record of cost recovery was extremely good in the privatised house-to-house collection system, reaching a level of 95%.

The private contractors are also more productively efficient than their public counterparts. In the communal container collection system, contractors are paid for each recorded trip of waste to the designated dumpsites, while in the house-to-house collection system the willingness of residents to pay their dues depends on whether they receive value-for-money. As far as service effectiveness is concerned, privatisation has produced mixed results in Accra. In the communal container collection system, the major reason for this is the irregularity of services leading to waste piling up at the container sites. There is a significant difference between communal container collection performance under public and private provision. Local contractors generally provide better services, probably because they are being paid according to the number of containers they actually transport to the disposal sites. This incentive is lacking in WMD operations.

Appreciation of the cleanliness of services (degree of littering) is considerably lower in the communal container collection system compared to the house-to-house collection system. In theory, the latter ensures effective removal of waste from premises, whereas the communal container collection service – especially in the event that services are unreliable and/or container sites are far removed from houses – incites people to dump indiscriminately. Across the board, privatisation has produced higher levels of employment within the sector, largely by the extension of services. At the same time, labour conditions in the private sector are inferior to those in government service where wages are lower, job insecurity is higher and non-wage benefits and facilities are fewer. In view of the high level of labour turnover it looks like employment in the waste sector in Accra is a last resort option. Waste collection workers in Accra seem to consider their job and labour conditions to be worse than those of many other people with similar backgrounds. This helps to explain why labour turnover in the indigenous private sector is very high.

As Rondinelli and Iacono (1996) and Burgess *et al.* (1997) pointed out, private sector involvement in service provision raises issues of public interest and acceptability. The law supports all four basic arrangements in solid waste collection in Accra. Public outcry at the City and Country Waste's contract (*cf.* Section II.4) provides an excellent illustration of the legal and social legitimacy of institutional arrangements.

30 Illegal and unhygienic waste practices constitute a threat to public health and the environment. The communal container collection system is

most likely to generate environmentally unsound practices. The inadequacy of collection points and containers, the irregularity of waste collection and the distance people have to travel to dispose of their waste encourage illegal dumping, constituting a potential source of environmental degradation and a public health hazard, especially for children (dumpsites frequently serve as playgrounds). Uncertainty about the responsibilities as regards the cleaning of collection points is another problem the system faces. Both the WMD truck drivers and those working for private contractors just lift the containers, without cleaning litter and spillage. The idea is that residents will be charged for the collective container collection service and, eventually, that AMA will collect rates from the households. Low frequency and the irregularity of solid waste collection also have a detrimental impact on public health and the quality of the environment. In the house-to-house collection system, people normally use appropriate containers. Poor public health inspection and a lack of sanctioning against sanitary offenders are additional reasons for these negative environmental impacts.

Furthermore, contractors predominantly use open trucks, but scarcely cover the waste with a net to prevent littering during transportation. Some private contractors and/or drivers active in house-to-house collection avoid going to the dump and paying dumping fees to the AMA by unloading their vehicles at unauthorised places. In such instances private gain ends up in public loss. Such practices exist due to weakness as regards public monitoring and sanctioning by the WMD. The authorities are primarily concerned with the effectiveness of solid waste collection in high-income neighbourhoods, but much less with the overall urban environment. Despite numerous complaints by residents in Accra about private contractors unloading their vehicles at unauthorised places, the offenders are never sanctioned.

Privatisation has definitely helped to improve solid waste collection output in Accra with about 70% of waste being collected by early 1999. The low-income settlements suffer largely from the paucity of container sites and containers provided by the AMA/WMD, a problem that could not be offset by contractors merely charged with the removal of the waste from official vantage points. None of the institutional arrangements tries to link up with other domains of solid waste management, *e.g.* to move beyond waste collection and link it to other important aspects of solid waste management such as re-use, recycling and composting. The (local) government's attitude towards re-use, recovery and recycling of waste materials has usually been very ambivalent.

II.7 Conclusions

This study of solid waste collection in Accra provides an illustration of micro impacts of macro policies of decentralisation and privatisation. It points to a number of important elements such as large gaps between formal rules and actual practices due to the poor organisation of decentralisation and privatisation policies, inadequate fiscal transfers from the central government to decentralised bodies to match increased responsibilities, weak internal revenue mobilisation capabilities of the district assemblies, the tendency of the central government to interfere in purely local matters despite the decentralisation policy, the lack of effective urban governance and its effects on service provision, the distinctive role of the informal sector, the preference of consumers for private service providers and inadequate attention to environmental concerns in the development programmes.

Though Ghana has taken clear steps to pass legislation creating new local government institutions, these are not sufficient to reap the potentials of decentralised local government. Being denied sufficient revenues, local governments have performed their statutory functions poorly. Thus, while structural adjustment and decentralisation were initially associated with a reduction in central transfers, the deepening financial crises at local level compelled central governments to surrender to pressures to form improved central grant systems.

The decentralisation and privatisation policies in Ghana have had a direct bearing on the quality of life, particularly in the urban areas. The private sector was supposed to take the lead in urban development, following the inability of the local authority to deliver urban services, but has largely held back for political and economic reasons. Private sector involvement in urban service delivery is still in its infancy. Nevertheless, some experiences have been gained in privatising solid waste management and sanitary services in Accra and several larger cities in Ghana. These initiatives demonstrate that the private sector has a real potential for providing improved services. However, most privatised public service delivery suffers from several drawbacks. Because some public services have the nature of a public good, there is a good case for continued financial involvement by the central and the local governments to mitigate the negative consequences should individual consumers opt out of the service or be excluded from the service. If rates are artificially set at uneconomic levels and the local government does not sufficiently compensate this, the financial sustainability of a privatised public service will be compromised. Apart from corruption, cronyism and political

patronage, this is probably the greatest threat to successful privatisation of urban services.

Institutional weakness, inadequate financing, poor cost-recovery measures and the lack of clearly defined roles for agencies in charge of solid waste management seriously hamper solid waste collection in the Accra Metropolitan Area. Deficiencies in solid waste collection services in Accra are not only a reflection of absolute resource constraints and constraints related to the institutional arrangements of urban services delivery, but are also related to the attitudes of residents and officials to solid waste collection. In general, people serviced through the house-to-house collection system are more satisfied with the service than those serviced through communal container collection. The most common solid waste collection problems perceived by the residents are related to dissatisfaction with the low frequency of collection, the costs and the cleanliness of the service. Consumers of the communal container collection service would like to have more collection sites, containers and labour available. Much is expected from privatisation, though some fear increased prices if private sector participation in solid waste collection increases. The service providers view solid waste collection as profitable if the tariffs could be reasonable and payment is regular. Policy makers, in turn, are generally satisfied with the arrangements that emerged after decentralisation and privatisation, particularly in house-to-house collection. What worries them, however, is the financial burden of the communal container collection service. The survey shows that there is a growing realisation among even the poor that the status quo (*i.e.* free solid waste collection services for collective container collection) cannot continue.

The analysis shows that privatisation has brought advantages to the consumers in terms of wider coverage, higher frequency and more reliable services (*i.e.* enhanced regularity of container haulage in areas working with the collective container collection system and regular payment of service fees by residents in the house-to-house collection system). Furthermore, there is tremendous public support for privatised solid waste collection. However, there are also a number of drawbacks. The environment and the labourers are paying for some of the benefits. The major flaw of the entire system is, however, the lack of financial sustainability, which is related to the service having a non-commercial nature or the nature of a public good. The financial viability of solid waste collection at city level partly depends on the success of cost recovery. In order to enhance participation in solid waste collection services and

improve cost recovery, it is vitally important to give people a say in the design of the arrangements in their areas.

In conclusion, decentralisation and privatisation have become almost universally embraced policy devices. Their shape and performance continue, however, to be shaped by local relationships and the whims of local politics. The dynamics of the privatisation of solid waste collection in Accra show that genuine political commitment to the idea, as well as political guidance of the process, were sadly lacking. For the situation to improve, attention has to be paid to the creation of an enabling framework and appropriate regulatory provisions. Furthermore, much needs to be done to widen the social and political legitimacy of the reforms. Successful public-private collaboration requires a bottom-up approach and consultation with other stakeholders on the basis of equality and mutual respect. Without basic institutional adjustments, sound financial mechanisms and change in attitude, it will be impossible for decentralisation and privatisation to prove their value.

III. Discussion

III.1 Scientific relevance

This investigation produced quite a number of empirical findings. To assess the theoretical implications of these findings, we have to return to the three theoretical angles of the study⁶ and to discuss them in terms of (i) drawbacks of decentralisation; (ii) better performance by private providers; (iii) the urban governance approach; (iv) the partnership approach; (v) the guiding hand of the state and (vi) lack of concern for the environment.

III.1.1 The drawbacks of decentralisation

The various decentralisation efforts – strengthening the district assemblies and creating sub-metropolitan assemblies within the Metropolitan Assemblies – have performed far below expectation. This is due to a lack of transfer of resources from the central government to the district assemblies and from the district assemblies to the sub-metropolitan assemblies, in order to match the transfer of responsibilities. In addition, departments such as the WMD do not have financial autonomy and continue to depend on the highly politicised allocative policies of the local authorities. These issues illustrate very familiar theoretical themes of impediments associated with decentralisation (Rondinelli, 1990; Bennett, 1990, 1993; Smith, 1985, 1996; Wolman, 1990; Martin, 1993; Hesse, 1991; Hovrvath, 1997; Batley, 1996; Helmsing, 2000).

In Accra, two factors combine to explain the flaws of the reform. The first refers to the failure of the decentralisation policy to empower the people through the district assemblies, to restructure the government machinery and reform local governments to take responsibility for local

⁶ As was seen in Section I.4, the first of the theoretical debates looks at decentralisation and privatisation within the broader development debate that at present is dominated by the principles of neo-liberalism and from the perspective of the African state (particularly Ghana). The second one examines urban management, urban governance, environment and partnerships in the African context. The third one focuses on solid waste management.

administration and development and to make public administration more efficient and responsive to local needs. The second refers to the lack of restructuring of the allocation of resources and reassignment of functions and responsibilities to the three levels of government (national, regional and district). The lack of elaboration of local government laws in terms of new working procedures, etc. not only points to a lack of political guidance, but also results in confusion and battles of competence between various levels: the Accra Metropolitan Area and sub-metros; and the WMD and Accra Metropolitan Assembly). Administrative opposition, a lack of financial independence (solid waste collection in Accra is funded partly by central government resources) and the fact that there is still no composite budget for the district assemblies compound these problems.

Secondly, Accra is the capital city, the seat of the central government and regional government, which implies a continuous interference from the cabinet in local affairs (*cf.* the CCW contract).

Our findings support the idea that for decentralisation to be successful, genuine political commitment at the top is required as well as strong political guidance in its elaboration. However, the “silent coalition” of opposing forces reluctant to alter the power structure and the inheritance of authoritative and centralised governing – the administrative establishment (civil service) and the ministries (including the Ministry of the Local Government) – has managed to slow down the process of empowering the local assemblies. The same mechanisms frustrate decentralisation efforts within the district assemblies, where established elites find ample reasons to hold on to the limited power in their hands (Bayliss, 2001; Wunsch, 1998, 2001).

III.1.2 Private providers perform better

The findings show that an overwhelming majority of consumers (*i.e.* 98%) in all localities prefer private service providers to the WMD. They also believe that private service providers perform better services than the public ones. The dissatisfaction about past governance performance translates into a strong pro-privatisation attitude. This is not only an opinion, but was supported by our findings on efficiency and effectiveness gains through privatisation of solid waste collection, which support the general theoretical claims that the private sector performs better. The findings point to better performance by the private sector in terms of high rates of user charge collection in house-to-house collection (up to about a 95% success rate), improved cleanliness (*e.g.* by CCW) and higher productive efficiency. The ability of private contractors to work with very

limited resources as compared to the public sector ones echoes familiar theoretical claims of private sector managerial capabilities, its dynamism and superiority over the public sector (Batley, 1994, 1996; Cointreau-Levine, 1994; Lee, 1997; Rondinelli and Kasarda, 1993; World Bank, 2001). Besides, the private providers are not bothered by political interference and seem to have less overhead costs, partly because these are externalised and carried by the AMA/WMD. However, the better performance by, and the comparative advantage of, the private sector largely come from savings on labour costs and partly from the use of very old vehicles and technologies that fit the qualities of the areas concerned.

The findings also support the assertion that the inefficiency of the public sector in the provision of services has been the chief reason for pushing for privatisation. The findings show that competition helps to ensure quality at minimum cost (Stiglitz, 1998; Walsh, 1995; Samuelson and Nordhaus, 1985) and support the fact that competition consistently reduces the cost of public performance and results in significant economic savings to the taxpayer. It results in better value and improves performance by bringing viable, responsive, innovative and cost-effective competitors (public and private) to the "table" (Styles, 2001). The findings also show that the process of competition provides an imperative for the public officials to focus on removing obstacles to better performance and greater efficiency. The objective is to focus on the most effective and efficient way of accomplishing the tasks, regardless of whether it is done by civil servants or contractors.

The findings show that the local private operators in Accra have proven that they are able to provide good quality solid waste collection services at comparatively low costs leading to high levels of satisfaction among consumers. This underlines the theoretical claim that the private sector has a comparative advantage in terms of productive efficiency and effectiveness. These advantages have been provided through the indigenous business class, a number of small to medium sized enterprises, utilising predominantly simple technologies and large numbers of workers. Very often, the potential of these local enterprises is insufficiently recognised by the authorities. This partly stems from their preference for dealing with big, modern businesses that satisfy basic legal standards, partly because they want to reduce transaction costs as they have to deal with many small providers (*cf.* Baud *et al.*, 2001; De Haan *et al.*, 1998). Furthermore, in Accra (at least until 1999) entrepreneurs were free to arrange their own mix of labour input and technology usage resulting in a certain diversity of approaches well attuned to specific local circumstances. Furthermore, the

companies involved – especially those providing house-to-house collection services on a franchise basis – were able to generate an acceptable profit. This attests to the flexibility of the private sector in solid waste collection.

The findings show that the desire of the private local contractors to work more to earn more revenue is not in dispute. This was demonstrated by the fact that by the end of 1998 and early 1999, the private local contractors were able to provide more than 70% of the waste collection services in Accra. The weakness of the private sector to deliver as expected in solid waste collection is often due more to the environment within which it operates rather than its capabilities per se. Thus, conditions under which the private local service providers work in solid waste collection in Accra (low tariffs and tardy payments) do not make it possible for private local contractors to reveal their full potentials.

III.1.3 The urban governance approach

If “governance” can be taken to mean, as Stoker (1998) suggests, the successful management of community affairs through a mixing of public, private and voluntary actors, then solid waste collection is an excellent case to test the working and adequacy of governance. Contrary to the idea of governance, policy development in Accra is still based on a conventional public management approach with the local government in the driving seat and acting as the prime initiator (*i.e.* a top-down approach). Other actors are not given a say in the planning and decision-making process (notably a lack of community participation). The study also testifies to the painful neglect of community participation in the design of privatisation policies. As a result, residents are not incited to develop a sense of commitment to the quality and sustainability of solid waste collection in their areas.

The findings of the study attest to the fact that solid waste management is no longer a (local) government monopoly, but a domain opened to various modes of public-private cooperation. Such blurring of boundaries and responsibilities requires governance in which all the key actors and stakeholders come together in partnerships to achieve a common public goal. However, a major prerequisite for the transition towards governance is that actors trust each other. The transition to a new networking style of governing is by no means easy. Despite official commitment to the concepts of participatory democracy, the government and its representatives have difficulty in working along these lines due to the inheritance of authoritarian and expert-driven management practices and the lack of legal provisions for participatory planning. The authorities continue to dictate rather than to negotiate even though they are not really capable of effective dictating.

III.1.4 The partnership approach

Despite the fact that the majority of the people want privatisation of solid waste collection services, they simultaneously do not want the local authority to divest itself completely of its responsibility in solid waste collection. When public tasks are passed on to the private sector, safeguards have to be built in. Therefore, privatisation usually implies some kind of public-private partnership (Ostrom, 1996; Baud and Post, 2002; Batley, 1996). The findings show that solid waste collection continues to be a public good, which cannot be fully privatised and that the local government has to continue supporting financially, even after privatisation of the services.

The study clearly demonstrates that the importance and potentials of partnerships in ensuring good governance of solid waste collection in the urban setting cannot be taken for granted. The findings show that AMA as the public partner fell short in delivering its expected share of the bargain. The partnering did not lead to a gradual advancement of shared norms and mutual understanding, but reconfirmed mutual distrust. Rather than being credited for providing good quality solid waste collection at comparatively low cost, the local contractors were blamed for not succeeding in cleaning up the entire city. However, they only operated in specifically assigned parts of the city and only started economising on their performance in the communal container collection areas in response to the tardy payment by the AMA/WMD. To a certain extent, the fallacies of decentralisation bounced back on the partnering in solid waste collection in the sense that the commissioner of the service was unable to act as a principal. AMA's endemic financial and managerial weakness, especially its inability to implement an appropriate system of cost recovery, made it lose control. As a result, the central government stepped in, albeit not only for unselfish reasons, but also as a convenient excuse to favour some of its political friends.

Obviously, the local private actors cannot compensate the shortcomings on the public side. Partnerships are based on the idea of complementarities: each partner brings in something unique and together this may produce synergy. It would be naive to expect the private sector to defend the public interest. The indigenous contractors have not, for example, done anything to improve servicing in the most deprived residential areas. Furthermore, one should remember that their comparative success came at some cost, notably poor labour conditions and a lack of concern for the environmental aspects of solid waste collection.

The role of the consumers has been painfully neglected in the design of the privatisation policy. There is some reason to believe that the involvement of communities in the partnership would be beneficial. To take

an example, residents in the middle-income area of Adabraka have themselves taken the initiative to upgrade the communal container collection system by hiring waste pickers to come and collect the garbage at their doorsteps and bring it to the container sites. Such initiatives have the advantage of being tailored to the needs of the people, rather than being imposed on them. The findings show that in order to select the most appropriate methods it is essential to give residents a firmer say in planning and decision-making.

III.1.5 The guiding hand of the state

The findings show that the private providers perform better than the WMD. However, there were serious shortcomings in the ability of the local authorities to guide the process properly. The local authority was unable to finance the system without resorting to the central government.

Furthermore, the public partner is usually seen as the caretaker of the public interest and the promoter of social acceptability. In principle, the contracting approach enables local governments to keep a firm grip on the entire process through specified contract performance measures, enforceable contract sanctions and rigid performance monitoring and cost accountability. It requires the authorities to have an effective monitoring and control system as well as the necessary means to cover the expenses incurred. However, in Accra, these conditions are not fulfilled: the local authority was not able to act as principal in public partnership arrangements.

There will always remain a crucial role for the state to play in arranging for more sustainable ways of solid waste collection. In Accra, like in most cities in developing countries, market conditions for this particular public good are imperfect and many poor households are simply unable to pay according to their consumption. Furthermore, in addition to the need to subsidise the running costs of solid waste collection, the authorities will continue to bear the transaction costs of contract management and the costs of performance monitoring and investments in container sites, sanitary landfills etc. Finally, there continues to be a need for a public actor that sets standards for performance, public health, labour conditions and protection of the environment and that arranges for these standards to be upheld.

III.1.6 Lack of concern for the environment

In Accra, the lack of concern for the environment in the plans and programmes of the local authority for solid waste collection is manifested in many areas. This includes (i) public health aspects; (ii) environmental deterioration; and (iii) lack of attention to waste as a resource. The system

tends to focus more on narrow perspectives such as efficiency criteria, without due regard for environmental concerns. In Accra, urban environmental management does not really exist despite efforts to move in that direction through the Sustainable Cities Programme (McGranahan *et al.*, 2001). The environment continues to be a closing item. At the local level, responsible actors only think in terms of service efficiency and effectiveness. Moreover, effectiveness is narrowed down to removal of waste from residential areas without any concern for either the safety of its disposal, or the impact of disposal on the quality of the environment (*cf.* open dumping), or for possibilities for reducing waste flows or for diverting them through re-use, recycling and composting. The protests by residents in the Mallam and Kwabenya suburbs of Accra against the use of their land for waste dump and landfill sites respectively, underscore the official neglect of environmental impacts of the city on the built-in environment. Public health and environmental deterioration seem not to receive adequate attention in the local authority plans.

The fact that there is no integrated solid waste management approach in Accra shows a lack of attention to waste as a resource. Integrated solid waste management as a concept is an idea, which is still not practised. The contribution of re-use, recycling and composting as a contribution to urban sustainable development does not feature in policies and programmes of the local authority.

III.2 Recommendations for further research

The study suggests a few areas that are theoretically rewarding and or relevant to future policy. These are grouped into two levels: (i) general and (ii) Accra/Ghana and would address the questions below.

General

1. How can the inclusion of ecological concerns in urban policies and public service delivery be fostered in accordance with an interpretation of urban environmental management that recognises wider responsibilities than simply those of the city and its residents?
2. How can partnerships across the public-private divide defend the public interest or enhance urban sustainable development? More specifically: how can ideas concerning integrated solid waste management be promoted and how can officials and policy makers be made enthusiastic about an approach that seeks to integrate socioeconomic, public health and wider environmental concerns? How can the potential of partnerships across the public-private divide be

- promoted? How can such collaboration be expanded to include community actors and/or informal actors (waste pickers)?
3. Under what conditions could public providers deliver the same quality of services as the private sector?

Accra/Ghana

1. Why is (organic and inorganic) waste not more widely used as a resource? How can linkages between different domains in the solid waste management system such as recycling, re-use and composting of waste be integrated and promoted in Accra and other cities?
2. Is the potential of using waste as a resource sufficiently understood in Accra and, if not, why not and in what respects? How can linkages between solid waste collection and recycling, re-use, and composting of waste be strengthened?
3. What is the most appropriate mixture of production factors (technology choices) for solid waste collection in various residential areas, taking affordability into consideration?
4. How best could cost recovery be organised in Accra?
5. Should the sub-metros continue to have a role in the organisation of solid waste collection and, if yes, what role?
6. How could community involvement in solid waste collection best be promoted?

There is ample reason to engage in broader comparative research in order to further our understanding of the factors that are decisive in explaining the success or failure of decentralisation and privatisation exercises in waste management. Such a broader perspective would not only include other stages in solid waste management, but would include a range of urban areas differing in their size, geographical attributes, economic well-being and governance characteristics.

III.3 Practical applicability

The research results enable policy makers to be better informed on the issues examined. The examination of fiscal disparities among district assemblies is particularly innovative as such an examination – with clear policy implications – has not been performed in Ghana before. The evaluation of waste management in the context of decentralisation and privatisation also provides new insights that can spark debates on proper solutions and their implementation.

IV. Recommendations

There are quite a number of problems that deserve swift action to ensure an improved and more sustainable waste collection system in Accra. Major constraints to solid waste collection relate to lack of effective urban governance. Policy intervention, obviously, should target the elimination of these constraints. Action should focus on:

1. The need to empower the district assemblies and address the shortcomings of the decentralisation policies. District assemblies should be empowered by (i) making leadership more independent from the central government; (ii) speeding up the adoption of rules and regulations to fit the decentralised structure; (iii) speeding up financial independence of the district assemblies by granting a composite budget; and (iv) supporting district assemblies in their efforts to increase own revenues.
2. The integration of policy design and involvement, moving to a new style of governing that fosters widespread involvement of private and community actors in the preparation, planning, decision-making, design, implementation and monitoring of waste collection arrangements. This might increase civic responsibility towards waste collection and improve trust in local authority.
3. Fostering a positive change in attitude of residents and policy makers towards waste collection.
4. Making the system more viable by various financial and technical interventions.
5. Promoting concern for the environment, including public health aspects, environmental deterioration and regarding waste as a resource.

In the sections below, we present policy recommendations to address these issues.

Policy design and implementation

Policy must be realistic. It should link with the current governance perspective of having stakeholders jointly work towards the achievement

of collective goals. Local authorities have to work in harmony with other actors and listen to and consult with other stakeholders in the design of policies and arrangements that affect their lives. The local authority should implement initiatives that have already proved successful, such as franchising, contracting out fee collection, and building on people's own initiatives. The enforcement of bye-laws should perhaps be based on the closer involvement of communities, using community leaders and unit committees rather than officials who are underpaid and badly motivated.

Integrating environmental concerns in planning

Environmental neglect is another major problem facing sustainable approaches. Most of the policies tend to focus on socioeconomic perspectives such as efficiency criteria and less on the environment, if at all. Sustainable development approaches in solid waste management mean that environmental considerations should also be brought to the forefront of any development and management programme. It should integrate waste collection with other domains of solid waste management, such as using waste as a resource for re-use, recycling and composting. It should pay a lot of attention to environmental health aspects in the planning and implementation stages.

Change in attitudes

A positive change in attitude towards solid waste collection among all stakeholders is the surest guarantee for a sustainable solid waste collection system in Accra. The general public must be sensitised to their civic responsibility in solid waste collection. This involves public education and awareness creation, in which the media have a unique role to play. Improved solid waste collection requires not individual, but collective and coordinated actions. Residents must abide by basic sanitation regulations. They must ensure that their waste is properly stored and kept away from roaming livestock and must desist from the indiscriminate dumping of waste and littering, which is a particular feature of the low-income areas. Local authorities should not condone and connive with activities that disrupt orderly collection, transportation and disposal of waste. Bye-laws must be enforced vigorously; otherwise they are of no use. The mass media could help to educate and create environmental awareness and make the public aware of the effect of poor sanitation and waste management.

Supervision, monitoring, evaluating and coordination

The local authority must strengthen its supervisory, monitoring, evaluating and coordinating roles to increase the effectiveness of institutions and institutional arrangements for waste management in the metropolis. It should ensure better coordination between the WMD (the service performance sector) and the Environmental Health Department (EHD) responsible for health inspection, bye-laws implementation and illegal practices by providers. Money has therefore to be set aside for proper inspection and equipping inspectors. This is the hidden or transaction cost of solid waste collection, which the local government authority must bear. Furthermore, the local authority should also give residents a way of monitoring performance, for example through cleaning committees. Residents can play an active role through their community leaders, assemblymen and members of unit committees to monitor and evaluate the performance of waste contractors. Residents demonstrated their capabilities to play this role during the franchised house-to-house system when they demanded value for their money.

The viability of the system and increased funding

Inadequate funding is identified as one of the major causes for poor performance and the inability of the local authority to extend the coverage of the waste collection system to areas presently denied. The need for an appropriate balance between development funds and operational funds is a major policy recommendation that comes out from the evaluation of fiscal disparities. The local authority could increase funding for its solid waste collection through the following mechanisms:

1. Cost recovery.
2. Instituting and implementing differential rates based upon area classification and affordability. It should encourage community participation in the design of the solid waste collection system, notably a right mix between service levels and costs. The rates should be adjusted upwards to take account of inflation over a period of time.
3. Using better methods for collecting fees such as privatising it, engaging commissioned agents, daily or monthly payments, or including the bill in water or electricity bills, as is the case in many other (developing) countries.
4. Sanctioning free riders.
5. Extending house-to-house services (for which people are more inclined to pay).
6. Fiscal discipline.

7. Sourcing other taxable avenues.
8. Foster privatisation and competition.

We will elaborate these mechanisms in more detail below.

1. *Cost recovery*

The consequence of the pay-as-you-dump policy in the late 1980s and early 1990s – indiscriminate illegal dumping of solid waste in order to avoid payment – provides a unique policy lesson for the local authority with regard to the negative implications of full cost recovery measures. The study therefore suggests avoiding over-reliance on user fees, but also finding alternative sources to supplement or offset the low cost recovery of solid waste collection. Findings show that people are willing to pay, albeit perhaps not the full costs, if services are reliable and adequate. Free riding can be prevented if appropriate institutional arrangements have been created (such as the franchise system) and provisions for accountability have been put in place. Free riding can also be prevented by social control or government control on the actions of people. This cuts across all segments of the population, including those in poor areas. The local authority should capitalise on this and organise reliable and adequate services. This, however, presents a problem of which should come first: the chicken or the egg riddle. A way out of this is for the local authority to take the lead and demonstrate a willingness to provide reliable and adequate services. This will enable it to collect user fees for its services. Then the local authority could take advantage of the willingness to pay to raise revenue, based upon affordability.

2. *Differential rates, affordability and community participation in the design of waste collection arrangements*

The issue of affordability as regards paying for solid waste collection services illustrates a familiar social dilemma. The fact that solid waste collection has the nature of a public good also poses a policy dilemma to policy makers and city authorities, particularly those in poor developing countries. If non-payers are excluded, the payers will suffer the consequences such as reduced cleanliness and threats to public health.

The local authority should also investigate the affordability of the rates in combination with the levels of service, with the community deciding on the most appropriate combination. Experiences from initiatives undertaken by some assemblymen in Accra who put attendants at waste collection points in Akweteman and Kaneshie to clean the area and to collect fees from users, could serve as a useful guide in the development of a more

accountable community-based system that uses community leaders to collect fees. Community leaders know the people well and could keep track of non-payers. Consultation between the local authority and the community with regard to the design of waste collection system facilitates ownership of the process, which invariably contributes substantially to its performance.

3. Better fee collection methods

A better method of fee collection should be put in place to guarantee the durability of the system. Findings show that the franchised house-to-house collection system for the private service providers proved very successful. The problem was with the public sector whose success rate in fee collection was not so high. The success for the franchised system was that the consumers could demand value in return for paying the fees. Following the withdrawal of the public sector from waste collection, it would be appropriate to return to the franchised system in which the service provider collects the fee by himself. However, if the contract system is to continue, then commissioned private firms must be selected through open bidding to collect the fee on behalf of the local authority. A better user fee collecting mechanism must be established for areas where the communal container collection system is operating. This is where community leaders can play an effective role through educating their constituents.

Commissioned agents can also be recruited from the ranks of members of the community to help in user fee collection. The unit committees could best handle this in their areas. The authority should beware, however, of introducing new avenues for enrichment, favouritism and patronage. Furthermore, the authorities will always have to recognise that people, especially in the poorer parts of the city, cannot pay according to their consumption. Besides, the authorities will continue to bear the transaction costs of solid waste management at city level, such as for contract management, performance monitoring, etc.

4. Sanctioning free riders

The inability of the local authority to sanction free riders reduces its ability to deter others and perpetuates this negative practice. It also deprives the authority (or in the case of a franchised system, the public or private service provider) the means of raising the money needed to sustain the service. Offenders should therefore be prosecuted in court.

5. *Extending house-to-house services*

Major improvements in the cleanliness of residential areas will probably require the introduction of the house-to-house collection system across the city. However, the nature of the system – frequency of collection, technology choices and the rates to be charged – will have to be differentiated to reflect variations in prosperity. The local authority must extend the house-to-house collection system after consultation with the communities and consumers on the design of the institutional arrangement, including the user fees involved. As a start, the local authority could introduce house-to-house collection into all areas with a good road network and accessibility to houses such as in Osu, Adabraka and James Town. This process could continue till all such areas are serviced through the house-to-house collection system.

6. *Fiscal discipline*

Though solid waste collection is the largest single item in the recurrent expenditure in the overall budget of the local authority, performance on the ground is abysmal. The low productive efficiency stems from objective problems on how the funds of solid waste collection are disbursed. Fiscal discipline is a *sine-qua-non* to improved performance. If the local authority were to use funds more prudently and plug leakages in revenue mobilisation, it could improve waste collection in Accra with the current level of taxation, when adjusted for inflation.

7. *Sourcing other taxable avenues*

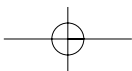
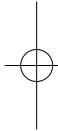
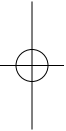
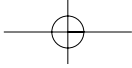
Since revenues from user fees continue to be inadequate to meet the whole waste collection system, the local authority must identify more potential taxable sources, which it has not yet tapped. For instance, it could demarcate most of its major roads in the central part of Accra, including the central business area (CBA) and certain residential areas, as parking lots for fees at differential rates based upon the areas' classification. Part of the revenue from this source could be used to improve solid waste collection services in the city. Parking fees will also help to reduce haphazard parking and ease traffic congestion in the city centre.

8. *Foster privatisation and competition*

Decentralisation of solid waste management does not lead to significant results, since the major problem in solid waste collection is funding. Privatisation on the other hand proved to be much more effective although the quality of the services still varies widely. The study indicates that a

majority of consumers are willing to pay more if services are better organised.

This study criticises the monopoly granted to CCW (a joint Canadian-Ghanaian corporation) in waste collection in Accra in 1999. This contract implies that the important advantage of privatisation – competition – is lost. The values of private sector participation could be achieved only under a competitive environment. This phenomenon of a large foreign corporation, backed by its home country, that forms a partnership with people of the local elite, affiliated to the government, in order to receive a large contract for the provision of a service that has been undergoing a process of privatisation, can undermine efforts to reform local governance methods and to improve the quality of urban services in a sustainable manner. Such contracts are usually granted at the expense of the public purse, with the support of the foreign state in financing (but in loans and not in grants). The foreign corporation and the local partners receive the contract largely thanks to their political influence. After a few years of guaranteed profits, the whole system could collapse due to lack of adequate revenues, leaving the local authority and the public with a new burden of debt and the need to restart building the old system of service providers from the beginning. Continued monitoring of the experience with CCW and its financial aspects is therefore of prime importance for the future of AMA as well as for local service provision elsewhere in the developing world.



References

- Adarkwa, K.K. and Post, J. (2001) *The fate of the tree. Planning and managing the development of Kumasi, Ghana*. Woeli: Thela Thesis.
- Accra Metropolitan Assembly (1992). *Strategic plan for the Greater Accra Metropolitan Area. Vol.1: Accra planning and development programme strategic plan for the Greater Accra Metropolitan Area (GAMA)*. Context report Vol. 1, 1990. Accra: AMA.
- Bach, S. (2000). 'Decentralization and privatization of municipal services: the case of health services'. ILO Working Paper. Geneva: ILO.
- Batley, R. (1996). 'Public-private relationships and performance in service delivery', *Urban Studies* 33: 723-751.
- Batley, R. (1994). 'The consolidation of adjustment: implications for public administration', *Public Administration and Development* 14: 489-505.
- Baud, I.S.A. and Post, J. (2002). 'New partnerships in urban solid waste management in the developing world and their contribution to sustainable development: experiences in Accra (Ghana) and Chennai (India)', in I.S.A. Baud, A.J. Dietz, L.J de Haan and J. Post (eds.) *Re-aligning government, civil society and the market: new challenges in urban and regional development. Essays in honour of G.A de Bruijne*. Amsterdam: AGIDS.
- Baud, I.S.A., Hordijk, M., Grafakos, S. and Post, J. (2001). 'Quality of life and alliances in solid waste management, contributions to urban sustainable development', *Cities* 18: 1-10.
- Bayliss, K. (2001). *The World Bank and privatisation: a flawed development tool*. Greenwich: Public Services International Research Unit (PSIRU)/ University of Greenwich/Global Focus.
- Bennett, R.J. (1993). *Local government in the new Europe*. London: Belhaven Press.
- Bennett, R.J. (1990). 'Decentralisation, intergovernmental relations and markets: towards a post-welfare agenda', in R.J. Bennett (ed.) *Decentralisation, local governments and markets: towards a post-welfare agenda*. Oxford: Clarendon Press.

- Bird, R.M., Ebel, R.D. and Wallich, C.I. (1995). *Decentralization of the socialist state: intergovernmental finance in transition economies*. Washington DC: International Bank for Reconstruction and Development/The World Bank.
- Burgess, R., Carmona, M. and Kolstee, T. (1997). *The challenge of sustainable cities, neoliberalism and urban strategies in developing countries*. London: Zed Books.
- Cointreau-Levine, S. (1994). *Private sector participation in municipal waste services in developing countries. Vol. 1. The Formal Sector Urban Management Programme Discussion Paper 13*. Washington: UNDP/UNCHS/World Bank Urban Management Programme.
- Crook, R.A. (1994). 'Four years of the Ghana District Assemblies in operation: decentralisation, democratisation and administrative performance', *Public Administration and Development* 14: 339-364.
- Devas, N. (1999). *Who runs cities? The relationship between urban governance, service delivery and the urban poor*. Theme Paper 4 of the Urban Governance, Partnerships and Poverty Programme, University of Birmingham.
- Devas N., Amis, P., Beall, J., Grant, U., Mitlin, D., Rakodi, C. and Satterthwaite, D. (2001). *Urban governance and poverty: lessons from a study of ten cities in the South*. Birmingham/London: University of Birmingham and DFID.
- Devas N. and Rakodi, C. (eds.) (1993). *Managing fast growing cities, new approaches to urban planning and management in the developing world*. Essex: Longman.
- Doan P.L. (1998). 'Institutionalising household waste collection: the urban environmental management project in Cote d'Ivoire', *Habitat International* 22(1): 27-39.
- Frantzen, A. (1998). 'Public-private partnerships as a solution to the improvement of public toilet facilities? The case of Kumasi.' Report, Catholic University of Nijmegen.
- Ghana Statistical Service (2000). *2000 Population and housing census, provisional results*. Accra.
- Ghana Vision 2020 Document (1996). *The first step, 1996-2020*.
- Haan, H.C. de, Coad, A. and Lardinois, I. (1998). *Municipal solid waste management – involving micro- and small enterprises – guidelines for municipal managers*. Co-publication with WASTE, GTZ, SKAT and ILO.
- Helmsing, A.H.J. (2000). *Decentralisation and enablement, issues in the local governance debate*. Inaugural Address, University Utrecht, 27 April 2000.

- Hesse, J.J. (1991). *Local government and urban affairs in international perspective, analysis of twenty western industrialised countries*. Baden-Baden: Nomos Verlagsgesellschaft.
- Hordijk, M. (2000). *Of dreams and deeds, the role of local initiatives for community-based environmental management in Lima, Peru*. Amsterdam: Thela Thesis Publishers.
- Lee, Y.F. (1997). 'The privatisation of solid waste infrastructure and services in Asia', *Third World Planning Review* 19: 139-162.
- Martin, B. (1993). *In the public interest: privatisation and public sector reform*. Atlantic Highlands NJ: Zed Books and Public Services International.
- McGranahan, G., Jacobi, P., Surjadi, C., Songsore, J. and Kjellen, M. (2001). *The citizens at risk: from urban sanitation to sustainable cities*. London: Earthscan.
- Obirih-Opareh, N. (2003). *Solid waste collection in Accra. The impact of decentralisation and privatisation on the practice and performance of service delivery*. Amsterdam: AGIDS, Universiteit van Amsterdam.
- Ostrom, E. (1996). 'Crossing the great divide: co-production, synergy and development', *World Development* 24: 1073-1087.
- Post, J. and Obirih-Opareh, N. (2002). 'Quality assessment of public and private modes of solid waste collection in Accra, Ghana', *Habitat International* 26: 95-112.
- Razin, E. and Obirih-Opareh, N. (2000). 'Spatial variations in fiscal capacity of local government in Ghana before and after decentralisation', *Third World Planning Review* 22: 411-432.
- Rondinelli, D.A. (1990). 'Decentralisation, territorial power and the state: a critical response', *Development and Change* 21: 491-500.
- Rondinelli, D.A. and Iacono, M. (1996). 'Strategic management of privatisation: a framework for planning and implementation', *Public Administration and Development* 16: 247-263.
- Rondinelli, D.A. and Kasarda, J.D. (1993). 'Privatisation of urban services and infrastructure in developing countries: an assessment of experience', in J.D. Kasarda and A.M. Parnell (eds.) *Third world cities: policies and progress*. Newsbury Park, CA: Sage.
- Samuelson, P. and Nordhaus, W.D. (1985). *Economics*. Twelfth Edition. New York: McGraw-Hill International Editions Economic Series.
- Smith, B.C. (1985). *Decentralisation: the territorial dimension of the state*. London: George Allen and Unwin.
- Smith, B.C. (1996). 'Sustainable local democracy', *Public Administration and Development* 16: 163-178.

- Stiglitz, J.E. (1998). 'Knowledge for development: economic science, economic policy and economic advice', in: B. Pleskovic and J.E. Stiglitz, (eds.) *Annual World Bank Conference on Development Economics*. Washington DC: The World Bank.
- Stoker, G. (1998). 'Governance as theory: five prepositions. ISSI 50: 17-28.
- Styles, A.B. (2001). 'Statement by the administrator office of federal procurement policy before the house sub-Committee on technology and procurement policy', June 28, 2001.
- Van der Geest, S. (1998). 'Akan shit: getting rid of dirt in Ghana', *Anthropology Today* 14 (3): 8-12.
- Van der Geest, S. and Obirih-Opareh, N. (2001). *Toilets and sanitation in Ghana: an urgent matter*. Accra: INSTI, CSIR.
- Walsh, K. (1995). *Public services and market mechanisms: competition, contracting and new public management*. Basingstokes and London: MacMillan.
- Wolman, H. (1990). 'Decentralisation: what it is and why we should care', in R.J. Bennett (ed.) *Decentralisation, local government and markets: towards a post-welfare agenda*. Oxford: Clarendon Press.
- World Bank (2001) *Decentralisation and governance: does decentralisation improve public service delivery?* Washington DC: the World Bank.
- Wunsch, J.S. (2001). 'Decentralisation, local governance and 'Recentralisation' in Africa', *Public Administration and Development* 21: 277-288.
- Wunsch, J.S. (1998). 'Decentralisation, local governance and the democratic transition in Southern Africa: a comparative analysis, *African Studies Quarterly* 2: 1.

Appendix 1

Participating researchers and institutions

1. Principal researchers:

Prof. Eran Razin (coordinator)
Department of Geography
The Hebrew University
Mount Scopus
Jerusalem 91905
Israel
Phone: 972-2-5883351
Fax: 972-2-5820549
Email: msrazin@mscc.huji.ac.il

Dr. Martin A. Odei
Deputy Director General
Council for Scientific and Industrial Research (CSIR)
P.O. Box M.32
Accra
Ghana
Phone: 233-21-777651/4
Fax: 233-21-777655

Prof. Sjaak van der Geest
Medical Anthropology
University of Amsterdam
Oudezijds Achterburgwal 185
1012 DK Amsterdam
The Netherlands
Phone: 31-20-5252621/5252670/5252504
Fax: 31-20-5253010
Email: s.vandergeest@uva.nl

2. Other researchers:

Dr. Nelson Obirih-Opareh,
Science and Technology Policy Research Institute,
CSIR, P. O. Box M.32
Accra, Ghana
E-mail: nobirih_opareh@yahoo.com

Dr. Johan Post
AGIDS-Amsterdam Research Institute for Global Issues and
Development Studies
University of Amsterdam
Nieuwe Prinsengracht 130
1018 VZ Amsterdam
E-mail: j.post@uva.nl

Dr. Johnson Boanuh (in 1997-1998)
Environmental Protection Agency
Accra
Ghana

Appendix 2

Follow-up of the project: capacity building and project-related publications

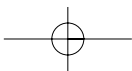
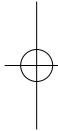
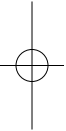
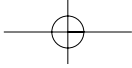
The prime beneficiary from the project was Mr. Nelson Obirih-Opareh who gained his PhD degree at the University of Amsterdam thanks to the project. Mr. Nelson Obirih-Opareh has remarkably improved his research skills: his analytical and writing capabilities, his knowledge on how to apply scientific methods, formulate objectives and focus on them, data analysis using Excel and SPSS, reporting skills and management aspects of research projects. The workshops and activities in the framework of the project contributed to the capacity building of other staff affiliated to the Council for Scientific and Industrial Research (CSIR). Prof. Dr. Eran Razin hopes to be able to continue his fruitful relationship with Dr. Nelson Obirih-Opareh and to initiate similar projects on local government and urban development in Ghana and elsewhere. The paucity of financing sources that enable cooperation with researchers from African countries and the high transportation costs involved in flying to Israel, Europe and North America from Accra are impediments to an effective utilisation of international networks by Ghanaians. These are obstacles that need to be overcome.

Publications:

- Baud, I.S.A. and Post, J. (2002). 'New partnerships in urban solid waste management in the developing world and their contribution to sustainable development: experiences in Accra (Ghana) and Chennai (India)', in I.S.A. Baud and J. Post (eds.) *Realigning actors in an urbanizing world, governance and institutions from a development perspective*. Aldershot: Ashgate.
- Obirih-Opareh, N. (2003). *Solid waste collection in Accra. The impact of decentralisation and privatisation on the practice and performance of service delivery*. PhD thesis, Faculty of Social and Behavioural Sciences / Amsterdam Institute for Global Issues and Development Studies, University of Amsterdam.

- Obirih-Opareh N. and Post, J. (2002). 'Quality assessment of public and private modes of solid waste collection in Accra, Ghana', *Habitat International* 26(1): 95-112.
- Obirih-Opareh N. (2001). 'Public or private? A policy dilemma of liquid waste management in Accra', in S. van der Geest and N. Obirih-Opareh (eds.) *Toilets and sanitation in Ghana*. Haigud and Nuffic, Accra, Ghana: CSIR.
- Obirih-Opareh, N. (2000). 'Liquid waste management in Accra', *Daily Graphic*, March 29, p. 9.
- Obirih-Opareh, N. (1998). *Proceedings of an international seminar on 'The effects of decentralization and organizational reforms on management of social and environmental problems in the districts and metropolitan assemblies in Ghana'*. Accra: STEPRI, CSIR.
- Post J. (forthcoming) 'Evolving partnerships in urban solid waste collection in the developing world', in I.S.A. Baud, J. Post and C. Furedy (eds.) *Between markets and partnerships. Waste management and recycling in Hyderabad, India, and Nairobi, Kenya*. GeoLibraries Series. Dordrecht: Kluwer Academic Publishers.
- Post, J. (2003). 'Privatized waste collection in developing countries, strengths and weaknesses', *Waste Management World*, July-August: 107-112.
- Post J. (2001). 'Policy reform and urban livelihood in Ghana', in F. Columbus (ed.) *Politics and economics of Africa*. Huntington, New York: Nova Science Publishers.
- Post J., (1999). 'The problems and potentials of privatising solid waste management in Kumasi, Ghana', *Habitat International* 23(2): 201-216.
- Post, J. and Obirih-Opareh, N. (2003). 'Partnerships and the public interest: assessing the performance of public-private collaboration in solid waste collection in Accra', *Space and Polity* 7(1): 45-64.
- Post, J., Broekema, J. and Obirih-Opareh, N. (2003). 'Trial and error in privatisation: public and private modes of urban solid waste collection in Accra (Ghana) and Hyderabad (India)', *Urban Studies* 40(4): 837-854.
- Post J., Ikaira, M. and Obirih-Opareh, N. (2003). *Planned versus spontaneous privatisation – assessing performances of public and private modes of solid waste collection in Accra, Nairobi and Hyderabad*. Paper No. 33 CWG Workshop, Dar es Salaam, March 2003.
- Razin, E. (2000). 'The impact of local government organisation on development and disparities – a comparative perspective', *Environment and Planning: Government and Policy* 18: 17-31.

- Razin E. and Obirih-Opareh, N. (2000). 'Spatial variations in the fiscal capacity of local government in Ghana, before and after decentralisation', *Third World Planning and Review* 22(4): 441-432.
- Van der Geest, S. (2002). 'The night-soil collector: bucket latrines in Ghana', *Postcolonial Studies* 5 (2): 197-206.
- Van der Geest, S. (2002). 'The toilet: dignity, privacy and care of elderly people in Kwahu, Ghana', in S. Makoni and K. Stroeken (eds.) *Ageing in Africa: sociolinguistic and anthropological approaches*. Aldershot: Ashgate.
- Van der Geest, S. and Obirih-Opareh, N. (2001) *Toilet and sanitation in Ghana: an urgent matter*. A STEPRI Publication. Accra: Institute of Scientific and Technological Information (INSTI) of the Council for Scientific and Industrial Research (CSIR).
- Van der Geest, S. (1999). 'A daily unpleasant experience', *Daily Graphic* July 24, p. 17.



List of members of NIRP's Joint Steering Committee

Israel:

Prof. V. Azarya
Dept. of Sociology and Social Anthropology
Hebrew University
Jerusalem

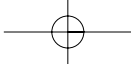
Prof. E. Ben-Rafael
Dept. of Sociology and Anthropology
Tel Aviv University
Tel Aviv

Prof. R.E. Isralowitz (co-chair)
Spitzer Dept. of Social Work
Ben-Gurion University of the Negev
Beer-Sheva

Dr. N. Trostler-Buganim
School of Nutritional Sciences
Faculty of Agriculture
Hebrew University
Rehovot

The Netherlands:

Prof. B. de Gaay Fortman (co-chair)
Institute of Social Studies
The Hague

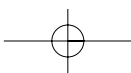
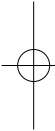
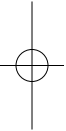


NIRP RESEARCH FOR POLICY SERIES 22

Prof. A.J. Dietz
AGIDS (Amsterdam Research Institute for
Global Issues and Development Studies)
University of Amsterdam
Amsterdam

Prof. L.W. Nauta
formerly: Dept. of Social Philosophy and Ethics
University of Groningen

Dr. E.B. Zoomers
Centre for Latin America Research and Documentation (CEDLA)
University of Amsterdam
Amsterdam



Other titles in the NIRP Research for Policy Series

1. Bird-David, N., Karugu, W., Oduol, M. and Wandibba, S. (2000). Technological change and rural third world women: an impact study in Machakos District, Eastern Kenya. ISBN 90 6832 662 7.
2. Felsenstein, D., Foeken, D., Muraya, A. and Schwartz, D. (2000). Small-scale enterprises in rural Kenya: constraints and perspectives. ISBN 90 6832 663 5.
3. Ajaegbu, H.I., Grossman, D. and Berg, L. van den (2000). Market gardening, urban development and income generation on the Jos Plateau, Nigeria. ISBN 90 6832 664 3.
4. Helman, A., Vermeer, E. and Xiaoshan, Z. (2000). The shareholding cooperative system in China. ISBN 90 6832 665 1.
5. Munene, J. and Schwartz, S. (2000). Cultural values and development in Uganda. ISBN 90 6832 666 X.
6. Spolsky, B., Tushyeh, H., Amara, M. and Bot, K. (2000). Languages in Bethlehem: the sociolinguistic transformation of a Palestinian town. ISBN 90 6832 667 8.
7. Abu-Saad, I. and Mburu, J. (2001). The influence of settlement on substance use and abuse among nomadic populations in Israel and Kenya. ISBN 90 6832 672 4.
8. Degen, A.A., Nunow, A., Zaal, A.F.M., Otieno, D.A. and Hoorweg, J.C. (2001). Market dependence of pastoralists in Kenya and Israel. ISBN 90 6832 669 4.
9. Wondimu, H. (2001). Ethnic identity, stereotypes and psychological modernity in Ethiopian young adults: identifying the potential for change. ISBN 90 6832 670 8.
10. Dangbégnon, C., Blum, A., Nederlof, E.S., Röling, N. and Tossou, R.C. (2001). Platforms for sustainable natural resource management: the case of West Africa. ISBN 90 6832 671 6.
11. Sherman, N. (2002). Refugee resettlement in Uganda. ISBN 90 6832 674 0.
12. Gidron, B., Quarles van Ufford, C. and Bedri Kello, A. (2002). NGOs dealing with refugee resettlement in Ethiopia. ISBN 90 6832 673 2.

13. Schwartz, M., Hare, A.P., Saasa, O.S., Nwana, I.E., Devkota, K. and Peperkamp, B. (2002). Israeli settlement assistance to Zambia, Nigeria and Nepal. ISBN 90 6832 675 9.
14. Groot, W. de (2002). A future for the Mandara mountains, North Cameroon. ISBN 90 6832 676 7.
15. Zuzovsky, R., Yakir, R. and Haddad, M. (2002). Education for international cooperation: the Middle East water management case. ISBN 90 6832 677 5.
16. Ruben, R., Lerman, Z. and Siles, G. (2003). Continuity and change of rural organisation in Nicaragua: from cooperative contracts to social capital. ISBN 90 6832 678 3.
17. Bruins, H.J., Akon'ga, J.J., Rutten, M.M.E.M. and Kressel, G.M. (2003). Drought planning and rainwater harvesting for arid-zone pastoralists: the Turkana and Maasai (Kenya) and the Negev Bedouin (Israel). ISBN 90 6832 682 1.
18. Anson, O., Sun, S., Zhang, W. and Haanappel, F.W. (2003). The village doctors in different ownership clinics in China's countryside. ISBN 90 6832 683 X.
19. Kouamé, A., Schellekens, J. and Bosch, A. (2004). Rural development and fertility changes in Côte d'Ivoire. ISBN 90 6832 6848.
20. Zilber, N., Youngmann, R., Workneh, F. and Giel, R. (2004). Development of a culturally-sensitive psychiatric screening instrument for Ethiopian populations: the influence of acculturation on idioms of psychological distress. ISBN 90 6832 6856.
21. Slonim-Nevo, V. and Mukuka, L. (2004). Sexual attitude and behaviour among adolescents in Zambia. ISBN 90 6832 6864.