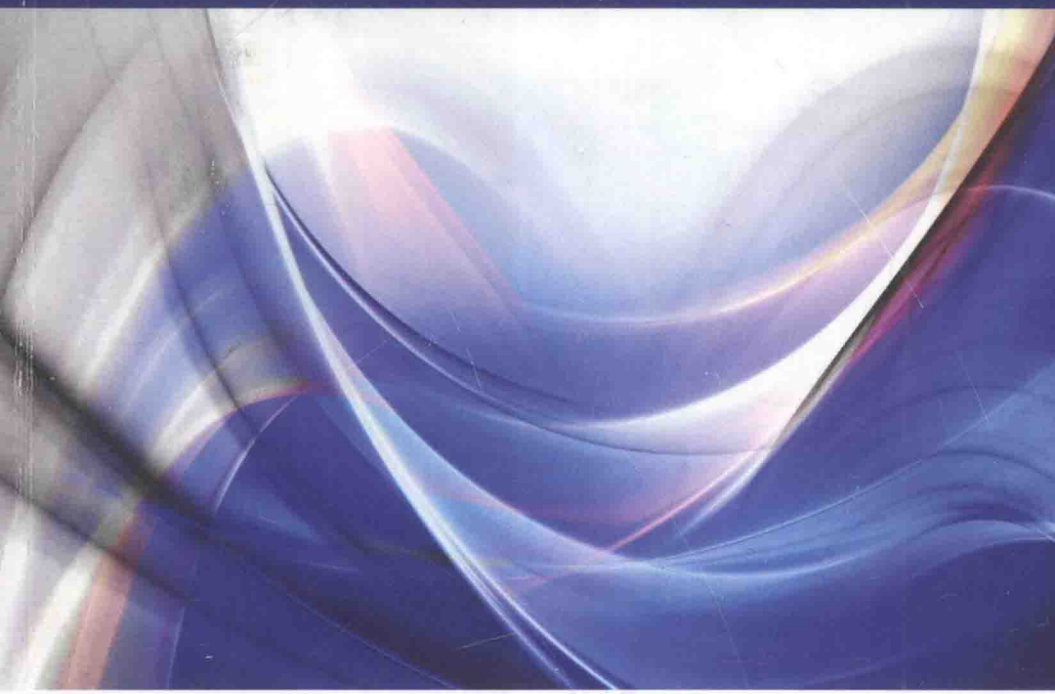

FRANK MUGAGGA

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Frank Mugagga

The Public –Private Sector Approach to Municipal Solid Waste Management. How does it Work in Makindye Division, Kampala District, Uganda?

Master of Philosophy in Development Studies Specializing in Geography

Department of Geography, Norwegian University of Science and Technology (NTNU)
Trondheim, Norway

May 2006

Declaration

I, MUGAGGA FRANK solemnly declare that the work presented in this thesis was written by me and that it has never been presented to any Institution for any academic award. Where other people's material has been used, due acknowledgement and appreciation has been extended.

.....
Mugagga Frank

Cover picture: Both private and KCC vehicles (white and green trucks respectively) are involved in the delivery of wastes to the Kiteezi landfill. On standby are scavengers waiting to salvage some of the items from the waste before it is disposed of.

Abstract

It has been argued that the partnering of public and private sectors lead to improvement and betterment in the delivery of municipal social services. The purpose of this study was therefore to find out if, how and why the involvement of the private sector has led to better municipal solid waste management in Kampala's Makindye Division. I try to analyze the roles and relationships between the public and private actors, the constraints hampering success and finally suggest mechanisms of bettering the partnership. A qualitative approach involving interviews, Focus Group Discussions, observations and photography was used to gather the necessary primary data, while reference to relevant literature provided me with the much needed secondary data. Key informants from the public sector included officials from Kampala City Council, Makindye Division and The National Environment Management Authority; while those from the formal private sector included the Director and field staff of HOMEKLIN Limited and DOT services Limited. The scavengers at the Kiteezi landfill were my informal private respondents. The Director of Urban Community in Development Association (a local Community Based Organization), the Local Council II Chairpersons together with some of the local community members of Katwe I and Luwafu parishes represented the civil society. The study was based on the Actor-Oriented Approach theory as well as on governance perspectives.

The study reveals that despite the lack of measures that ensure reduction, reuse and recycling of solid wastes by the respective actors, an improvement in the management of domestic solid wastes in Makindye Division has resulted from the partnership. Metal recycling and organic waste compositing is privately undertaken by a local Community Based Organization which is not in any way supported by the Division authority. The introduction of waste transfer points and smaller vehicles supplemented by the use of wheelbarrows has increased access to areas that were previously unreachable. Also the adherence to the collection schedule by HOMEKLIN Limited has greatly contributed to an efficient collection of waste from the medium to high income communities of Luwafu parish where there are numerous paying subscribers. However, the low commitment of Makindye Administration in ensuring that it meets its financial obligations of subsidizing waste collection in the low income areas, corruption and patronage of some Division Officials are hindering the success of the programme. This is particularly common in the low income areas of Katwe I parish. The study further reveals that despite being perceived as an ethnic and low caste activity, waste scavenging plays a very crucial role of recovering and reusing materials and ultimately reduce the amount of waste that is finally disposed of. However, the existing legislation does not recognize scavengers as important actors.

Much as it deals with a mixture of hazardous and non hazardous waste, the waste disposal operations of DOT Services Limited are meeting acceptable environmental standards. However, the absence of effluent gas monitoring and tapping equipment at the landfill is posing a potential environmental hazard.

The study makes a number of recommendations ranging from administrative overhauls at Makindye Division, waste management policy amendments in regard to reduction, recycling and reuse of materials together with the recognition of informal private waste collectors and scavengers, technical improvements by the private waste collectors and finally economic investments by the Division as a way of reducing dependence on central government remittances.

Dedication

I wish to dedicate this work to my late mum and late sister Berna who unfortunately have not lived to see the fruits of their encouragement and guidance. May the good lord rest their souls in eternal peace.

To my dad, words cannot fully describe what I feel for you. All your sacrifices and efforts in making sure that we as a family lived a healthy and satisfying life are the reasons why I have made it this far in education, Bravo dad!!
Lastly, to all my brothers and sisters, the moral and financial support that you always extended to me cannot pass unnoticed. It is my prayers that God almighty rewards abundantly.

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I now wish to acknowledge the tremendous contributions that various institutions and individuals have rendered in order to make this academic dream a reality.

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The success of my fieldwork was possible because of the following institutions and personalities; The Director of HOMEKLIN Limited, The Operations Manager of DOT Services limited, The KCC Landfill Engineer, The Makindye Division Planning Officer, The NEMA Effluent Inspector, The Director of UCODEA, The Local Council Chairpersons of Katwe I and Luwafu Parishes, the local communities in the above two parishes and the scavengers that I met at the landfill.

I salute all the institutions and individuals that I may have omitted. I also take responsibility for any mistakes and errors that may be detected in this document.

List of Acronyms

BOD	Biological Oxygen Demand
CBO	Community Based Organization
COD	Chemical Oxygen Demand
CCC	Central Collection Center
DFID	Department for International Development
DPHE	Department of Public Health and Environment
FGD	Focus Group Discussion
GoU	Government of Uganda
HIV/AIDS	Human Immune Virus / Acquired Immuno Deficiency Syndrome
HtH	House to House
ISWM	Integrated Solid Waste Management
KCC	Kampala City Council
KIFCOA	Kibuye Female Concern Association
LDP	Low Density Polyethylene
LGDP	Local Government Development Programme
MHLUD	Ministry of Lands, Housing and Urban Development
NASOMA	Nabisalu Solid Waste Management Association
NEMA	National Environment Management Authority
NES	National Environment Statute
NGO	Non Governmental Organization
PPP	Public-Private Partnership
RDF	Refuse Derived Fuels
SSS	Secretary for Social Services
SPSS	Statistical Package for Social Scientists
SWM	Solid Waste Management
UCODEA	Urban Community in Development Association
UNEP	United Nations Environment Programme
UNESC	United Nations Educational, Scientific and Cultural Organization
US $	United State Dollar
UPPC	Uganda printing and Publishing Corporation

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CHAPTER ONE

1.0 Introduction and Background to the Study

1.1 The Solid Waste Management Issues in Africa

Solid waste management systems are an essential component of the environmental infrastructure in human settlements. These systems encompass all the activities undertaken from the point of waste generation up to the final disposal. In most of Africa's urban areas, solid waste management is ultimately the responsibility of Municipal Councils, while among most of the rural populations the wastes are handled at the household level.

Thousands of tons of solid wastes are generated daily in Africa. Most of it ends up in open dumps and wetlands, contaminating surface and ground water and posing major health hazards.

Generation rates, available for selected cities and regions are approximately 0.5 kg per person per day. While this seems modest compared to the 1-2 kg per person per day generated in developed countries, most waste in Africa is not collected by Municipal Collection Systems, because of poor management, fiscal irresponsibility, equipment failure and/or inadequate waste management budgets.

Though, high and low-value recyclables are typically recovered and reused, these make up only a small proportion of the total waste stream. The majority of the waste (approximately 70%) is organic. In theory, this could be converted to compost or used to generate biogas, but in situations where rudimentary solid waste management systems barely function, it is difficult to promote innovation, even when it is potentially cost-effective to do so. In addition, hazardous and infectious materials are discarded along with general waste throughout the continent. This is especially a dangerous condition that complicates the waste management problem in Africa.

Throughout most of Sub Saharan Africa, solid waste generation exceeds collection capacity. This is in part due to rapid urban population growth: while only 35 percent of the sub Saharan population lives in urban areas, the urban population grew by 150 percent between 1970 and 1990. But the problem of growing demand is compounded by broken down collection trucks, program management and design. In west African cities,

as many as 70 percent of trucks are always out of service at any one time, and in 1999 the city of Harare failed to collect refuse from nearly all of its residents because only 7 of its 90 trucks were operational, Mbembe (1989).

In Ibadan, Nigeria, waste collection and disposal is frequently inadequate, with a preponderant proportion of the refuse generated remaining uncollected and with large parts of the city particularly the low income areas, receiving little or no attention. The onus is often on the local government to provide a service for solid waste management. However, the fundamental deficiency of this system is the government's failure to assume basic responsibility in raising sufficient funds to provide acceptable levels of service (IDRC 1999).

For health reasons, waste in tropical regions should be collected daily. This makes the challenges even more daunting. It is generally the city centre and the wealthier neighborhoods that receive service when it is available. In poorer areas, uncollected wastes accumulate at road sides, are burned by residents, or are disposed of in illegal dumps which blight neighborhoods and harm public health. Where present, manual street sweeping by municipal employees or shopkeepers may help reduce these effects in most public places. Unless more effective urban waste management programs and public water supply systems are put in place, outbreaks of cholera and typhoid become increasingly common.

Only a small amount of the region's waste is disposed of in sanitary landfills; most of it is deposited in open dumps or semi- controlled unlined landfills with no ground water protection, leachate control, or treatment systems. The larger dumps are located on the edges of cities, towns and villages, sometimes in marginal areas, such as wetlands, where ground water supplies are threatened. Moreover, these places are in many cases habitat for the majority of low income earners whose livelihood is based on wetland based activities such as craft making and brick making. Being breeding ground for animals such as, rats, flies and other disease vectors organisms, for example mosquitoes, these people further get predisposed to diseases. Also the smoke from burning refuse may be damaging to the health of nearby residents and the smell resulting from decomposition of the wastes pollutes the air, hence, degrading the quality of life in such neighborhoods.

While the recovery and reuse of materials is generally for personal use, there are also many professional waste pickers. They are seriously threatened by disease organisms, sharp objects and other hazards in the waste, especially since they lack protective equipment. The high level of reuse of non-organic waste reflects the high level of poverty in the region.

Separation and treatment of organic waste is very rare. Municipal composting programs exist in South African cities, but the very few large-scale facilities built elsewhere are no longer operational. Anaerobic digestion to produce methane is not widely applied, and where it is performed, it usually uses manure, not organic waste.

Municipal waste incinerators are too expensive for most countries and are not used. Moreover, they are generally not appropriate since most paper that can be reused from the waste stream is removed, leaving behind an organic waste that is too wet to burn. Some hospitals and municipalities have incinerators for medical waste, but these are often improperly operated.

1.2 Solid Waste Management in Uganda

With a high population and steady economic growth rates, accompanied by a reasonable level of industrialization, the rate at which solid wastes are generated in Uganda has steadily increased. This growth has not been accompanied by an equivalent increase in the capacity for managing the waste. For instance, the allocation of various resource inputs required by the Municipal Councils has not significantly increased. It is estimated that Kampala City Council spends US $ 3.4 million per year to remove only 40% of the total generated waste, (Matagi 2002). Solid waste management has therefore become one of the most pressing and challenging environmental problems in the country especially in urban centers.

Solid waste generation rates vary from one urban area to another due to factors such as economic status of the population, social habits, season of the year as well as the extent of salvage and recycling operations. In Kampala for example, the average solid waste generation rate is estimated to be 0.5 kg per capita per day, averaging 900 tonnes of waste per day, (KCC 2000).

Little documentation was produced in the 1970s and 1980s regarding solid waste management. However, according to available data, it is evident that during that period, pile ups were not such a big problem as in the 1990s. Whereas, much of the food consumed in urban areas comprised mainly of cereals with little if any residues, in recent periods it is estimated that banana peelings and other forms of organic matter account for 70-80% of waste generated in Kampala.

Generated wastes from households and commercial facilities are usually stored in storage bins for a day before being transferred to communal storage bins or skips (most common form of storage in many urban centers) which the Urban Authorities provide. In Kampala, some private waste collection agencies provide waste collection bins to their clients, mostly in the affluent residential areas, at a fee. However, only about 20% of the urban population in Kampala enjoys this service. Other communal storage facilities that are used in urban areas include stationary depots, enclosures and fixed storage bins. These are however not highly recommended because they enhance breeding of disease vectors due to the open nature of the containers; and they also require manual labor during collection, which brings collectors into direct contact with the disease vectors, (KCC 2000).

Vegetable waste can be treated and processed into manure which would save the country a lot of foreign currency used in importing chemical fertilizers. The technology for processing waste into manure is lacking in all urban centers. However, despite this situation, household solid waste containing a significant amount of organic materials has not gone unnoticed by farmers. Urban farmers in the areas within and those surrounding Kampala regularly make informal arrangements with the drivers of municipal waste trucks to have wastes dumped at or near their fields. Here they sort out inorganic objects and spread the remaining organic part directly over their fields or compost it into manure to be used in vegetable and flower gardens, tree nursery beds and crop gardens (bananas, maize and beans) all produced on a relatively small scale. Socio-economically, it is the middle to high income groups that mainly practice urban agriculture because, contrary to the low income areas, these places normally have relatively larger pieces of land over which they can undertake farming activities as compared to the low income areas which are 'squeezed up'.