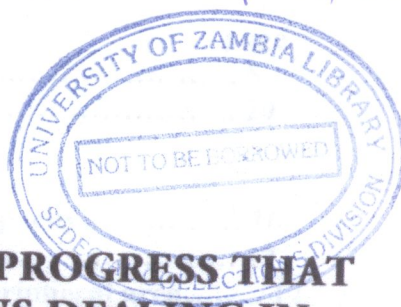


GEO 474 GEOGRAPHY PROJECT REPORT

Rp 21/05

THE UNIVERSITY OF ZAMBIA

DEPARTMENT OF GEOGRAPHY



**TITLE: AN INVESTIGATION ON THE PROGRESS THAT
COMMUNITY BASED ORGANISATIONS DEALING IN
DOMESTIC WASTE MANAGEMENT HAVE MADE SINCE
THEIR INCEPTION.**

**A COMPARATIVE STUDY BETWEEN MANDEVU AND
CHAISA COMPOUNDS IN LUSAKA.**



WRITTEN BY: CHOLA MFULA

COMPUTER NUMBER: 9409600

PROJECT SUPERVIROR; MRS WILMA NCHITO

GEOGRAPHY DEPARTMENT
LIBRARY

SUMMARY OF THE TABLES, PICTURES AND FIGURES

Figures

Fig 1.....	Map Of Lusaka.....	page 5
Fig 2.....	Operational chain.....	29

Pictures

Pic1.....	Moulding box filled to capacity.....	16
Pic 2.....	Unused moulding box.....	17
Pic 3.....	Waste dumped on the peripheral area.....	17
Pic 4.....	Large disposal point.....	18

Tables

1.1 and 1.2.....	Gender representation.....	19
2.1 and 2.2.....	Marital status.....	19
3.1 and 3.3.....	Educational levels.....	20
4.1 and 4.4.....	Household sizes.....	20
5.1 and 5.5.....	Waste generated.....	21 and 22
6.1 and 6.2.....	Waste constitutes.....	22 and 23
7.1 and 7.2.....	Sorting of waste.....	24
8.1 and 8.2.....	Methods of disposal.....	24
9.1	Community involvement.....	25
10.1.....	Improvements by CBO.....	25
11.1 and 11.2.....	Difficulty in disposing waste.....	26
12.1 and 12.2.....	Popularity of CBOs.....	27

COMMUNITY DEPARTMENT
LIBRARY

SUMMARY OF THE TABLES, PICTURES AND FIGURES

Figures

	page
Fig 1.....Map Of Lusaka.....	5
Fig 2.....Operational chain.....	29

Pictures

Pic1.....Moulding box filled to capacity.....	16
Pic 2.....Unused moulding box.....	17
Pic 3.....Waste dumped on the peripheral area.....	17
Pic 4.....Large disposal point.....	18

Tables

1.1 and 1.2.....Gender representation.....	19
2.1 and 2.2.....Marital status.....	19
3.1 and 3.3.....Educational levels.....	20
4.1 and 4.4.....Household sizes.....	20
5.1 and 5.5.....Waste generated.....	21 and 22
6.1 and 6.2.....Waste constitutes.....	22 and 23
7.1 and 7.2.....Sorting of waste.....	24
8.1 and 8.2.....Methods of disposal.....	24
9.1 Community involvement.....	25
10.1.....Improvements by CBO.....	25
11.1 and 11.2.....Difficulty in disposing waste.....	26
12.1 and 12.2.....Popularity of CBOs.....	27

CEPHALOPHIL DEPARTMENT
LIBRARY

SUMMARY OF THE TABLES, PICTURES AND FIGURES

Figures

	page
Fig 1.....Map Of Lusaka.....	5
Fig 2.....Operational chain.....	29

Pictures

Pic1.....Moulding box filled to capacity.....	16
Pic 2.....Unused moulding box.....	17
Pic 3.....Waste dumped on the peripheral area.....	17
Pic 4.....Large disposal point.....	18

Tables

1.1 and 1.2.....Gender representation.....	19
2.1 and 2.2.....Marital status.....	19
3.1 and 3.3.....Educational levels.....	20
4.1 and 4.4.....Household sizes.....	20
5.1 and 5.5.....Waste generated.....	21 and 22
6.1 and 6.2.....Waste constitutes.....	22 and 23
7.1 and 7.2.....Sorting of waste.....	24
8.1 and 8.2.....Methods of disposal.....	24
9.1 Community involvement.....	25
10.1.....Improvements by CBO.....	25
11.1 and 11.2.....Difficulty in disposing waste.....	26
12.1 and 12.2.....Popularity of CBOs.....	27

ODDISHA DEPARTMENT
LIBRARY

CONTENTS.

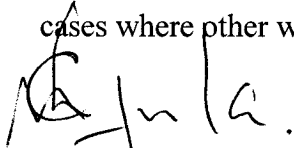
1.0 Introduction.....	1
2.0 Description of study area.....	3
2.1 Mandevu compound.....	4
2.1 Chaisa compound.....	4
3.0 Problem Statement.....	5
4.0 Research Objectives.....	6
4.1 First objective.....	6
4.2 Second objective.....	6
5.0 Hypothesis.....	7
5.1 First hypothesis.....	7
5.2 Second hypothesis.....	7
6.0 Rationale.....	7
7.0 Literature Review.....	8
8.0 Methodology, problem encountered, limitation.....	12
8.1 data collection.....	12
8.2 methods used to collect data.....	12
8.2.1 Reconnaissance Survey.....	13
8.2.2 the questionnaire.....	13
8.2.3 Interview.....	13
8.3.0 Secondary sources of data.....	14
8.4.0 Data presentation.....	14
8.4.1 Data analysis.....	14
8.5.0 Problems encountered.....	14
9.0 Results and presentation.....	15
9.1.0 Results from reconnaissance survey.....	16
9.2.0 Information from questionnaire.....	19
10.0 Discussion.....	28
11.0 Reasons.....	29
12.0 Recommendations.....	32
13.0 Conclusion.....	33

CONTENTS.

1.0 Introduction.....	1
2.0 Description of study area.....	3
2.1 Mandevu compound.....	4
2.1 Chaisa compound.....	4
3.0 Problem Statement.....	5
4.0 Research Objectives.....	6
4.1 First objective.....	6
4.2 Second objective.....	6
5.0 Hypothesis.....	7
5.1 First hypothesis.....	7
5.2 Second hypothesis.....	7
6.0 Rationale.....	7
7.0 Literature Review.....	8
8.0 Methodology, problem encountered, limitation.....	12
8.1 data collection.....	12
8.2 methods used to collect data.....	12
8.2.1 Reconnaissance Survey.....	13
8.2.2 the questionnaire.....	13
8.2.3 Interview.....	13
8.3.0 Secondary sources of data.....	14
8.4.0 Data presentation.....	14
8.4.1 Data analysis.....	14
8.5.0 Problems encountered.....	14
9.0 Results and presentation.....	15
9.1.0 Results from reconnaissance survey.....	16
9.2.0 Information from questionnaire.....	19
10.0 Discussion.....	28
11.0 Reasons.....	29
12.0 Recommendations.....	32
13.0 Conclusion.....	33

DECLARATION

I hereby present this report in fulfillment of my Bachelor of Science (BSc) programme in Natural Resources Management, done under the Department of Geography in the School Of Natural Sciences at the University Of Zambia. I declare that this my own work and in cases where other works have been used, I have knowledge this.



Chola Mfula

GEOGRAPHY DEPARTMENT
LIBRARY

DEDICATION.

I would like to dedicate this work to my father Mr. William Musenga Mfula, my mother Mrs.Elizabeth Mfula, my sisters Beatrice and Annie Mfula and brother Bill Mfula.I love you all so much and God richly bless you all. The are so many people who have helped me morally and financially to them this work is a way of saying thank you.

Chola Mfula

GEOGRAPHY DEPARTMENT
LIBRARY

ACKNOWLEDGEMENTS

From my early days here at the University of Zambia to this point, I have obviously learnt a lot academically, but what really changed most was my perception of University education. In first year I studied so as to pass tests and examination by the time I reached fourth year, I studied so as to understand concepts with a view that I would apply them later in my life. I would like to thank Mr. John Volk and Professor E.Chidumayo, I believe these two distinguished gentle men helped me much to change my perceptions of University education. I wish also to thank Mrs. Nchito for accommodating me. I thank you for time, your patience, tolerance encouragement and for your precious knowledge shared with me. May God richly bless you and your family.

To mum and dad I thank God everyday for you. I know that several times I wanted to give up, but you always encouraged and urged me to move on and conquer every challenges that came my way. When I fell you always picked me up and showed me which way to go. I pray to God that my life has brought a lot of joy to both your lives and though we do not see each other much I know that my spirit am always with you. I love so much.

Lastly, I would like to thank my God and my savior Jesus Christ I live today because you saved me from the jaws of death and you put me on the right track. Thank you Lord Jesus and thanks again to all the people mentioned above.

Handwritten signature

ACRONYMS AND ABBREVIATIONS.

ABCO	Area Based Compound Organization
CBNRM	Community Based Natural Resources Management
CBOs	Community based Organizations
ECZ	Environmental Council of Zambia
EE	Environmental Education
LCC	Lusaka City Council
NGO	Non governmental Organization
PUSH	Project Urban Self Help
RDC	Resident Development Committee
SUACS	Stop Uve Anti Cholera Society
WFP	World Food Programme
ZENGO	Zambia Environmental Non Governmental Organization

GEOGRAPHY DEPARTMENT
Lusaka

ACRONYMS AND ABBREVIATIONS.

ABCO	Area Based Compound Organization
CBNRM	Community Based Natural Resources Management
CBOs	Community based Organizations
ECZ	Environmental Council of Zambia
EE	Environmental Education
LCC	Lusaka City Council
NGO	Non governmental Organization
PUSH	Project Urban Self Help
RDC	Resident Development Committee
SUACS	Stop Uve Anti Cholera Society
WFP	World Food Programme
ZENGO	Zambia Environmental Non Governmental Organization

1.0 INTRODUCTION.

As societies ⁱⁿ World over continue to develop, people are demanding more and more products, both non-consumables and consumables to sustain the people new standards of living. However, the production of products entails the production of waste at both production level and consumer level. The production of waste is unavoidable and inescapable, it however needs to be managed properly so that it does not become a hazard nor reduce the quality of life of the people.

Most waste produced at production level is reasonably managed to some degree by the producers of the waste themselves because the laws and pollution control acts and regulations laid down by the Environmental Council of Zambia (ECZ) makes companies that do not comply liable to levies and taxes. The bigger problem in waste management is not waste produced at the production level but at consumer level, which is basically at the household level.

Interestingly enough most developing countries do have problems in the collecting, transporting, treating and disposing waste. However domestic waste collection in most developed countries such as the United States of America (USA) and the United Kingdom (U.K) is nearly 100%. Sadly, waste collection in developing countries leaves much to be desired with waste collection rates of less than 50% (Marino M and Boland J 1999) in some countries, while in some others it can be as low as 20%. The result of such poor collection rates is that waste collects in unsightly heaps around a city.

The high population increase in developing countries has also compounded to problem of waste management, as waste production is directly proportional to population increase. The population has also increased due to rural-urban migration. This increase in population has in turn resulted in an increase in

unplanned areas within and also around the peri-urban areas of most developing cities.

Lusaka the Capital City of Zambia, a developing country has got a number of compounds that have major problems in domestic waste management. The communities in these areas tend to generate a lot of waste, which is not collected by LCC. The uncollected waste has led to a deterioration of the living standards in these compounds. Waste is left uncollected in compound because L.C.C. does not have the equipment and capacity to collect and transport the waste. The impassable roads in most compounds also contribute to waste management problem.

In recent times, some communities in compounds have formed CBO's. These CBOs are comprised of a group of community members who seek to integrate their community members with looking into waste management, housing, reproduction health, crime prevention and so on. As this study is inclined towards environmental management, I focused on the issue of waste management and the CBOs such as the SUACS, ABCO, PUSH, ZENGO GET Together, first to name a few that are involved.

Among the CBOs mentioned, there are some that were initiated through other organisation such as ABCO which is through CARE International and, PUSH through the WFP. Other CBOs such as SUACS, ZENGO and Get Together are initiatives, initiated by the community themselves without much support from other organisation. It is this type of CBOs that this study looks at.

The SUACS operates in Chaisa compound; ZENGO operates in Kalinga-linga compound and Get Together in Mutendere. This study specially looks at SUACS, the constraints that these CBO is facing, how it has improved the living standards in Chaisa compound. A comparison was done between Chaisa Compound and

Mandevu compound as a way of evaluating the effects or improvements that SUACS has made since its reception.

2.0 DESCRIPTION OF STUDY AREA.

Lusaka is the capital of the Southern African country of Zambia. It is about one thousand and fifty metre (1500m) above the level. It is located at altitude 15°25' South and longitude 28° 19' East. Its population was estimated at about One Million One Thousand (1.1m) people as of 1996 (CSO 1990 census of population). Zambia's population has been increasing at a rate of 3.1% per annum.

Lusaka has a typical climate with warm raining season from December to March, a cold dry season from April to August, dry hot season from September to November. Average rainfall range is between 800mm to 1200mm. And the mean range temperature is between 10°C in the cold to 23°C in the hot season.

The bedrock characteristics are in two main parts; the Lusaka formation and the Matero (Chunga) formation. The Lusaka formation is composed of crystalline limestone and dolomite and it covers the Southern part of the city while the Matero (Chunga) formation is composed of Kainite, Schist, phyllite and quartzite and it covers the Northern side of the City.

My study was conducted in two areas of Lusaka, these being Mandevu and Chaisa, both compounds are located on the Northern side of Lusaka. Both areas are compounds and are poorly serviced by the local municipal council, both Mandevu and Chaisa face similar and related environment problems and both have the same geological characteristics, that is the Matero (Chaisa) bedrock.

2.1 MANDEVU COMPOUND.

Mandevu compound is located near the Independence Stadium and is one of the oldest compounds in Lusaka. It initially started as a site and service and this status entitled it to it being serviced by the Lusaka city council, however it has been poor serviced for a very long time now.

Great North Road borders the compound on the Western side, Emmasdale/Chaisa on the southern side, Chipata compound on the Northern side and Garden compound on the eastern side.

In term of infrastructure, Mandevu has some tarred roads, but most of the road network is poor. Some have electricity and piped water. The compound also has a clinic and the Resident Development Committee (R.D.C) has constructed medium boxes for waste disposal.

2.2 CHAISSA COMPOUND.

Chaisa compound is located near Mandevu on the Northern side of Lusaka. It started out as an illegal settlement, but it was recently upgraded and is now a declared area. Residents can apply for title deeds and the compound is now entitled to be serviced by the Lusaka City Council.

The Great North Road on the western borders Chaisa compound side, Garden on the eastern side, Emmasdale on the South and Mandevu on the northern side.

In terms of infrastructure, Chaisa has no turned roads and the existing roads are in a poor state. Some homes have electricity and piped water.

2.1 MANDEVU COMPOUND.

Mandevu compound is located near the Independence Stadium and is one of the oldest compounds in Lusaka. It initially started as a site and service and this status entitled it to it being serviced by the Lusaka city council, however it has been poor serviced for a very long time now.

Great North Road borders the compound on the Western side,

Emmasdale/Chaisa on the southern side, Chipata compound on the Northern side and Garden compound on the eastern side.

In term of infrastructure, Mandevu has some tarred roads, but most of the road network is poor. Some have electricity and piped water. The compound also has a clinic and the Resident Development Committee (R.D.C) has constructed medium boxes for waste disposal.

2.2 CHAISSA COMPOUND.

Chaisa compound is located near Mandevu on the Northern side of Lusaka. It started out as an illegal settlement, but it was recently upgraded and is now a declared area. Residents can apply for title deeds and the compound is now entitled to be serviced by the Lusaka City Council.

The Great North Road on the western borders Chaisa compound side, Garden on the eastern side, Emmasdale on the South and Mandevu on the northern side.

In terms of infrastructure, Chaisa has no turned roads and the existing roads are in a poor state. Some homes have electricity and piped water.

Households without piped water also use communal taps. Water available is a problem in Chaisa and some residents buy water from nearby townships of Emmasdale.

There is a project focussed on water and sanitation which is being implemented through CARE international with funds from DFID.

Below is a map of Lusaka showing the location of Mandevu and Chaisa.

Households without piped water also use communal taps. Water available is a problem in Chaisa and some residents buy water from nearby townships of Emmasdale.

There is a project focussed on water and sanitation which is being implemented through CARE international with funds from DFID.

Below is a map of Lusaka showing the location of Mandevu and Chaisa.

3.1 PROBLEM STATEMENT.

Due to the population increase in Lusaka a lot of the unplanned area such as Kanyama, Chawama, Mandevu, Chaisa, Chunga, just to name a few has increased in population size as well as the geographical size as well.

This increase in population has meant an increase in domestic waste and as the L.C.C. is handicapped it is unable to collect the waste that is generated in the compounds.

The result of this is that waste collects in unsightly heaps in these compounds. The uncollected rubbish can cause skin, eye and respiratory diseases. Cholera and other disease out-breaks are also common especially during the rainy seasons.

To wait for the L.C.C to revitalize itself and hence improve the poor waste management in Lusaka would be to wait for a long time, therefore communities that are effected by water problems have formed Community Board Organisation (CBOs) organise and coordinate the community into finding solutions and implementing the solutions to the problems.

Despite the introduction of CBOs waste collection, waste transportation, and waste disposal continues to be a major problem in compounds of Lusaka. Rubbish heaps are still a common sight and disease out-breaks such, as Cholera is still prevalent especially in the rain-season.

4.0 RESEARCH OBJECTIVES

4.1 To investigate if CBOs have improved the domestic waste problem in the compounds of Lusaka.

4.2 To investigate the problems and constraints that CBOs are facing in domestic Waste management in the compounds of Lusaka.

MAP OF LUSAKA

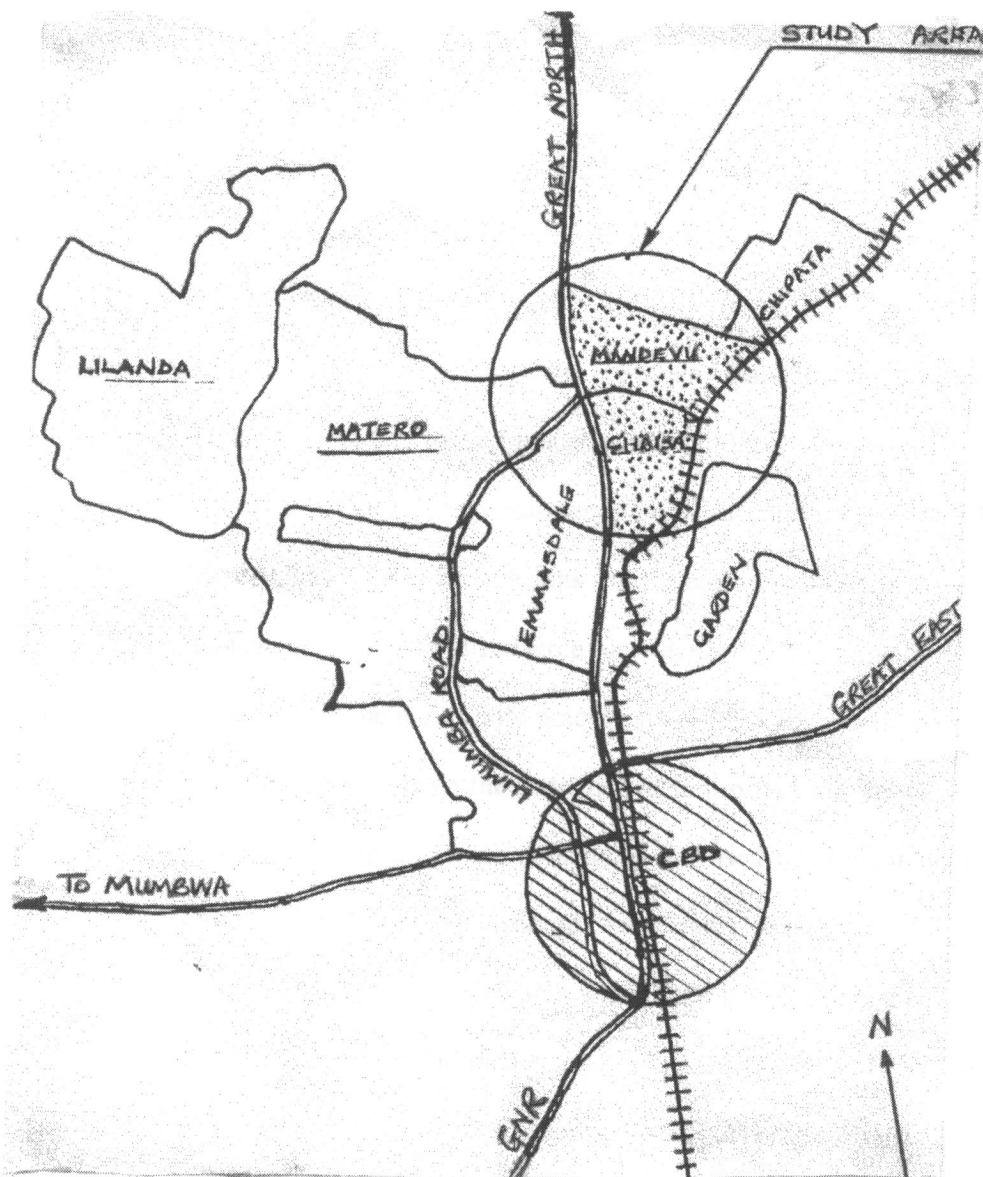


Fig 1 Map of Lusaka (Not To Scale)

LEGEND

-  Railway
-  Study area
-  Main roads
-  Central Business District
-  Township boundaries

MAP OF LUSAKA

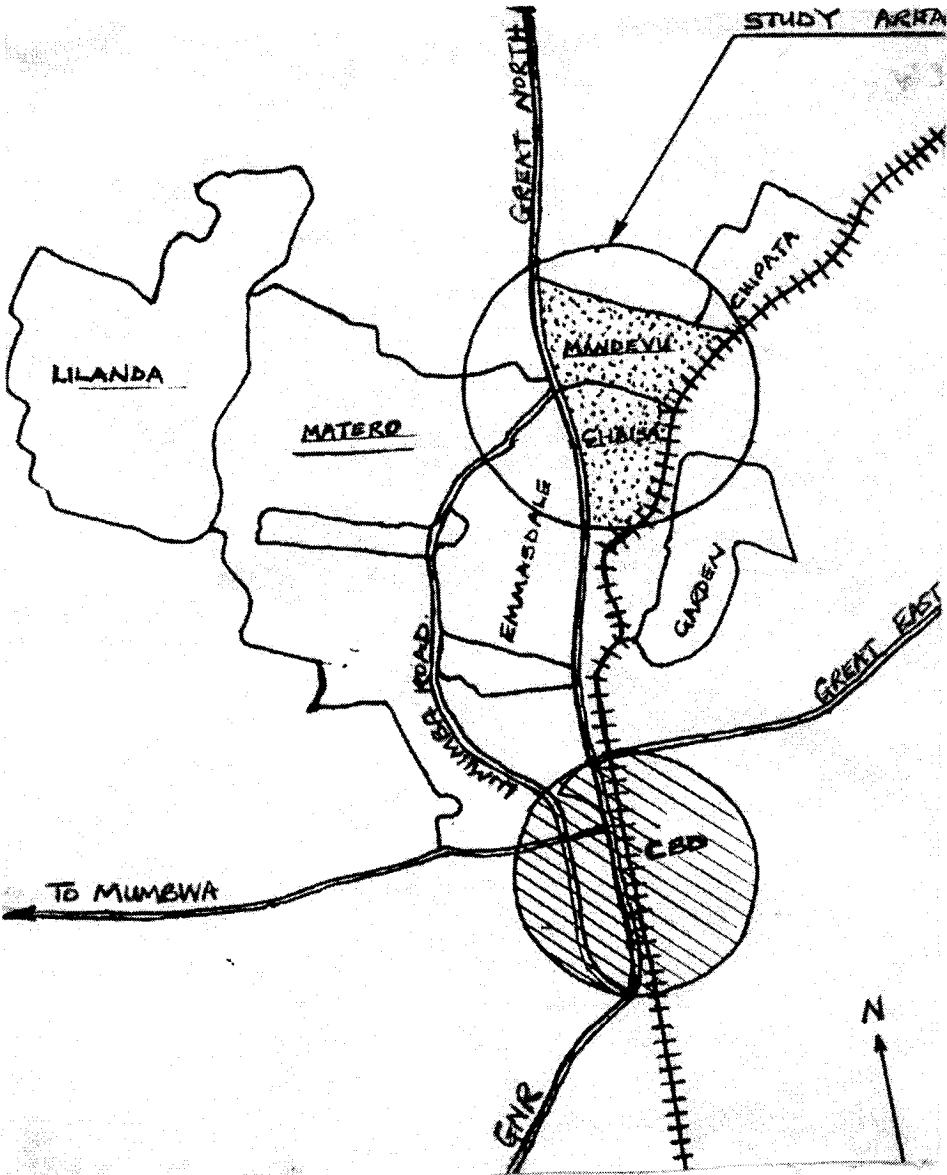


Fig 1 Map of Lusaka (Not To Scale)

LEGEND

-  Railway
-  Study area
-  Main roads
-  Central Business District
-  Township boundaries

5.0 HYPOTHESIS

5.1 The introduction of CBOs has significantly improved the management of domestic waste in compounds of Lusaka.

5.2 The introduction of CBOs has not significantly improved the management of domestic waste in compounds in Lusaka.

6.0 RATIONALE

The community-based programs are by any standards the very future of sustainable environmental and natural management. In theory community based program be it Community Board Organisations (CBOs) or community board Natural Resources Management (CBNRM) seems purposeful and implementable be it in waste management or natural resource management. But the major challenges come in when putting the theory into practice.

CBOs obviously have the potential to improve domestic waste in compounds of Lusaka, as long as practical methods are used to implement the objective of the CBO. These methods should take into consideration socio-economic and geographical aspects of the area where their programs are being implemented.

CBOs have been implemented in non-environmental fields such as crime prevention with noticeable success. Neighbourhood Watch Associations are an example of CBOs that are working well.

Forming CBOs in various areas of Lusaka could lead to better waste management in communities that are affected by the very waste that they generate.

Its imperative that the work of already existing CBOs is monitored and evaluated with a view of learning about its problems, constraints and also to find gaps that can

be filled in order to improve the CBOs operations and hence improve the waste problem being faced in many areas of Lusaka.

7.0 LITERATURE REVIEW

The concepts of community based programmes, be it CBO or CBNRM is not new in fact it was described to some degree by people such as Maine in his book the Ancient low as early as 1884 (Maine H. 1884).

In recent times the concept of CBO and CBNRM have gained a lot of recognition as more and more social scientist, natural scientists, policy makers and policy implementers have come to appreciate the benefits and positive changes that these programme bring. The concepts tend to provide a win-win situation to both the community and the programme implementers.

Community based programme as the name implies, basically involves the participation of people in a defined area that is referred to as a community in a program. The community is usually faced with a problem and as such forms an organisation with an end view of solving that problem or even benefiting from the solution of that problem and as such improves their living standards or livelihood (Mackenzie D & Utand 0, 1972) community based programmes are rather diverse and their programme of action depends on the areas of interest(s) and the problem(s) that the community is facing. To a very large degree the success and failure of CBO depends on whether or not the community accepts the CBOs objectives or not.

Fortman (1981) wrote that a lot of failed CBOs programmes have their failure rooted in any of the following

- The implementer imposes what he/she views as the problem that community is facing.
- The facilitator turns a deaf ear to what the community says.
- The implementation of management strategies those are neither practical nor familiar to the community.

Fortman (1981) further writes that in Botswana water availability is a major problem in that and country. The available water needs to be managed properly. CBOs were formed to manage these resources; these CBOs have been successful mostly due to the implementable management strategies that are both practical and familiar.

It's important to note that there are no clear cut management strategies in Community based programmes and the strategies employed in Botswana can not necessarily be employed in Zambia due to among other things the different socio-economic set-up and the different ecological of geographical aspects. Secondly it does not mean that since these strategies were successful in managing the problem of water scarcity then they can also work in managing the problem of waste management.

Ghana is a country that has used CBOs in waste management to a large extent into improving the waste management problem in cities such as Accra. Oduro and Ntim (1999) writes that's CBOs have indeed improved waste management in Accra. The communities have been able to mobilize themselves into solving their problems and that its generally through the presence of CBOs that the council authorities have been motivated into being part and parcel of the operational waste management chain. Like in Ghana, Zambia has also seen the establishment of CBOs involved in solid waste and domestic waste management. The problem that lead to the establishment of CBOs are similar to those in Ghana, that is the deteriorating environmental quality in communities due to among other things the uncollected garbage. While the author states that the council authorities in Accra

have been motivated to play their part, he does not elaborate on the operational effectiveness and efficiency of the council authorities in waste management.

In Lusaka the L.C.C. Notable areas being the town center, government areas, medical institutions and some low-density areas service only a few areas of the City. Peri –Urban areas and compounds are hardly serviced. As by 1997 it was estimated that about 87.6% of waste generated by people in Lusaka was left uncollected by L.C.C. Four years later in 2001 I do not think that the situation has changed in any way, by any standards it probably worsened and the waste left uncollected is most likely more than the 87.6% estimated in 1997. People are therefore forced to be involved in solid waste management. People dig pits in their backyards, others burn waste, others that can afford to, have hired private companies like Gallis Waste Removers to collect waste from their properties.

In some compounds of Lusaka where the waste situation is very serious, the communities have formed CBOs, NGO's and donor organizations like PUSH–Zambia, CARE–PULSE, Irish Aid, CBO such as Stop the Anti-Cholera Society of Chaisa, and Resident Development Committee have been carrying out work in several high density townships in Lusaka. (ECZ & LCC Jan. 1997 Report).

CBOs have a role in assisting compound residents through encouraging self-help in fields such as community health and clean up activities. Most CBOs are driven by donor support. Some of the CBOs that are operating in Lusaka include PUSH-Zambia which gets its funds and technical support for the World Food Programme (WFP). PUSH started in 1990. Through the push programme was initially aimed at prevention of malnutrition by providing rations and food to poor families, they are also involved in work related to sanitation such as construction of latrines, installation of moulding boxes for refuse, papers collection and refuse disposal. As of 1997 PUSH – Zambia was implemented to 6 peri-urban areas. These being Bauleni, Mutedere, Garden, Kalingalinga, Chawama and Chaisa.

CARE – Pulse is another such programme that is under CARE International. This programme is implemented in George, Kanyama and Chipata township. CARE Pulse is involved in waste system development and community collaboration ventures linked to the rehabilitation of community centres and garbage removal. The community under the supervision of officers from CARE Pulse carries out the work of garbage collection and disposal. Kamanga is another community where the Irish aid is working with the community in waste management.

The report by E.C.Z and L.CC does go to quite an elaborate extent in describing the activities of community based programme that the funder such as WFP, CARE and Irish Aid but it does not extend the same elaborate description to CBOs that don't have such funders and yet are involved and producing positive result in waste management. Of such C.B.Os only the Stop-Uve Anti Cholera Society of Chaisa is mention but other organisation such as ZENGO of Kalingalinga, Get Together of Mutendere are not mentioned and this report does not dwell much on the operations of such CBOs. However to add credit to this report it does describes the CBO under study in this research as being involved in educating the local residents in solid waste and integrating them in programme of garbage removal and disposal (ECZ and LCC, Jan 1997 report)

8.0 METHODOLOGY, PROBLEMS ENCOUNTERED AND LIMITATION

This included both methods of data collection (secondary and primary sources) and data analysis.

8.1 DATA COLLECTION.

The research study focussed on the residents in two compounds of Lusaka, these were Mandevu and Chaisa compounds situated on the Northern side of Lusaka. Mandevu compound does not necessary have a CBO operating in

the area except for the Project Urban Self Help (PUSH), which operates on the food for work concept. Chaisa on the other hand has two CBO's operating in the compound. These are the Stop Uve Anti Cholera Society, whose work is centred on improving community awareness toward cholera, a disease that claims a lot of lives in the rainy season. And the new CBO called the Area Based Compound organisation a CARE International initiative.

The total numbers of respondents interviewed were 36, 20 in Mandevu and 16 in Chaisa. It was intended to interview 20 person in Mandevu and 20 in Chaisa, but fell short by 4 persons in Chaisa due to problem explained in section 4.

An interview was also conducted with an Official from Stop Uve Anti Cholera Society (SUACS). This interview was held after all the data from Mandevu and Chaisa was collected.

To avoid comparisons during data collection, data was not collected simultaneously. I started off with Mandevu and afterward dealt with Chaisa.

8.2 METHODS USED TO COLLECT DATA

Three main methods were used to collect data. The sequence was as follows, a reconnaissance survey was conducted in the compound, questionnaires were then used and finally an interview with the official from the CBO was conducted.

8.2.1 THE RECONNAISSANCE SURVEY

A survey was conducted in both Mandevu and Chaisa compounds. Its purpose was to ascertain if there were any physical differences in the waste management, if Mandevu was a cleaner compound than Chaisa, if any

infrastructure existed for waste disposal in the two compound and other physical issues that are related to this study. (Pictures were viewed as the best way of interpreting the findings from these surveys, see section 5.10)

8.2.2 THE QUESTIONNAIRE

The questionnaire played an integral part in data collection. The household heads filled in the questionnaire. The questionnaire was designed to include the following sections. Survey information, Respondents information, Household information, Household waste information, and the last section was for areas with CBOs (A sample of the questionnaire can be seen in section 4.6.0)

The questionnaires were distributed using the stratified random sampling method. It was assumed that these compound were sectioned and as a matter of fact they are, however it proved quite difficult to properly define these sections, which were used as strata. (other problem encountered are documented under the sub-title “problems encountered in section 4.5.0)

Using this sampling method a pre-chosen house was determined and after every 6th house was sampled. A total of 36 houses were sampled 20 in Mandevu compound and 16 in Chaisa compound. I believe the data collected was sufficient to provide the necessary information need to assess the stated objectives.

8.2.3 INTERVIEW WITH SUACS OFFICIALS

An interview was held with an official from the CBO. Incidentally he is another CBOs in Chaisa, but only interviewed the official from SUACS. The purpose of this interview was to ascertain the performance of the CBO,

infrastructure existed for waste disposal in the two compound and other physical issues that are related to this study. (Pictures were viewed as the best way of interpreting the findings from these surveys, see section 5.10)

8.2.2 THE QUESTIONNAIRE

The questionnaire played an integral part in data collection. The household heads filled in the questionnaire. The questionnaire was designed to include the following sections. Survey information, Respondents information, Household information, Household waste information, and the last section was for areas with CBOs (A sample of the questionnaire can be seen in section 4.6.0)

The questionnaires were distributed using the stratified random sampling method. It was assumed that these compound were sectioned and as a matter of fact they are, however it proved quite difficult to properly define these sections, which were used as strata. (other problem encountered are documented under the sub-title “problems encountered in section 4.5.0)

Using this sampling method a pre-chosen house was determined and after every 6th house was sampled. A total of 36 houses were sampled 20 in Mandevu compound and 16 in Chaisa compound. I believe the data collected was sufficient to provide the necessary information need to assess the stated objectives.

8.2.3 INTERVIEW WITH SUACS OFFICIALS

An interview was held with an official from the CBO. Incidentally he is another CBOs in Chaisa, but only interviewed the official from SUACS. The purpose of this interview was to ascertain the performance of the CBO,

the problems faced and the future of the CBO (A sample of the interview schedule can be seen in section 4.7.0)

8.3.0 SECONDARY SOURCES OF DATA

There was also data collected from other resources. The secondary data used to get initial information on the subject under study was collected from the University of Zambia Main Library, the Environmental Council of Zambia (E.C.Z) library the of public health and Peri-Urban departments at L.C.C.

8.4.0 DATA PROCESSING AND PRESENTATION.

A code system to process the data obtained was used. The data coding sheets helped me in the analysis. The data was represented statistically using percentages. For better presentation of data tables were used.

8.4.1 DATA ANALYSIS

The analysis of the finding was based on the tables, which used both qualitative and quantitative methods. The summaries of the information obtained were done by analysing the percentages of responses. The statistical package for social sciences (SPSS) was also used to verify and validate the consistency of the data obtained.

8.5.0 PROBLEMS ENCOUNTERED AND LIMITATIONS.

During my study the following problems were encountered.

- Respondents found a problem with question 11. Under household waste section in the questionnaire. The question had to do with waste generated per day. Respondents could not quantify the waste they generated per day properly.

- Four questionnaires in Chaisa compound were lost and the respondents there after refused to co-operate with me.
- The sections in these compounds were difficult to define properly. House numbers also proved to be a big problem as few house had house numbers and more often than not the respondents did not seem to know their house number.
- In Chaisa there is a newer CBO called Area Based Compound Organisation (ABCO) a CARE International based initiative. The questionnaire was therefore expanded slightly to include the activities of this CBO.

UNIVERSITY OF KENYA
LIBRARY

9.0 RESULTS AND PRESENTATION.

9.1.0 RESULTS FROM THE RECONNAISSANCE SURVEY

During the survey the following physical structures were noted and viewed as relevant to this study.



Pic 1 (A moulding box filled to capacity)

Several moulding boxes were evident in Mandevu compound mostly along the main road from Great North road. While the construction of the structures is appreciated there are too few and were heaped with rubbish. This being an indicator for,

- The overwhelming waste generated by the community and
- The lack of frequent collection by the Lusaka City Council. The design is also flawed in that people are needed to load the waste from these structures exposing them to diseases, skin infection, eye infections and bites from

animals such as rodents. The moulding boxes for garbage were built by the R.D.C



Pic.2 Above is a picture of an unused moulding box for garbage in Mandevu. Interesting enough the heap in picture 3 is just 10m away. Waste dumped on the peripheral areas was a common sight in Mandevu. **Pic. 3** below shows a disposal site “between Mandevu and Chipata compound.





Pic. 4 A large disposal site commonly called Chimunganda. It was sad to see such a large heap of uncollected waste. Burning of waste seems a cheap and immediate method to get rid of waste. As seen above in Pic. 4

9.2.0 INFORMATION FROM THE QUESTIONNAIRE OBTAINED

9.2.1 the gender representation is as shown in table 1 and 2

Table 1.1 – Mandevu

	No	%
Female	8	40
Male	12	60

Table 1.2 – Chaisa

	No.	%
Female	6	38
Male	10	62

The were more male than female respondents. The reasons for this being that the study was done during weekends during which time the men were present.

9.2.3 MARITAL STATUS

The tables 2.1 and 2.2 show the marital states of the sampled population. As expected the married people represented the largest population. 50% in Mandevu and 56% in Chaisa compound.

2.1 (Mandevu)

Marital Status	Single	Married	Divorced	Widowed
Responses	4	10	3	3
%	20	50	15	15

2.2 (Chaisa)

Marital Status	Single	Married	Divorced	Widowed
Responses	2	9	2	3
%	12 ½	56	12 ½	19

9.2.4 EDUCATION LEVELS

The highest proportion in both Chaisa and Mandevu have reached as far as secondary school. Most respondents were able to read and write and illiteracy levels were not as high as earlier expected.

Table 3.1 and 3.2 show the education levels in Mandevu and Chaisa respectively.

Table 3.1 (Mandevu)

Education Levels	No. Education	Primary Education	Secondary Education	Post Sec. Education
Responses	4	4	8	4
%	20	20	40	20

Table 3.2 (Chaisa)

Education Levels	No. Education	Primary Education	Secondary Education	Post Sec. Education
Responses	4	4	7	1
%	25	25	44	6

9.2.5 SIZES OF HOUSEHILD

In Mandevu 30% of respondents had 6 persons in their households while only 5% had more than 10 persons. It was surprising not to find households with 7,8 and 10 persons in them.

Table 4.1 shows the size of households in Mandevu.

No. Of people in households	1	2	3	4	5	6	7	8	9	10	710
Responses	1	0	4	3	3	6	0	0	2	0	1
%	5	0	20	15	15	30	0	0	10	0	5

In Chaisa compound 32% of respondents had 8 persons in their households and only 6% had more than 10 persons. This information helped to give an idea on the relationship between household size and waste generation.

Table 4.2 (Chaisa)

No. Of people in households	1	2	3	4	5	6	7	8	9	10	710
Responses	0	0	2	4	1	1	2	5	0	0	1
%	0	0	12 ½	25	6	6	12 ½	32	0	0	6

9.2.6 WASTE GENERATION AND DISPOSAL

The buckets was used a unit of disposing waste.

Table 5.1 shows the buckets of waste generated in Mandevu.

No. Of Buckets	1	2	3	4	5	75
Buckets Generated	8	6	4	2		
%	40	30	20	10		

Table 5.1 (Mandevu) 40% of respondents generated a bucket a day, 30% generated 2 buckets, 20% generated 3 buckets and 10%, 4 buckets a day. The 10% that produced 4 buckets per day represents large households. Most households produce a bucket a day and that seems reasonable.

The responses from Chaisa do not differ much from those in Mandevu as can be seen from table 5.2. In Chaisa 37 ½ % generated a bucket a day, 31% 2 buckets per day, 25% generated 3 buckets and 6% 4 buckets per day.

Table 5.2 – Chaisa Compound.

No of Buckets	1	2	3	4	5	75
Buckets Generated	6	5	4	1		
%	37 ½	31 ½	25	6		

A comparison between table 5.1 and 5.2 shows minimal differences between Chaisa and Mandevu.

In terms of the waste generated it was found at that most respondents waste constitutes mostly plastics and food remaining 70% in Mandevu and 62 ½% in Chaisa. 20% in Mandevu said it constituted paper and food remains; in Chaisa paper and foods remains make up 12 ½% of the respondents. The remaining 10% in Mandevu said their waste constituted food remains while for Chaisa 25% said their waste constituted food remains. Table 6.1 and 6.2 show the responses on waste constitutions from Mandevu and Chaisa respectively.

Table 6.1 Mandevu

Categories	Plastic & food remains	Plastic & Paper	Food Remains & Paper	Food remains	Paper	Plastics	Other
Response	14		4	2			
%	70		20	10			

Table 6.2 Chaisa

Categories	Plastics & food remains	Plastics & Paper	Food remains & Paper	Food remains	Paper	Plastics	Other
Responses	10		2	4			
%	62 ½		12 ½	25			

Its not surprising that all waste generated contains food remains especially when one takes into consideration that households and market places are the main sources of waste.

9.2.7 WASTE DISPOSAL

In Chaisa all respondents did not sort out their waste when disposing it. In Mandevu 10% claimed to sort out their waste in that they remove the food remains which they sell to residents that have pets. Waste is usually not sorted and it was not surprising that the responses were as shown in table 7.1 and table 7.2 for **Mandevu and Chaisa respectively.**

Do you sort out your waste	Y	N
Respondents	2	18
%	10	

TABLE 7.1

Do you sort out your waste	Y	N
Responses	0	16
%	0	100

TABLE 7.2

Several waste disposal methods are used in both Mandevu and Chaisa.

Table 8.1 shows the responses of households on the disposal method used in Mandevu while table 8.2 gives the responses from Chaisa.

Table 8.1 (Mandevu)

Methods	Dig pit	Burn waste	Disposal site	Door to Door	Moulding box	Dig Pit/ Burn Waste	Other
Response	4	3	6	0	4	2	1
%	20	15	30	0	20	10	5

30% of respondents used disposal sites; interestingly enough the disposal sites mentioned are just any in discriminate heap of waste. The 5% under other column said they dumped waste along the roadside and the rail line as well.

Table 8.2 (Chaisa)

Methods used	Dig pit	Burn waste	Disposal site	Door to Door	Moulding Box	Dig Pit/ Burn Waste	Other
Response	3	1	6	0	0	3	3
%	19	6	37	0	0	19	19

In Chaisa 37% of the respondents use the disposal site near Chaisa Basic School. It's encouraging that 37% use this site. It however sad to note that L.C.C does not frequently collect waste from this heap.

All respondents' talk to in both Mandevu and Chaisa did not treat their waste before disposal it. This was expected especially that treating is an added cost.

9.2.8 CBOs IN CHAISA

Two CBOs exist in Chaisa, SUACS and ABCO is concerned with educating the community in environmental issue, with an emphasis on educating people on Cholera and poor environmental conditions. Information discrimination is an integral part of their operation.

ABCO is a CARE International initiative aimed at organising the community to take care of the general environment and improve the status of the communities. The initiative has incorporated organisation such as JICA, Society For Family Health. (SFH), Irish–Aid, Lusaka City Council (LCC), Lusaka Urban District Health Management Term (LUDHMT). Their work includes among other issues provision of water, improve sanitation, health provision and family planning.

9.2.8.1 COMMUNITY INVOLVEMENT IN CBO

From table 9.1 half the respondents are involved with the CBO's activities while the other half are not. Therefore more needs to be done so as to ensure more community participation.

Table 9.1

Involvement in CBO	Y	N
Responses	6	6
%	50	50

The respondents involved with CBO help in mobilisation of the community, environmental education, and Cholera awareness campaigns.

The introduction of the CBO has helped improve waste manage in Chaisa as can seen table 10.1

Table 10.1

Has CBO improved waste problem.	Y	N
Responses	7	5
%	58	42

GEOGRAPHY DEPARTMENT
LIBRARY

9.2.9 DIFFICULTIES IN DISPOSING WASTE

Some respondents faced problems in disposing their waste. In Mandevu 45% of respondents said that they faced one problem or the other in disposing waste. In Chaisa only 19% faced problems in disposing waste. Table 11.1 and 11,2 shows the responses from Mandevu and Chaisa respectively.

Is it easy to dispose waste	Y	N
Responses	11	9
%	55	45

Table 11.1

is it easy to dispose waste	Y	N
Responses	13	3
%	81	19

Table 11.2

The difficulties sights had to do mostly with transporting their waste from their homes to dumping areas. Most dumping areas are located in the border areas and its clear that residents face problems in transporting their waste.

9.2.10 CBO ACTIVITIES IN MANDEVU AND CHAISA

Table 12.1 Mandevu

Have you heard of any CBO in Mandevu	Y	N
Responses	2	18
%	10	90

Table 12.2 Chaisa

Have you heard of an CBO in Chaisa	Y	N
Responses	12	4
%	75	25

In Mandevu only 10% acknowledged having heard of some groups that operates in the compound (see table 12.1) while see respondents are people working, they believe it move a case of the Resident Development Committee hiring people to clear up, than the work of a C.B.O. In Mandevu there is now a group of people working with the clinical personnel. This group is called the Neighbourhood Health Committee. It's believed that the 10% that said there was a C.B.O in Mandevu were reforming to this committee.

In Chaisa 75% of respondents had heard of a CBO in their area (see table 12.2). The remaining 25% had not heard of any C.B.O in Chaisa. The names of the C.B.Os in Chaisa are Stop Uve Anti Cholera Society (SUACS) and a Care International initiative called the Area Based Compound organisation (ABCO). SUACS has been in operation for about 8 year while ABCO is more recent.

58% say that the CBO in Chaisa has helped improve the waste management in Chaisa while 42% say that it hasn't. It's encouraging to note that almost 60% of the respondents throw about C.B.Os in this area. The 58% said the compound was generally cleaner, less disease out-break such as cholera. Also there is less waste along the roadsides.

The 42% from table 10.1 who believe that nothing had changed said that waste is mostly moved from household to disposal heap and not out of the compound, waste is not dumped too far from their homes and that waste is still not collected by L.C.C hence it piles up at disposal point.

9.2.11 IMPROVEMENTS TO CBOS

The following suggestions were made by the respondents, that

- (a) More residents need to get involved with the C.B.O
- (b) More needs to be done on educating people on environmental issue be it waste problems, water and sanitation.
- (c) More posters need to be put up
- (d) The CBO needs to work more closely with LCC
- (e) LCC needs to collect waste more frequently.

10.0 DISCUSSION

After conducting this study and after critically analyzing the information, I would say that C.B.Os involved in waste management have not significantly improved the waste management in compounds areas and I am therefore compelled to reject my hypothesis which states that "The introduction of C.B.Os have significantly improved the management of domestic waste in unplanned areas of Lusaka (refer to section 1.4.1 & 1.4.2) Though

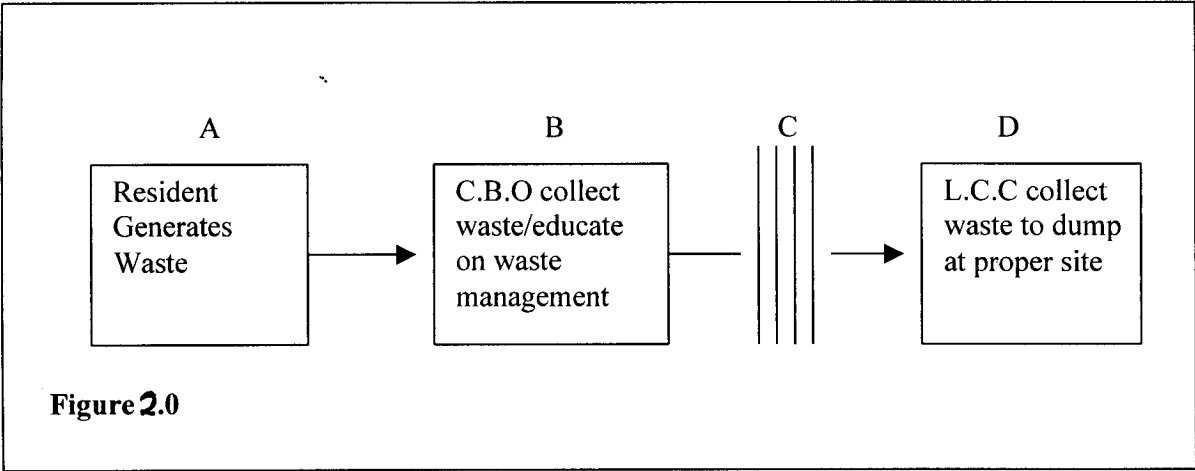
some improvements have been noticed the word “significantly” has played the crucial role in me rejecting my hypothesis.

While a lot of effort has been put in by the SUACS officials and residents in Chaisa, into ensuring that this CBO makes some positive progress and in time get some positive results in managing the waste problem in their area, I believes that their effort falls short of making a significant improvement. And though the reasons for this may be varied and numerous, I came up with the following reasons and made some recommendation.

REASONS

10.1 THE RELATIONSHIP BETWEEN LCC AND CBOS

From the interview conducted it was found out that the relationship with LCC was poor. Such a relationship does not help the CBOs. As far as waste management is concerned a CBO cannot be effective if the do not have an operational relationship with L.C.C. If CBO can only go up to a certain point in waste management after which the L.CC should take over. The figure 2.0 below shows a simple operational chain.



From the fig 2.0 above a C.B.O can actively or passively collects waste from residents it will put at a point in a garbage site. The waste collects at this point because L.C.C does not collect this waste. There is a break down in the operational chain between B and D. Its sad

to note that L.CC does not have the capacity to provide an efficiency and efficient service to planned area if Lusaka let along the unplanned areas.

7.1.2 WASTE DISPOSAL METHODS

While the residents talked to use an array of waste disposal methods, of all the respondents none had their waste collected by the L.C.C and looking at L.C.Cs limited capacity this was expected. It's interesting to note that the largest percentage of respondents 30% in Mandevu and 37% in Chaisa say they use the disposal sites. A further inquiry into this showed that disposal sites mentioned included heaps of rubbish on the peripheral areas of the compounds. The issue of dumping waste at any convenient point is of much concern and though the poor service by LCC does contribute. I think its more a one case if ignorance and poor attitude towards proper waste disposal.

11.2 WASTE DISPOSAL STRUCTURES

SUACS has gone out to educate people on the importance of a clean environment and according to the SUACS official Chaisa is cleaner now than before. More and more people throw their waste at the disposal site near the school. However to improve waste disposal site more disposal site need to be designated. As 19% of respondents in Chaisa and 45% in Mandevu said they faced problems disposing of the waste, the main reason being that they had to transport waste to the disposal site. Some residents who can afford to have the waste collected at a rate of K200 per sack mostly by teen ages that make living collecting waste.

11.3 COMMUNITY INVOLVEMENT IN CBO

Community Based organization as the name suggests involves the people in the community in its operation, objectives and so on. People are the locus or nucleus of any C.B.O. The success or failure of any C.B.O depends to a very large extent on the levels of participation of the people in CBOs programmes.

From the data analysed, it would be safe to say that the levels of participation in CBO is not very good. The official talked to described the participation as average and from the data analysed from the questionnaire 50% of the respondents said they are involved with CBOs, while the remaining 50% are not (**see table 9.1**). The people need to be more involved with CBO, to ensure certain success.

11.4 IMPROVEMENT TO WASTE MANAGEMENT

58% of residents claimed that SUACS had in one way or the other improved the waste disposal problem on Chaisa while 42% (**see table 10.1**) said that it had not really improved. While percentages gives us an indication of the performance of SUACS one is compelled to think that SUACS still has a way to go before it significantly improve the situation in Chaisa. The gap between 58% and 42% is not much and its hoped that was SUACS continues it to endure the gap would increase such that more people participate in this CBO. SUACS efforts are paying off but more needs to be done.

11.5 ENVIRONMENTAL EDUCATION

SUACS has concentrated its work in Cholera and intelligently so, since Cholera is a disease related to poor environmental conditions in particular water, and it is a disease that effects numerous household in Chaisa and Lusaka as a whole.

It's easy to understand why SUACS started with Cholera, but Cholera is not the only disease related to poor environmental conditions. SUACS therefore has to expand its education programme to cover waste disposal and keeping a clean environment. And while the SUACS official rates the performance of SUACS as fair, he also makes it clear that more need to be done.

12.0 RECOMMEDATIONS

- 12.1 I would to recommend that the C.B.O and L.C.C should work towards fixing the operational back down shown in **figure 20** To wait for L.CC to buy more waste collection trucks would be waiting for too long.
- 12.2 L.C.C and CBOs should work out a practical waste collection routine.
- 12.3 The official from SUACS spelt out the objectives of the CBO to be information gathering, dissemination and environmental education. I believe that C.B.Os need to adopt a stronger and objective, focused E.E programmes so as to change the behavior of residents in Chaisa to stop from dumping waste any how to tailing it to taking areas which are easily accessible by L.C.C
- 12.4 SUACS must work hand in hand with ECZ and LCC to find proper and safe waste disposal sites and with an improved E.E programme residents will only dump waste in proper disposal site.
- 12.5 To improve the operations of CBOs more disposal sites need to designated, so that, the community does not face problems in carrying waste over distances just to dispose waste.
- 12.6 SUACS should work at ways of building medium box. Money is obviously needed for this, with some sensitization the community could contribute toward this cause, which in both the short and long run will benefit the community itself.
- 12.7 SUACS should carry at a vigorous awareness campaigning, so that more people are involved in their operations. I believe that this stage is the first step towards ensuring a more effective waste management programme.

People in the community need to feel part and parcel of the C.B.O programme. People are the core of any C.B.O and its imperative that CBO incorporate local skills, knowledge and tools to improve the status of the environment.

12.8 SUACS must embark on an environmental Education programme and they should seek necessary maternally and guideline from environmental education officials from WWF, ECZ and WECSZ.

12.9 SUACS should put up more posters with vernacular translation.

13.0 CONCLUSION

Today we find ourselves faced with finding solution to our environmental problems with the hope of handing over to the future generations a better and more habitable as well as better-managed environment. Waiting for tomorrow may be too late for the present generation, our children and us.

Today more than yesterday, terminology such as sustainable development is heard often and much debate and research is bringing carried not to ensure this sustainable development is achieved. More often than not the community is involved in these debates and out of these debates community based programmes be it C.B.Os or CBNRM were and are still being formed.

I believe that the very future of sustainable environmental management lies with the community itself. Their involvement in sustainable development is crucial to both the community itself and the public as a whole. The community knows their own problems best and the in corporation of local and indigenous knowledge not only makes the community more motivated but it brings about the use of affordable and more importantly available resources to finding solutions to these problems.

The failure of the CBO that was under study in this research should therefore be a point of great concern to all environmental managers as the very future and the observed way forward in sustainable development has been put under question. While community based programmes dealing in Natural Resources management such as ADMADE, SLAMU (dealing with wildlife management) have been successful, the same cannot be said about C.B.O dealing in problems such waste management.

Some may argue that the success of CBNRM stems from the fact that they are funded by funders who only pull out after the programme has reached a sustainable level. By the same token one must look at the success of any CBO/CBNRM as lying in community involvement and participation. To me, the sustainability of any community based programme lies with community involvement and participation, and no matter the amount of funding, with out the community component, sustainability will not be attained. The finding of this study concur with this (see section 7.4.1)

More therefore needs to be done to ensure that C.B.Os such a SUACS are directed towards success. Though the benefits of this success are not monetary, the community benefits from living in a cleaner environment, with less disease out, breaks much as cholera, less foul smells from uncollected waste, less flies and rodents and the diseases that these vectors bring. C.B.Os therefore must be looked at with increased importance especially in areas of waste management. With a good environmental education program such as the one SUACS has embarked in it can definitely play an integral role in achieving what I refer to as the ultimate goal in environmental management, that is to produce an individual who is environmentally

The failure of the CBO that was under study in this research should therefore be a point of great concern to all environmental managers as the very future and the observed way forward in sustainable development has been put under question. While community based programmes dealing in Natural Resources management such as ADMADE, SLAMU (dealing with wildlife management) have been successful, the same cannot be said about C.B.O dealing in problems such waste management.

Some may argue that the success of CBNRM stems from the fact that they are funded by funders who only pull out after the programme has reached a sustainable level. By the same token one must look at the success of any CBO/CBNRM as lying in community involvement and participation. To me, the sustainability of any community based programme lies with community involvement and participation, and no matter the amount of funding, with out the community component, sustainability will not be attained. The finding of this study concur with this (see section 7.4.1)

More therefore needs to be done to ensure that C.B.Os such a SUACS are directed towards success. Though the benefits of this success are not monetary, the community benefits from living in a cleaner environment, with less disease out, breaks much as cholera, less foul smells from uncollected waste, less flies and rodents and the diseases that these vectors bring. C.B.Os therefore must be looked at with increased importance especially in areas of waste management. With a good environmental education program such as the one SUACS has embarked in it can definitely play an integral role in achieving what I refer to as the ultimate goal in environmental management, that is to produce an individual who is environmentally

responsible regardless of that individuals interests, age gender, social class, nationality, ethnic origin and political affiliation.

Lastly I have always been of the view that C.B.Os take quite a long time for them to be called successful and while I have clearly rejected my hypothesis that says “that C.B.Os have significantly improved waste management in compounds: I know that some people will view me as being unfair to judge a C.B.O such as SUACS after only some years in operations but, I would like to point out that this study has been more a case of evaluating the performance if CBO’s and after much work, discussion with people, discussion with SUACS officials and reconnaissance survey, I feel that at the time and stage of implementation of SUACS, that I did my work this C.B.O has not significantly changed the waste management situation in Chaisa

It’s my hope that in the next 3 to 4 years another study will be conducted so as to ascertain how C.B.O have improved the waste management situation in compounds. Lastly, while I had a lot of recommendations I choose to include only those that are reality both in terms of finance and time, I choose not include that which are too far fetch or too unreality

GEOGRAPHY DEPARTMENT
LIBRARY

responsible regardless of that individuals interests, age gender, social class, nationality, ethnic origin and political affiliation.

Lastly I have always been of the view that C.B.Os take quite a long time for them to be called successful and while I have clearly rejected my hypothesis that says “that C.B.Os have significantly improved waste management in compounds: I know that some people will view me as being unfair to judge a C.B.O such as SUACS after only some years in operations but, I would like to point out that this study has been more a case of evaluating the performance if CBO’s and after much work, discussion with people, discussion with SUACS officials and reconnaissance survey, I feel that at the time and stage of implementation of SUACS, that I did my work this C.B.O has not significantly changed the waste management situation in Chaisa

It’s my hope that in the next 3 to 4 years another study will be conducted so as to ascertain how C.B.O have improved the waste management situation in compounds. Lastly, while I had a lot of recommendations I choose to include only those that are reality both in terms of finance and time, I choose not include that which are too far fetch or too unreality

GEOGRAPHY DEPARTMENT
LIBRARY

BIBLIOGRAPHY

- 1) Fortman L. " Water Use In Eastern Botswana; Policy Guide and Summary of Water Points Survey', Ministry of Agriculture Botswana; 1981.
- 2) Green J " Food Processing And Waste Management" AVI Publishing Company inc 1987 Connecticut United States of America
- 3) Kerr C, " Community Water Development " International Technology Publication Ltd 1989 London, United Kingdom.
- 4) Mackenzie c and Utgard R " Man and His Physical Environment" Burgess Publishing Company 1972, United States of America
- 5) Marino M and Boland J " An Integrated Approach To Waste Management" World Publication, 1999 Washington DC, United States Of America (USA)
- 6) Solid Waste Management Master Plan Project For The City Of Lusaka, Phase 1- Diagnosis Final January 1997 ECZ and LCC
- 7) Central statistics Office 1990 Census of the Population Report

QUESTIONNAIRE FOR RESPONDENTS

Survey Information

1. Location Of survey _____
2. Section of compound _____
3. House number _____

Respondents Information

4. Respondent number _____
5. Sex of respondent _____
6. Marital Status (a) Single
(b) Married
(c) Divorced
(d) Widowed (Please Tick)
7. Level Of education attained
(a) No education
(b) Primary education
(c) Secondary education
(d) Post secondary education (Please Tick)

Household Information

8. Number of children and dependents in the household? Children _____
Dependents _____
9. Total number of people in your household? _____

2019/01/01 10:00

QUESTIONNAIRE FOR RESPONDENTS

Survey Information

- 1. Location Of survey_____
- 2. Section of compound_____
- 3. House number_____

Respondents Information

- 4. Respondent number_____
- 5. Sex of respondent_____
- 6. Marital Status (a) Single
(b) Married
(c) Divorced
(d) Widowed (Please Tick)
- 7. Level Of education attained
(a) No education
(b) Primary education
(c) Secondary education
(d) Post secondary education (Please Tick)

Household Information

- 8. Number of children and dependents in the household? Children_____
Dependents_____
- 9. Total number of people in your household? _____

2023-01-01 10:00:00
2023-01-01 10:00:00

10.Education level of spouse, children, dependents (fill in the table below)

	Sex	No education	Primary Education	Secondary Education	Post Secondary Education
Spouse					
Children 1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
Dependents 1st					
2 nd					
3 rd					
4 th					
5 th					
6 th					

Household Waste Section

11. How much waste do you generate in a day? (Approx)
- (a) One bucket
 - (b) Two buckets
 - (c) Three buckets
 - (d) Four buckets
 - (e) Five buckets
 - (f) More than five
- (Please Tick)

12. What constitutes your waste?

- (a) Plastics and food remains
- (b) Plastics and paper
- (c) Food remains and paper
- (d) Food remains only
- (e) Paper only
- (f) Plastics only
- (g) Other

(Please tick)

13. Do you dispose your waste in a similar manner? (a) Yes (Y) (b) No (N)

14. If no, how do you dispose the following waste types?

- (a) Plastics
- (b) Food remains
- (c) Paper
- (d) Other

15. If yes, how do you dispose of your waste?

- (a) In a dug pit
- (b) Burn waste
- (c) Dispose site/ point
- (d) Door to door collection by LCC
- (e) Other methods _____

16. Is your waste treated (a) Yes (Y) (b) No (N)

17. If yes state how? _____

18. Is it easy to dispose of waste (a) Yes (Y) (b) No (N)

19. If no, in what ways is waste dispose difficult? _____

20. Is your waste health hazard? (a) Yes (Y) (b) No (N)

21. If yes in what ways is it harmful to (a) your household _____

(b) to your surrounding / environment _____

22. Do you have a Community based organization involved in waste management in your area? (a) Yes (b) No

23. If yes go to question 23

For Areas with CBOs

23 What is the name of your CBO? _____ -

24. When was your CBO formed? _____

25. What role does your CBO play in your community?

26. Are you involved with this CBOs programme? (a) Yes (b) No

27. If yes how are you involved with the CBO? _____

28. Has the CBO significantly improved the waste problem in your community (a) Yes (b) No

29. If yes, state how _____

30. If no explain why you think so? _____

31. What improvement could be made to improve the operations of the CBO? _____

Thank you for your co-operation.

INTERVIEW FOR THE OFFICIAL FROM STOP UVE ANTI CHOLERA SOCIETY

1. Name of the official _____
2. Date of interview _____
3. Position of the official _____
4. How long has the society been in operation _____
5. Why did you decide to form the society _____
6. How can you judge the responses of the community _____
7. What are the main objectives of this CBO? _____
8. Have you achieved any of your objectives? _____
9. How well is the community integrated into the CBOs program? _____
10. Rubbish heaps are still a common sight in your compound, does this mean your CBO is not operating effectively? _____

11. How would you rate the performance of your CBO since its inception? _____

12. Do you think that your CBO has significantly improved the solid waste problem? (a) Yes (b) No

13. If your answer in question 12 is yes please state

14. If your answer in question 12 is No please state why not?

15. What improvements do you think need to be made to improve solid waste management in your compound?

Thank you for your co-operation.