COMMUNITY PARTICIPATION IN SOLID WASTE MANAGEMENT IN HIGH-DENSITY LOW-INCOME AREAS: THE CASE OF C-SECTION IN DUNCAN VILLAGE

By

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A Dissertation Submitted in Partial Fulfilment of the Requirements of the Master of Philosophy Degree in Environmental Studies in the Department of Geography and Environmental Sciences at the University of Fort Hare

Supervisor: Dr. W. Nel

December 2009
DECLARATION

I declare that this dissertation is my own original work, except where stated, and that it has not been submitted for a degree to any other university.

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DATE: ______________________

PLACE: UNIVERSITY OF FORT HARE, ALICE
To my late grandmother, Thandiwe Florence Sira.
ACKNOWLEDGEMENTS

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ABSTRACT

Solid waste management in high density low-income areas is a problem that manifests itself in ubiquitous illegal dumpsites and unhealthy living environmental conditions. Community participation in solid waste management in Duncan Village, C-Section has been found to be part of the solution to this problem. This study investigates community participation in SWM at household level, community waste project level and at informal salvaging/scavenging level. The integration of community participation into existing Buffalo City Municipality waste management plans and the nature of the relationship between the different interest groups are investigated. This study employs qualitative research methods where interviews and participatory observations are used to investigate key objectives. The nature of the relationships between councillors, C-Section residents and the Buffalo City Municipality Departments are tenuous and fraught with conflicts. These conflicts emerge due to the lack of communication as well as due to the non-integration of the community interest groups’ views and activities into solid waste management in C-Section. The study suggests that this lack of communication should be addressed and that integrated participation of all stakeholders must be encouraged for effective solid waste management in a high density low-income community.
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ACRONYMS

ANC  African National Congress
BCEA  Basic Conditions of Employment Act
BCM  Buffalo City Municipality
CBD  Central Business District
CBO  Community-Based Organisation
DEAT  Development of Environmental Affairs and
DVRA  Duncan Village Residents Association
DVRI  Duncan Village Redevelopment Initiative
DWAF  Department of Water Affairs and Forestry
EIP  Environmental Management Implementation Plan
EL  East London
EMP  Environmental Management Plan
IDP  Integrated Development Plans
IWMP  Integrated Waste Management Plan
LO  Life Orientation
MBI  Market Based Instruments
MSWM  Municipal Solid Waste Management
NEMA  National Environmental Management Act
NGO  Non-Profit Organisation
OPC  One-Person-Contract
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<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tr>
<td>PDP</td>
<td>Previously Disadvantaged Persons</td>
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<td>PI</td>
<td>Persuasive Instrument</td>
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<td>PPE</td>
<td>Personal Protective Equipment</td>
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<tr>
<td>RDP</td>
<td>Reconstruction and Development Programme</td>
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<tr>
<td>SANCO</td>
<td>South African National Civic Organisation</td>
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<tr>
<td>SMME</td>
<td>Small, medium, micro-enterprise</td>
</tr>
<tr>
<td>SWM</td>
<td>Solid Waste Management</td>
</tr>
<tr>
<td>UIF</td>
<td>Unemployment Insurance Fund</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>WIS</td>
<td>Waste Information Systems</td>
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<tr>
<td>WTP</td>
<td>Willingness-To-Pay</td>
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<tr>
<td>ZAR</td>
<td>South African Rand</td>
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CHAPTER I
INTRODUCTION

Rapidly growing, informally constructed low-income residential areas present a particular challenge to Municipal Solid Waste Management (MSWM). Besides the physical constraints of dense, low-income settlement, the inadequacies of other infrastructure services such as roads, drains and sanitary facilities often exacerbate waste management problems. The access of collection vehicles or push carts may be difficult where roads and footpaths are unpaved, for example. Existing drains are often clogged with waste materials, and solid waste itself may be contaminated with faecal matter. These conditions lead to a proliferation of vermin and disease vectors, and increase environmental health risks. The interrelated nature of service problems and the active role of residents - who are often owner-builders of their house call for adapted, sectorally integrated development approaches which depend, to a considerable degree, on the cooperation and participation of residents (Schübel et al., 1996, p.36).

As a means to address such environmental problems in South Africa, the National Environmental Management Act seeks to guide all environmental management activities when it states that “environmental justice must be pursued so that adverse environmental impacts shall not be distributed … unfairly” (South Africa, 1998). The same Act further states that “the participation of all interested and affected parties in environmental governance must be promoted … and participation by vulnerable and disadvantaged persons must be ensured … recognising all forms of knowledge, including traditional and ordinary knowledge” (South Africa, 1998).

The co-operation and participation of residents referred to in the foregoing extract manifests itself at different levels, i.e., at both the individual and collective levels. At the individual level community participation is generally characterised by storing garbage in suitable plastic bags or bins, household separation of recyclables from non-biodegradable materials, bringing the waste to communal collection points, picking waste from around the house,
placing the waste bags at the right spot and at the same time, and can also be manifested in the form of the least recognised activity called waste picking or scavenging (Lillemets, 2003). At the collective level, community participation can be in the form of organised meetings towards improved waste management strategies; negotiations with municipal authorities for better involvement in decision-making; getting involved in waste projects; and drain cleaning and awareness raising campaigns (Anschütz, 1996). The United Nations defined community participation as:

the creation of opportunities to enable all members of a community to actively contribute to and influence the development process and to share equitably in the fruits of development (United Nations, 1981, 5).

In this respect, the South African Municipal Systems Act (South Africa, 2000) places much emphasis on the local authority’s responsibility to ensure that community participation is promoted and fostered. The Municipality is expected to make provision for community participation in the following matters:

- development of Integrated Development Plans (IDPs);
- the preparation of budgets;
- review of the municipality’s performance management system;
- consultative sessions, public meetings and hearings; and
- strategic decisions relating to the provision of municipal services through councilors or locally recognized organizations and or traditional leaders (South Africa, 2000).

The levels of intensity in community participation that will help both communities and local authorities better understand their role in enhancing the outcomes of community development projects are described in Table 1.1. For instance, the Duncan Village Dense Settlement Waste Management Project can integrate any of these levels of intensity in community participation into its plans. Notably, poor waste management practices in dense low-income communities are manifested in the form of ubiquitous illegal waste dumps, waste materials in small water ponds, standing
wastewater, irregular or/non-existent waste collection, and unregulated means of waste management such as dump-site picking and thrash bag searching and picking that is sometimes referred to as “scavenging”. Rapten (1998) describes the informal waste worker as uneducated, generally disorganized and extremely poor. He states that in developing countries the informal waste workers are referred to as ‘scavengers’, ‘ants’, ‘flies’, ‘rats’, ‘vultures’ and ‘walking garbage’.

Table 1.1: The levels of intensity in community participation (After: World Bank, 1987)

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
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<tr>
<td>Information Sharing</td>
<td>Consultation</td>
<td>Decision Making</td>
<td>Initiating Action</td>
</tr>
<tr>
<td>Project designers and managers share information with beneficiaries in order to facilitate collective or individual action.</td>
<td>Beneficiaries are not only informed, but consulted on key issues at some or all stages in a project cycle</td>
<td>Beneficiaries have a decision making role in matters of project design and implementation</td>
<td>Beneficiaries take the initiative in terms of actions/decisions pertaining to a project</td>
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In the South African context, low-income communities are predominantly black. These communities are referred to as “Townships” and have been inherited from the infamous apartheid system that was characterised by forced removals, remoteness and racism. Black people were excluded from political, social, economic and environmental decision-making. This resulted in the creation of gross environmental injustices as experienced by the people of Duncan Village in the Buffalo City Municipality (BCM).

The residents of such marginalised communities, also known as” previously disadvantaged person’s” (PDP) communities experience a plethora of
environmental problems that include the lack of basic sanitation, dwellings that are built on dangerous slopes and on the banks of water courses that are subject to flooding, fires and the automatic location of waste dump sites near black communities. The Second Creek landfill site that is in close proximity to these “previously disadvantaged communities” had been in operation for the past 25 years until fires broke out during July 2009 and caused uproar among community remember from the aforementioned residential areas. Notably, the Buffalo City Municipality’s Integrated Waste Management Plan (BCM-IWMP) placed this dumpsite in Duncan Village (Buffalo City Municipality-Integrated Waste Management Plan, 2003, p.51). In response and under intense pressure the Buffalo City Municipality Solid Waste Management Services Department announced that the site would be closed down in August 2009. Officially, the site is currently open only for construction (waste) rubble and sand until further notice. Also, the Braelyn wastewater treatment plant is in close proximity to these communities which and this often sends a horrible stench that pervades the whole area covering the Gompo, Section-C and Section-C extension areas of Duncan Village.

Such current challenges were consequences of negligence, indifference and disinterest in placing the social needs of all South Africans at the forefront of integrated environmental management. The emphasis was on conservation strategies “concerned with the conservation of threatened plants, animals and wilderness areas, to include urban, health, labour and development issues” (Cock, 2004, p. 5). More studies have established that low-income communities have suffered this exclusion from involvement in both the decision-making and policy development processes. These low-income communities, black communities being the majority thereof, inherited the social and environmental injustices when their living environments were neglected during the apartheid era. This era was selectively plagued with poor land-use planning for these black communities (Scott and Oelofse, 2005). In this regard, McDonald (2002) states that “spending millions of rands on
municipal services for one group of people and not providing the most basic necessities to others are simply undemocratic” (McDonald, 2002, p. 4).

Therefore in the interest of both social and environmental justice this study will investigate the extent to which community participation in Solid Waste Management by low-income communities is infused into the Buffalo City Municipality’s Integrated Waste Management Plans. Is procedural justice in processes of environmental policy development and decision-making promoted? How is it implemented by the local authority? The perceptions of Duncan Village unemployed youth and women, relating to both their own role and that of BCM’s solid waste management programmes regarding community and youth development will be investigated. Given the high incidence of illegal dumping and diseases that are attributed to unhygienic living conditions, this study will launch an investigation into the extent to which BCM’s market based instruments (MBIs) and persuasive instruments have impacted on community participation in solid waste and general waste management. In this regard this study will address the question of whether the municipality’s environmental education campaigns and similar initiatives are translating into the desirable outcome of “zero waste”. Lastly, linked to the study of community participation in solid waste management at all levels of the social strata, is the issue of informal waste picking for a livelihood (scavenging). This study also seeks to address the question of how this practice is impacting on both the environmental and socio-economic milieu of Duncan Village-C Section and on how the practice affects BCM waste management plans and protocols.

The contents of this study summarily include Chapter I, which presents a brief background to the study of community participation in solid waste management (SWM). Community participation in SWM is reviewed as it is planned and implemented in the different countries, particularly in developing countries. Applicable methodology and the relevant conceptual framework is also discussed with due consideration to the pertinent ethical issues. Chapter
II looks at how South African legislation addresses community participation in Solid Waste Management. Chapter III describes the history, demographics and waste composition in Duncan Village. Chapter IV explores and elaborates on the findings emerging from both the interviews and observations conducted during the research study. Chapter V analyses and discusses the data that were collected followed by chapter VI that consists of the conclusion and the recommendations emanating from the analyses of data.

**Conceptual Framework**

“Environmental justice must be pursued so that adverse environmental impacts shall no be distributed in such a manner as to unfairly discriminate against any person” … (South Africa, 1998). This concept of environmental justice began in the United States of America in the early 1980’s by the people of colour as a movement that was calling for the equitable distribution of environmental services in their communities. Later on, in the early 1990’s the US government recognised this call and established the Office of Environmental Justice. Through further study environmental justice has through the years been developed into a conceptual framework seeking to ensure that environmental quality is a benefit that is enjoyed by all, irrespective of their skin colour and socio-economic standing. In a broader sense, the US Environmental Protection Agency defined environmental justice as:

The search for fair treatment and the meaningful involvement of all people, regardless of their race, colour, origin or income, with respect to the preparation, development, implementation and enforcement of environmental policies, laws and regulations. By fair treatment it is understood that no group of people, including ethnic, racial or socio-economic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, commercial and municipal operations, or the execution of federal, state, local or tribal policies, or the consequences arising from the absence or omission of these policies (US Environmental Protection Agency, 2009).
This framework should form the basis of defining, explaining and documenting the menacing occurrence of environmental inequality experienced by low-income communities. The benefits of environmental services should be derived by all the people (Pellow, 2004). In support of the framework of environmental justice, Munnik (2007) argues that although there is a call to adopt the sustainable development framework in addressing environmental ills impacting on society in order to promote the involvement and participation of those affected, that this framework is flawed in the sense that:

The imposition of costs on neighbours and downstream communities in the form of externalities is equally a transfer of wealth from the poor. The political conditions that make these transfers of wealth possible are mechanisms of exclusion of the majority from political decision making, often in the form of elite or highly networked, exclusive decision making (Munnik, 2007, p. 18).

Pellow’s (2004) four dimensional environmental justice framework views environmental inequality as socio-historic process than as an event; a multi-focused approach that captures many stakeholders’ experiences (individuals, entire households, NGOs, local authorities and the private sector; impacting on all the different stakeholders in the form of social inequality (Institutional racism, class and gender inequalities and political hierarchies) and; as a stimulus to agencies to confront environmental inequality. Given the issues discussed in this section it would be fitting to quote McDonald’s (2002) protest statement against those bent on silencing the voices of those seeking environmental justice. McDonald (2002) argues that “environmental inequities of this sort are so manifestly unjust that it makes sense to speak of an environmental justice movement to address them” (McDonald, 2002, p.4). Therefore, this study will adopt the environmental justice conceptual framework as it uses the public health model of prevention; protects the interests of low-income communities; shifts from the “intent” to do harm approach to the “effect” of the activity approach; and because it targets disproportionate environmental impact through targeted action and resources (Bullard and Johnson, 2000, p.559).
In Latin American about 20% of the population depend on informal trading activities for their livelihood. There is a formidable contribution that is being made by informal waste management activities/scavenging into the general management of waste in the region (Rapten, 1998). Therefore an inclusive public policy helps address the stigma attached to the informal waste worker and his profession (Horen, 2004). On the one hand, the lack of participatory democracy, technical know-how and of financial resources on the part of the poor is an impediment to their capacity building and development. On the other hand, with regard to government officials, there is a general sense of elitism, unwillingness to share power and a dependence on high standards (Rapten, 1998). There are higher expenses at the early handover stage of the integration project, however reduction in expenditure and increased benefits for both the community and the government authority is realised at later stages of project handover stage (Fehr, 2006).

Affordable solutions for a Third World context, towards job creation; environmental protection; optimised community participation; and entrepreneurship in low-income communities must be instituted (Medina, 2000). This recognition can be best implemented in the form of co-operatives (Kaseva and Mbuligwe, 2005). In Colombia, these co-operatives reported higher standards of living than when individual scavengers were picking the waste while in Brazil the incomes increased tenfold (Medina, 2000). However, more people that depend on waste picking as source of income may lose their income as a result of an organised system of community participation (Argawal et al., 2005). On the contrary, in Brazil and Colombia the interests and rights of informal waste workers have been protected through the formation of the organised National Association of Recyclers in Bogota and the co-operative Coopamare in Sao Paulo (Van de Klundert & Lardinois, 1995).
Furedy (1992) argues that with the economic downturn comes an increase in the numbers of scavengers. In the Bangladesh City of Dhaka the potential for decentralised composting was exhausted by the local authority. This composting would boost economic activity, job security, low cost technology and lead to improved community participation in source separation (Memon, 2002). Community participation in households can be enhanced with the use and incorporation of both market-based and persuasive instruments in waste management strategies as an effective building and revenue generating mechanism (Khanal and Souksavath, 2004). The incorporation of persuasive instruments helps induce the much needed change of attitude required to ensure best practices in community-based solid waste management (Fehr, 2007). Community participation can be approached in different ways by the local authority (Muller et al., 2002). For instance, in Bamako community participation was in itself a means to integrate the activities of the residents into municipal waste plans, while in Bangalore community participation was an instrument that was designed solely to help the municipality achieve its own objective of raising awareness to secure the residents’ cooperation (Muller et al., 2002). Another interesting low-income community participation motivation strategy relating to waste collection by the local residents is the ‘Garbage for eggs’ programme that was initiated in Yala, Thailand (Mongkolnchaiarunya, 2005). However, without appropriate policies that will support the integration of community endeavours in waste management like the ‘Garbage for eggs’ project, those endeavours will not materialise nor last (Agunwamba, 1998). It is for this reason that a strength, weakness, opportunities and threats (SWOT) analysis of municipal solid waste management systems is appropriate in that it will reveal the strengths as well as weakness in the municipality’s waste policies and practices and help evaluate successes and failures embedded within the system (Srivastava et al., 2005).

In the continent of Africa between 30-60% of the residents in the urban cities live in slums or informal/squatter settlements (Boadi et al., 2005). It is in these
environments that health hazards such as respiratory problems are experienced, particularly for children living in the damp conditions of South Africa (Thomas et al., 2002; Misra and Pandey, 2005). Another issue that affects community participation and helps determine the success of municipal solid waste management (MSWM), is the nature of the agreements entered into between the local authorities and the private sector. In Benin City, Nigeria selective consultations with community heads caused major problems in that the MSWM plans on service charges and service standards were met with much resistance from the general Benin City population (Ogu, 2000). Nigeria is plagued by negative perceptions and attitudes relating to waste management i.e., refusing to cooperate with other residents in keeping their shared environment clean; and refusing to pay the municipal rates in spite of the pre-arranged agreements with private collection entities. Such lack of cooperation has as a consequence, led to low morale amongst the public waste workers (Agunwamba, 1998). Related to this issue are the conflicts that can emerge between ‘tribes’ living in low-income areas and the government where intergovernmental relations can be severed. In this regard, Ortiz (2003) argues that it is essential that “all levels of government deal with tribes with careful consideration of their cultural, historic and socio-economic aspects, which are often intertwined” (Ortiz, 2003, p. 363).

In addition, it will be interesting to investigate how the three dimensions of power form and shape both the negative and positive perceptions of low-income communities about waste and its management (Culley and Hughey, 2008). Also, analysing the impact of persuasive instruments on the community’s perceptions, and motives for engaging and participating in waste management activities, such as source separation and recycling may reveal the nature of residents’ perceptions and attitudes (Ebreo and Vining, 2000). Furthermore, it is imperative for the local authorities to take into account both the socio-economic and demographic factors of a community since in South Africa’s low income communities women constitute the majority of active waste handlers/collectors and of the unemployed and are traditionally assigned cleanliness duties by their male counterparts (Poswa, 2004).
Notably, when women are employed, particularly by the privatised non-unionised waste collection companies, research has revealed that they are generally underpaid. More often than not, their male colleagues often get higher wages than they do (Samson, 2003; 2004; 2007).

In Mitchell’s Plain on the Cape Flats, there are no municipal regulations to encourage household waste recycling. This leads to recycling being an exclusive responsibility of the poorer scavengers whose income is solely dependent on waste picking and waste trading at buy-back centres. This waste picking practice for livelihood is prevalent in developing countries like South Africa since many people are excluded from the formal labour market (Langenhoven and Dyssel, 2007). The scale of exploitation of the informal waste worker in Mitchell’s Plain is overwhelming in that seventy-five percent of the scavengers earn less than R80 per week (Langenhoven and Dyssel, 2007). In dealing with issues pertaining to low-income communities feeling destitute, neglected and abandoned it is important for local waste management authorities to promote the adoption of waste related small, medium, micro-enterprises as a strategy that will enhance both solid waste management and community participation in local economic development (Rogerson, 2001; Karani and Jewasikiewitz, 2007). Rogerson (2001) argues that there is limited research and study on the informal entrepreneurship by (and in) low-income communities within the waste sector in South Africa.

Also, little research has been conducted on strategies to incorporate the informal waste worker into the mainstream recycling business, particularly in post-apartheid slum areas. Parallel with the exploitation of scavengers in black townships, is the victimisation of contract waste workers who have been underpaid through the perpetuation of neo-liberal and “casual” employment strategies that have been inherited from the apartheid system (Miraftab, 2004). Notwithstanding this exploitation of the contract workers, Mokua (2000) investigates the use of appropriate waste management technologies for the low-income and high-density informal settlement of Cator Manor, Durban.
Mokua (2000) favours the use of the One Person Contract (OPC), backyard composting and the human muscled vehicles as incentives that would ensure easy compatibility with the geophysical characteristics of the dense informal settlement while meeting the employment needs of its residents. Ekelund and Nystrom (2007) counter the ideas of using labour intensive technologies and the under-dimensioning of automated technology mechanisms of compost making, stressing the need for consideration to be given to the working conditions of the workers and the health hazards associated with bio aerosols and dust, particularly the impact on those households living in close proximity to the composting sites.

**Research Problem Statement**

In a pre and post-apartheid era community such as Duncan Village that has seen little adjustments in its social, economic and environmental context, it becomes imperative to be sensitive to the need for a clearer comprehension of the factors causing the appalling state of its environment. There seems to be mounting concern about the state of the environment that has even attracted foreign intervention programmes, including and notably the Buffalo City-Leiden (Netherland) Foundation partnership called the Duncan Village Logo South Solid Waste System. This partnership identified that unregulated waste disposal, particularly in informal settlement areas caused the drainage system to be blocked. Interestingly though, contained in Buffalo City Municipality’s Integrated Development Plan (2008/9) is the list of 16 issues arranged in order of priority. In this list, priority number one is roads and transport with 46 points, while the environment and waste are priority number 11 with only 4 points each.

Therefore in the interest of both social and environmental justice this study will investigate the extent to which community participation in SWM by low-income communities is integrated into the BCM’s Integrated Waste
Management Plans. Are policy and legal mechanisms inclusive of different social groups? Is procedural justice in processes of environmental policy development and decision-making promoted and how is it implemented by the local authority? Concomitantly, the perceptions of Duncan Village unemployed youth and women, relating to both their own role and that of BCM's solid waste management programmes regarding community and youth development will be investigated. Given the high incidence of illegal dumping and diseases that are attributed to unhygienic living conditions, this study will launch an investigation into the extent to which BCM's market based instruments (MBIs) and persuasive instruments have impacted on community participation in solid waste management and general waste management. In this regard this study will address the question of whether the municipality’s environmental education campaigns and similar initiatives are translating into the desirable outcome of “zero waste”. Lastly, linked to the study of community participation in solid waste management at all levels of the social strata, is the issue of informal waste picking for a livelihood (scavenging). This study also seeks to address the question of how this practice is impacting on the environmental and socio-economic milieu of Duncan Village-C Section and on how the practice affects BCM waste management plans and protocols.

**The Aim of the Study**

The aim of this study is to describe, analyse and explain the extent to which the Buffalo City Municipality waste management action plans, implementation plans, strategies and policies impact on the integration of community participation in solid waste management by (and in) the low-income community of Duncan Village; towards the realisation of environmental justice and sustainability.

**The Objectives of the Study**
To interpret the meaning of community participation in solid waste management within the context of the township of Duncan Village;

To help better understand the informal waste worker’s recycling world (actions, aspirations and ambitions);

To describe the nature of the relationship between the Duncan Village residents, the local authority and the natural environment;

To unpack the causes of failures in sustainable waste reduction, re-use and recycling in the township; and

To describe the level of commitment of all role-players (formal and informal waste workers, official waste managers, the private sector, NGOs, CBOs, and local government leaders) with regard to the achievement of environmental justice and sustainable equitable service delivery.

Research Methodology

This study uses a case study intensive research design, which is a descriptive and analytical representation of a specific social unit, referring exclusively to a particular community (Merriam & Simpson, 1990). The research design facilitates the unearthing of the perceptions and interpretations of the low-income residents of Duncan Village, small business entrepreneurs, community based projects, municipality officials and that of non-governmental organisation (NGO) staff. Qualitative research methods will form the basis of the study in that they will enable the researcher to better contextualise the study according to the way of life of the particular low-income community. That means that this intensive research design intends to reveal how community participation processes work in the particular case of C-section. Therefore, the main characteristic of this research design lends itself to the unravelling and unveiling of those societal problems impacting on the management and implementation of community participation in waste.
management by and in the low-income community of Duncan Village (Flowerdew & Martin, 2004).

The qualitative research method employed in this study adopts the phenomenological research approach in that the subjective reality of events as perceived by the study population will form the fundamental basis of its descriptive, analytical and interpretive framework. It is of much significance that this approach places much value on the meaning people place on the events taking place within their environment (Denzin & Lincoln, 2005). Again, it is not only the participants’ perceptions and interpretations that are involved in this research method but also those of the researcher him/herself (Easterby-Smith et al., 1991). The name given to this bottom up approach is inductive reasoning/thinking. Here, observations and measures will be used to detect patterns and regularities so as to formulate hypotheses and theories. Qualitative research will also help the researcher to better understand complex relationships; to find out about the reasons for people preferring particular strategies over others in solving their problems; and to be ready for the unexpected that may trigger a new set of questions to ask. As a consequence, it will be equally important to consider using triangulation so as to ensure the reasonable validity and reliability of the findings of the research. Flowerdew & Martin (2004) stress that triangulation is not only confined to the use of different research methods but also means employing and using different data collection techniques and tools to ensure a multi-dimensional view, interpretation and analyses of data.

In this study, 32 C-Section households were randomly selected for interviews, as well as through recommendations by the street committees; two from each of the 17 sections (1100 to the 1700 section), except one. Also, officials from the BCM departments of Health and Waste Management services were interviewed, while insights from members of the Duncan Village Dense Settlement Project, C-Section councillors and the One-Person-Contract are
solicited. Newspaper articles as well as electronic data were also used. Also, the informal waste workers that are 'experts' and 'skilled' in their line of work shed light on critical perceptions pertaining to waste minimisation, re-use and reduction. Spontaneous responses are the focus of these interviews.

It is important for researchers to use data collection methods that foster collaboration between different interest groups. This information is gathered inclusively and by two-way communications so as to ensure realistic objectives and intertwined interests (Elmendorf and Luloff, 2001). These two-way communications are better facilitated through the use of key informant interviews such as BCM Waste Management personnel and Health Services personnel that are involved in Duncan Village waste management services delivery. Interviews “provide an alternative means to exploring issues in more depth than is generally possible using questionnaires” (Flowerdew & Martin, 2004, p. 76). As a means to ensure reliability and validity both structured and unstructured interviews (in the form of questionnaires) are used to capture respondent’s perceptions in their own words. Moreover, triangulation in the form of multiple data collection approaches is used.

Research Location

In the Buffalo City website report, Development boost for Duncan Village, it is stated that “A total of 75 percent of the 70-100 000 residents in Duncan Village do not have an income” (Mabinda, 2005). Duncan Village was established in 1879 as a result of the forced removals of Blacks from three “overcrowded” small townships within East London itself. As a consequence of negligence on the part of the then authorities the new township also got overcrowded because modest efforts were made to build the number of dwellings required to accommodate the growing number of people living in this township.
Although this former black township is in close proximity to East London’s Central Business District the majority of its population live in shacks and lack regular employment. Without income and hardly any owned resources they are living in abject poverty. Scavengers operate on landfill sites, without proper facilities and equipment, and are exposed to a range of public health and environmental hazards, associated with open landfill sites. During periods of heavy rain stagnant water ponds are commonly found on these sites containing different types of solid waste. The high-density form of housing pattern in Duncan Village C-Section has impacted negatively on the ability of the municipality to achieve a foolproof solid waste management strategy for this community. This is predominantly due to the narrow roads that make it impossible for the municipality to use waste collection vehicles around the township. C-Section is densely populated and largely consists of informal housing in the form of shacks. Duncan Village is a stark illustration and demonstration of exactly what the UN-Habitat means when it states that “one out of every three people living in cities of the developing world lives in a slum” (UN- Habitat, 2008/9, p. 90).

As a means to remedying the many socio-economic and environmental ills besetting the community of Duncan Village, the Buffalo City Municipality, which Duncan Village is part of, initiated a R250 million development strategy called the Duncan Village Redevelopment Initiative (DVRI). The BCM calls it an ambitious long-term programme to redevelop and revitalize Duncan Village. This programme was established in early 2004 and is targeted for completion in 2014.

The Rationale of the Study

Given the state of the environment in low-income communities, the need for a concerted waste management strategy cannot be undermined, hence the emphasis on community participation in this regard. In essence, this study focuses on the plight of a post apartheid township community with a unique
background in that its history is fraught with the repercussions of a system of governance that was based on a number of injustices, including:

- unjust pass laws and immigration by-laws plus forced removals;
- deliberate and poor environmental (waste) management;
- forced removals; and
- a legacy of resistance to apartheid and government authority.

Indeed, while the state of the environment in Duncan Village calls for recognition of the afore-mentioned injustices, it is important to take into careful consideration the need for an unbiased perspective of the state of affairs. Certainly, these injustices have shaped the socio-economic, political and environmental fibre of this community. Furthermore, given that this research is a case study of community participation in solid waste management in and by the Duncan Village community, the dynamics embedded within this unique community will yield an unprecedented fresh outlook on the impact of the working relations between the local authority and the community of Duncan Village. Despite the amount of research which has been undertaken in other developing countries with similar low-income communities and indicated in the foregoing literature review, this study hopes to make a meaningful contribution to the vast knowledge on solid waste management practice. It brings waste management related cross-cutting issues to light in a way that will place communities like Duncan Village in the “maps” of both environmental academic research and public policy planning.

**Ethical Considerations**

The importance of adhering to the values of confidentiality and privacy will form the basis for enhancing the confidence the respondents will have on the researcher. Also, an attitude of valuing the responses of each and every respondent irrespective of how seemingly irrelevant their responses are. This will help better understand the perceptions, feelings, plans and aspirations of all the concerned residents of C-Section, the councillors and the BCM Waste
Management Department/Health Department officials. Furthermore, the researcher must protect the interests of all without showing bias or analysing data in a biased manner.

Consequently, each respondent’s preferences will be placed before the preferences of the researcher so that the consultation atmosphere will be more favourable to the respondent as he/she shares information from his/her own perceived worldview. This also relates to the observance of time and punctuality. It is also expected that some respondents may wish to remain anonymous. It will therefore be in the interest of a conflict free research study and sustainable working relations between all the related stakeholders and interest groups that such a request will be granted. The researcher must also guard against being consciously and/or sub-consciously predisposed to gender and racial discrimination as well as to prejudices stemming from the respondents’ social, historical and financial backgrounds.
CHAPTER II
THE EXTENT TO WHICH COMMUNITY PARTICIPATION IS INTEGRATED INTO WASTE MANAGEMENT LEGISLATION AND POLICY IN SOUTH AFRICA

The National Environmental Management Act (South Africa, 1998), states that sustainable development must ensure that waste is avoided, minimized, reused or recycled and disposed in a responsible manner. It is essential to promote the integration of the “vulnerable and disadvantaged persons” in environmental governance and the recognition of all “forms of knowledge, including traditional and ordinary knowledge” to ensure that environmental justice is pursued in as far as unfair discrimination and inequitable distribution of resources and services is concerned (South Africa, 1998, section 2).

Furthermore, public participation in decisions affecting the human environment is to be fostered in the interest of the environment itself with due consideration to how those decisions will impact on socio-economic conditions and cultural heritage (South Africa, 1998). If and when such impacts occur the principle of “duty of care” is applied and the necessary costs to remedy the environmental damage will be recovered from “every person(s)” responsible for the damage. With respect to waste management, illegal dumping of hazardous and non-hazardous wastes is an example of such environmental damage that can lead to prosecution and criminal proceedings.

Within the context of community participation in waste management, NEMA (South Africa, 1998) emphasises the expectation for “every person” to take reasonable measures to participate in mitigating any activities that are detrimental to the environment, with the implication that community participation in all environmental management activities, inclusive of waste management, is promoted. With respect to community participation in solid waste management insufficient education and communication channels
between the government and civil society are the reason for the lack of involvement. Secrecy and misinformation are to blame for the sordid state of the environment which characterizes poor communities. The absence of appropriate guidelines for optimum public participation in decision-making is a source of confusion and lack of direction, rendering it impossible to deliver on waste minimization, reduction, recycling and re-use programmes (South Africa, 2000).

Pollution prevention should be the fundamental strategy of the government in combating pollution of every kind, (i.e., land, water and air pollution). The policy recommends making provision for opportunities for easy access to authorities, particularly the local authorities, to ensure uninhibited communication of complaints. The role of women is to be recognized and given particular attention in order to ensure a non-discriminating approach to integrated pollution and waste management planning and implementation. Furthermore the inclusion of communities in environmental monitoring committees with the intent to secure deliberate community enforcement and monitoring of waste and pollution management principles of NEMA is critical to the management of waste through community participatory mechanisms (South Africa, 2000).

The policy contained in this White Paper sets out the following pertinent community participation objectives as the basis for the government’s planned education and empowerment programme:

- To assist small, micro and medium-enterprises in developing appropriate integrated pollution and waste management procedures

- To encourage and support the involvement of women, youth, workers, the unemployed, the disabled, traditional healers, the elderly and other special interest groups in the design, planning and implementation of integrated pollution and waste management education and capacity-building programmes and projects (South Africa, 2000).
The National Waste Management Strategy (DEAT, 1999a) promotes a hierarchical approach to waste management. Firstly, as a strategy to ensuring that “all the people of South Africa” are committed to preventing and minimizing waste generation the education of the consumer about the importance of sorting waste at the domestic level is envisaged to form the basis of an effective household waste management strategy. Secondly, the involvement of all stakeholders in the development of waste management plans is encouraged, particularly the involvement and participation at both provincial and local government level planning by those communities that are affected.

Public participation is envisaged to be the first step towards further community participation in operational waste management activities. Central to this issue of public/community participation is the responsibility of the relevant authority to make available any waste management information through the Provincial/Local government Waste Information Systems (WIS). The WIS facilitates the roll out of awareness campaigns and related educational activities, whether presented in printed or soft copy format so as to ensure easy accessibility to the diverse population of South Africa. Such easy access is in line with the requirements of the Bill of Rights that enshrines the right of access to information held by the State at all levels of government. In this regard, the National Waste Management Strategy (DEAT, 1999a) seeks to develop guidelines for capacity building containing information on how to make products durable, re-usable, recyclable and less toxic for all the stakeholders including small, medium, micro- enterprises (SMME’s).

The latter are envisaged to be involved in concerted efforts geared towards the establishment and development of composting initiatives, drop-off centres for recyclable waste, transfer stations and pavement collection of segregated waste (DEAT, 1999b). This is in line with the waste management national
summit’s vision to “reduce waste generation and disposal by 50% and 25% respectively by 2012 and develop a plan for zero waste by 2022” (DEAT, 2001). The adoption of community contracting towards job creation is the best private sector contracting strategy to be used by the local authority. This strategy is envisaged to be the most efficient and appropriate for the high density low-income residential areas (DEAT, 2000a).

While the development and promotion of entrepreneurship is important there is a need for capacity building, education and communication programmes that are formalized even at community level, so that the community and its representatives will better participate with government authorities in developing relevant education/awareness that will yield uniform and unvaried awareness amongst the members of a particular community. In other words, those people that cannot access formal education at schools, colleges and universities should still be given the opportunity to access waste management education and/ or environmental education at their “doorstep”.

The awareness campaigns will equip the communities to better engage in the development of Integrated Waste Management Plans (IWMP’s) since they will have been familiar with both the challenges facing their own environments and the sound principles and processes of integrated waste management (DEAT, 1999c). The Action Plan for General Waste Collection (DEAT, 1999d) identified the following challenges affecting community participation in waste management in low-income communities:

- Some contractors having limited waste management expertise
- Limited community awareness of the need for improved and effective waste management, resulting in illegal dumping and accumulated waste
- Non-payment of services as a result of poor transparency and undemocratic practices
• Expensive services that are not commensurate with the level of service provider

Therefore, as a matter of concern, this plan states that “if public consultation does not reach the correct target group, or if the service provider does not have the support of the community, the proposed collection systems may not be acceptable to the community” (DEAT, 1999d). This can lead to illegal dumping and the creation of informal landfills, particularly in low-income communities. Hazardous chemical and medical waste is often disposed at these sites, and informal waste workers/scavengers and the general public, “especially young children, are at risk of contracting Tetanus, Hepatitis and other diseases from this practice” (DEAT, 1999e).

The Starter Document for Integrated Solid Waste Management Planning in South Africa (DEAT, 2000b) implies that the absence in the Environmental Management Implementation Plans (EIPs) and Environmental Management Plans (EMPs) for the need to solicitate the co-operation and participation of scavengers in integrated solid waste management will yield negative results and make it far more challenging to formalize and control the practice. In this regard the cooperation of the scavengers and the formalization of their activities must form the basis for rehabilitating the scavenging communities and for improving their quality of life. The National Waste Management Strategy Implementation, Recycling (DEAT, 2005) recommends that the relevant local authorities consider the following factors when rehabilitation programmes are implemented:

• Building ablution facilities at the landfill sites in order to accommodate both female and male informal salvagers;
• Running awareness-raising programmes to ensure that hygienic and safety practices are observed by these poor salvaging communities;
• The provision of personal protective equipment (PPE) is tantamount to registering each and every salvaging individual; while
• Ensuring that the registration process is accompanied by the establishment of elected control committees that will liaise and interact with the municipal authorities.

Essentially, no person that is not authorized (not municipality/municipality service provider) to collect waste may collect waste for removal from premises (South Africa, 2008). The latter statement implies that scavenging is not a legitimate means of waste removal or collection because this practice has not been formalized. It is therefore in the interest of a healthy environment, sustainable development and environmental justice that the scavenging communities be integrated into the waste management planning fraternities of this nation.
CHAPTER III
THE STUDY AREA

Duncan Village is one of the townships that are under the Buffalo City Municipality in the central coastline of the Eastern Cape Province. This township is part of the city of East London located some 5km north-west of the city’s Central Business District (CBD). It comprises portions of Wards 5; 6; 7; 8; 9; 10 and 11, a portion of which is covered by C-Section which in turn comprises of Wards 8 & 9. Also, C-Section is divided into 17 subsections starting from the 100 subsection to the 1700 subsection. Much of the available space comprising C-Section is largely infested with high density shack dwellings where all the taps and ablution facilities are public goods. In 2007, as a mitigation measure against littering and illegal dumping, the Buffalo City Municipality Solid Waste Services Department erected 10 communal drop-off/collection points to be used by the residents and the Buffalo City Waste Collection Services Unit respectively.

In total, Duncan Village extends over 322ha with C-Section covering approximately 23 ha as shown in fig 3.1. Its history is quite dynamic and intriguing in the sense that Duncan Village is known as one of the most active communities of the Eastern Cape that was involved in the fight and struggle against the apartheid government. Its history also reveals great resistance to the forced removals and relocation initiatives of the apartheid government. Duncan Village has through the years been East London’s hub of rural newcomers and transient pilgrims of the poorest of the poor. These poor folks have time immemorial found shelter and solitude in the crowded, shanty and unattractive yet comforting embrace of this historically despised community.
The history of Duncan Village dates back to 1890 when the East London Municipality consolidated all African settlements into what were known as the East Bank and West Bank locations. The East Bank Location was situated exactly where Duncan Village is situated now. The East Bank had two distinct types of housing structures; municipal housing built by the then local government and self-built houses made from wood, corrugated iron or tin, branches, mud, and/or cloth (DVRI, 2008). Here, in the East Bank density levels were rising with each passing day due to the additional informal housing units that were being built to accommodate additional family members and/or friends. It was at this point in time, in the early 1940s that the government of the day decided to intervene so as to halt the deteriorating living conditions prevailing in the location. As a result a redevelopment and improvement programme was recommended and later developed. It was in
1941 that the redevelopment programme was to be introduced and it was
called the Duncan Village Housing Scheme. There and then the name East
Bank was changed to Duncan Village. However, because of World War II and
the following depression the development in this location grounded to a halt.
This resulted in an enormous housing backlog that led to overcrowding and
highly dense shack area within Duncan Village.

During the 1950s this settlement experienced an unprecedented population
explosion with the shack areas expanding in all directions. It was at this point
that the municipality decided to revisit its programme of building formal
municipal houses but ironically such development was tainted with the
introduction of the Group Areas Act of 1950. This Act came with the advent of
forced removals that began in the 1960s (Nel, 1991). As a result, resistance
against the apartheid system mounted to the extent that in 1952 a morbid
event took place when an Irish born nun and a qualified practising doctor was
brutally attacked and killed during the ensuing protests. It also surfaced that
the nun whose name was Sister Aidan Quinlan, a member of the Duncan
Village/East Bank Location St Peter Claver Convent had been allegedly
cannibalised after the attack. She had been beaten, stabbed and torched to
death while she was inside her vehicle. The Convent was also burned down
during this attack; however the other nuns managed to escape harm after
they were alerted by other local residents about the attack on Sister Aidan.
According to a recent local newspaper report the Daily Dispatch reported this
incident in 1952 under a headline that read “Killed by those she helped: Sister
Aidan’s Work for E.L. Native People” (Nkonkobe, 2009).

During that period the Duncan Village community was to be relocated to the
Ciskei Bantustan. That meant that the removal of this closely knit community
to the then “dormitory” township of Mdantsane. However, the complete
removal of the entire community to Mdantsane could not be concluded due to
the limited space available in Mdantsane since this new township was also
being built simultaneously with the implementation of the Group Areas Act. The removals did not stop because successive years witnessed a gradual process of removals that characterized much of the 1970’s and 80’s. “During the period from 1964 to 1979, 15000 families were forcibly removed from Duncan Village to the township of Mdantsane” (DVRI, 2008.p.16). Indeed, the system of apartheid had successfully implemented and delivered one of its devastating and defining blows to the black population that has had far-reaching consequences for the future of that community.

From henceforth it became difficult for this African community to move in and outside its familiar surroundings since the pass laws of the day prevented them from moving freely from one neighbourhood to the other. These events sparked a chain of reactions that were characterized by pockets of resistance and even larger, more violent protestations. The resistance intensified during the 1960’s and 70’s till the pressure mounted to the extent that the government gave in and cancelled the removal of the Duncan Village community to Mdantsane for a long while. As a result some of those sections of Duncan Village that were not removed were converted into coloured and Indian residential areas. Those that remained behind and were never converted into other racial groups include Duncan Village Proper, D-Hostel and C-Section (Ward 8 & 9) that consists of thousands of informal dwellings.

The intensity of the resistance against forced removals reached its peak when in 1982 the Duncan Village Residents Association (DVRA) organized a massive rent boycott that undermined and depleted the political strength and muscle of the area’s local government council known as the Gompo Community Council (a product of Black Local Authority System) and that of the Apartheid government. During this time, the Government was forced to officially announce that the policy of removals would be discontinued. For this community it was time for the people to govern, as the struggle slogan “The people shall govern” resounded in the dusty streets of Duncan Village during
a characteristic protest “chant and dance” of the day known as the toyi-toyi. The scale of political activity and the consequences of the political chain of events that transpired when government vehicles and state buildings were burned to the ground during the 80s in Duncan Village are shown in Fig 3.2. During this period in August 1985, thirty two Duncan Village residents, including a two month old baby were killed by the apartheid security forces. The day of these killings is honoured by this community with a monument erected in honour of those fallen heroes of the struggle.

Fig 3.2: Duncan Village in the 1980’s (Source: East London Museum)

“One consequence of the weakening hold of the state over the township was its inability to stop new population influx into Duncan Village” (DVRI, 2008. p.18). This weakening hold on the township was characterized by rural immigrants flocking into Duncan Village. These immigrants were allowed to and encouraged to build wherever they saw fit to do so. They were building shacks in all public spaces and in the back yards of municipal houses (Bank, 1996). Also, some C-Section residents have through the years been found to
be in offense of illegally connecting electricity to their shacks by dislodging the cables from the poles and transformers carrying live electricity. As a matter of fact as one walks through this informal settlement one will see trenches with bare electric cables running through the dirt. As a matter of caution, one also has to be careful to mind one’s own business and not to look at things they have no business looking at.

Only in the year 2002, were the first low-cost housing built on the vacant land from which all residents were barred from occupying or else they would be seen as traitors of the struggle. This development site was set out on a neat grid, with flush toilets and street lighting, hence the name given to it by the locals, “the Toilet City”. This land was situated next to the densely populated shack infested informal settlement of Duncan Village known as C-Section (Ward 8 & 9). The population growth in C-Section continued to rise unabated, and so much so was the political instability as suspicion of treachery prevailed.

Post- 1994 Duncan Village

This period bore witness to the beginnings of the promulgation and implementation of the Reconstruction and Development Programme (RDP). However, the RDP was perceived by Duncan Village residents to have been a failure to the extent that the relationship between the civic structures and the African National Congress (ANC) was filled with strife and distrust. To some, the ANC could not be trusted with their hard earned freedom from the oppressive powers of the apartheid government. Up to recent times, the residents of Duncan Village have as a result of what they perceive to be inadequate service delivery, grown impatient as promises of restructuring have proved a nullity. “Duncan Village continues to exist as an area of predominantly informal shack settlements with generalized poverty” (DVRI, 2008.p.19).

Trash and smouldering piles of wood and plastic littered Duncan Village’s main street yesterday morning as protesters showed their fury at lack of
service delivery. The protesters were mainly residents of the troubled Ward 8, who earlier in the week burnt tyres and threatened to beat up ANC councillor ..., if she didn’t resign because of empty promises ... Residents live in close to 500 tin shacks, closely packed together, with streams of water running between them and rubbish littered throughout (Makhubu, 2009).

Another newspaper article read as follows:

Police fired stun grenades during a protest by East London pupils against the dilapidated state of Lumko High School in Duncan Village ... According to them, the department has been promising them a new school for the past 15 years ... Pupils complained that at times they have to jump over human excrement to get into classrooms, and then endure the smell during lessons (Nkonkobe, 2009)

Duncan Village continues to be an example of the poor management of the process of service delivery with piles of rubbish strewn across street corners and in the cramped up little open spaces that chance to appear in this high density residential area.

![Fig 3.3: ENOUGH IS ENOUGH: Residents from C-Section in Duncan Village in service delivery protests. Picture: ALAN EASON (Daily Dispatch)](image)
As a consequence, the issue of housing delivery and better infrastructural provision seems to be a constant contentious premise for the escalation of the foregoing protests as shown in fig 3.3 and 3.4. Therefore, a sustainable strategy towards waste minimisation and reduction in C-Section will yield environmental quality and equity for the purpose of redressing the imbalances of the past. The Buffalo City Municipality must execute environmental justice before these protests escalate beyond the remediable scale and proportion. Interestingly though, the social networks of this marginalized community are still intact despite its environmental and political challenges of the past and present. This community has a distinct identity that was cemented by its commitment to the liberation against apartheid. Also, a large population of this community depend on child grants, with some households depending on these grants as the sole sources of income to meet the needs of very large families. The Xhosa ‘traditions’ and ‘values’ are still observed in the face of stubborn and relentless poverty. To supplement such meagre incomes poverty fighting mechanisms such as savings clubs help the residents to pool together their resources for the good of everyone involved in their running (DVRI, 2008).

Fig 3.4: GIRLS ON THE RUN: Protesters forcing their way through the school gates, mustering support for their cause – a new school. Picture: THEO JEPTHA (Daily Dispatch)
The Demographics of Duncan Village

The official Census 2001 estimated the population at approximately 61000. However the Duncan Village Redevelopment Initiative (DVRI) revised the population estimate and based its estimate on dwelling count and on average dwelling occupancy rates. For the purposes of this study the DVRI population estimate will be adopted since it is the latest update in this regard. Table 3.1 represents the data that were collected in order to derive the final population estimate. From this table, there are an estimated 21 325 formal and informal dwellings in Duncan Village. Of these 18 400 are informal structures, comprised of approximately 3400 backyard shacks and 15 000 freestanding shacks that have densities that range from 55 units/hectare to 193 units/hectare.

Census 2001 reveals that approximately 33 per cent, that is, a third of the population is considered to be the youth, meaning that they under the age of nineteen. The remaining 67 per cent is divided amongst those of pensionable age and those between 19 and 60 years of age. 63 per cent of Duncan Village population is between 19 and 60. The 19 to 29 group is the highest in this 19-60 range, fetching 27 per cent of the population. The 30 to 39 year age group follows at 18 per cent with the 40 to 49 year age group making up the smallest per cent of 12,6 per cent. Arguably, these data suggest that Duncan Village is largely a young adult community who are for the most part the most economically active grouping.

Table 3.1: Duncan Village population (Source: BCM-DVRI, 2008, p. 25)

<table>
<thead>
<tr>
<th>DWELLING TYPE</th>
<th>ESTIMATED No. OF DWELLING TYPES</th>
<th>DERIVED AVERAGE OCCUPANCY RATE</th>
<th>ESTIMATED POPULATION PER DWELLING TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal dwelling</td>
<td>2 922</td>
<td>5</td>
<td>14 610</td>
</tr>
<tr>
<td>Backyard shack/flat</td>
<td>3 432</td>
<td>3</td>
<td>10 296</td>
</tr>
<tr>
<td>Freestanding shack</td>
<td>14 971</td>
<td>3</td>
<td>44 913</td>
</tr>
<tr>
<td>TOTAL</td>
<td>21 325</td>
<td>3,27</td>
<td>69 819</td>
</tr>
</tbody>
</table>
There is however a small difference between the number of women and that of the men. The women only make up approximately 51.9 per cent of the population.

The Census 2001 data showed the following household income earnings:

- 4% earned more than R3 200 p/m
- 7% earned from R1 601 to R3 200 p/m
- 45% earned from R1 to R1 600 p/m
- 43% reported No Regular Income
- 88% earned less than R1 600 p/m

Geographically the income profiles are spread such that 57 per cent of the population of Gompo Town earns more than R3200 per month, making it the most affluent area of Duncan Village. The C-Section Extension area also reported a 23% of more than R1 600 per month earners with only 11% reporting no dependable income. However, the remaining areas of C-Section, Gesini, Ford and Msimango had the most households that reported no monthly income. The above-mentioned figures provide a more elaborate description of the economic status of Duncan Village. These data also reveal that Duncan Village is undoubtedly a low-income community.

The Buffalo City Municipality 2003/4 land use survey results are presented in Table 3.2. Of critical note is that of the total surface area of Duncan Village, (35, 5) per cent consists of freestanding shacks/informal settlement (DVRI, 2008.p.37). The balance of land is a predominantly low-income neighbourhood that is nonetheless located strategically to facilitate access to economic opportunities due to its proximity to the East London Central Business District.
Mbande (2003) conducted research on measuring waste generation, composition and density in developing areas of East London that had both formal housing as well as dense informal settlements. He states that the characteristics of the composition of waste consistent with Duncan Village consisted of the following waste types:

- **Organic matter or food waste (38-45%)**
  This waste consisted of cuttings from food preparation, cooking and residues of food with the absence of garden waste.

- **Paper (27-32%)**
  This waste consisted of a larger amount of packaging material and lesser amounts of newspapers and magazines. The high percentage of paper was a result of absence of ash in informal settlements (Mbande, 2003). The paper was also found to contain human waste. This is due to the following social dynamics:
  - Absence of proper sanitation which necessitated the use of dongas and/or bushes. However due to crime, people are afraid to go to these dongas and bushes during the night and may end up using plastic bags and newspapers as temporary relieving containers.
  - Even with the availability of communal toilets in the dense informal settlements of Duncan Village these toilets are oftentimes unusable as they are full and dirty with the water-borne toilets blocked (Mbande, 2003, p. 6)

- **Glass and Metals, each (1-6%), consisted of** empty bottles from food beverages, beer bottles and broken household cups and drinking glasses and largely of non-beverage cans respectively. In this regard, Mbande (2003) states that this percentage range is consistent with averages for low-income countries.

- **Textiles (3-6%).** This waste consisted of old and used cloth.
• *Ash/Dust* (1-2%). This is only dust from house floor sweepings without any traces of ash.

• *Plastic* (13-17%). The waste consisted of food, drink and detergent cartons.

**Table 3.2**: Duncan Village land use characteristics (After: DVRI, 2008, p. 37)

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>COUNT</th>
<th>HECTARES</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Premises</td>
<td>22</td>
<td>1,9612</td>
<td>0.69</td>
</tr>
<tr>
<td>Community Hall</td>
<td>1</td>
<td>1,2396</td>
<td>0.44</td>
</tr>
<tr>
<td>Dwelling House</td>
<td>2690</td>
<td>82,7781</td>
<td>29.30</td>
</tr>
<tr>
<td>Educational</td>
<td>43</td>
<td>24,9804</td>
<td>8.84</td>
</tr>
<tr>
<td>Informal Shelters</td>
<td>289</td>
<td>100,2427</td>
<td>35.48</td>
</tr>
<tr>
<td>Institutional</td>
<td>22</td>
<td>5,3703</td>
<td>1.90</td>
</tr>
<tr>
<td>Mixed Land Use</td>
<td>10</td>
<td>27,1782</td>
<td>9.62</td>
</tr>
<tr>
<td>Municipal Authority Usage</td>
<td>4</td>
<td>5,8948</td>
<td>2.09</td>
</tr>
<tr>
<td>Offices</td>
<td>1</td>
<td>0.0203</td>
<td>0.01</td>
</tr>
<tr>
<td>Public Ablution Facilities</td>
<td>4</td>
<td>0.1044</td>
<td>0.04</td>
</tr>
<tr>
<td>Public Garage</td>
<td>1</td>
<td>0.5558</td>
<td>0.20</td>
</tr>
<tr>
<td>Public Road</td>
<td>1</td>
<td>0.0148</td>
<td>0.01</td>
</tr>
<tr>
<td>Vacant</td>
<td>151</td>
<td>31,4739</td>
<td>11.14</td>
</tr>
<tr>
<td>Unknown</td>
<td>14</td>
<td>0.6948</td>
<td>0.25</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>3253</td>
<td>282,5093</td>
<td>100</td>
</tr>
</tbody>
</table>

Notably, Mbande (2003) argues that there was no difference in the amount of waste generated per capita per day and its composition between formal and informal settlements in Duncan Village. It is also important to note that this account does not, in any way, constitute the state of the environment of Duncan Village in its entirety but a breakdown, analysis and description of Duncan Village’s waste composition.
Chapter IV

RESULTS

A Description of the Environment in C-Section

The amount of rubble, dust, squalor and high density associated with the living conditions of C-Section are shown in fig 4.1. Furthermore, the impact of limited household solid waste management exacerbates the situation in the sense that solid waste substances can be seen strewn on the streets. Such a sight creates the impression that this residential area has fallen victim to the combined accumulated effect of years and years of neglect. The mixture of solid waste and waste water running down the sloping hills and roads is characteristic of this informal settlement, as shown in fig 4.2.

Fig. 4.1: The high-density, rubble and dirt associated with C-Section

Also, it is not an anomaly to find animals such as rats, cats, chickens and dogs at most of the dumpsites in this dense settlement, as shown in fig 4.3.
Equally so the children play at some of these dumpsites. Consequently, these children are exposed to all sorts of germs and bacteria that pose a serious threat to their physical and social development. It is therefore a matter of concern that the public image of C-Section is more often than not associated with living conditions that bear witness to the failure to deliver superior solid waste management to the community. Whether or not this inability to deliver a superior form of solid waste management is a result of the incompetence of the municipality remains to be investigated. Hopefully, this study will be the platform from which all suggested solutions pertaining to these solid waste related problems and challenges will emanate.

**Fig 4.2**: The solid waste and waste water in the gutters in C-Section
Despite these foregoing environmental conditions, the residents of this community have indicated their desire and determination to fulfil their dream for a cleaner human environment to the extent that over the past 15 years a number of community-based voluntary solid waste management campaigns and projects have been established. Consequently the following section will delineate a concise background to the existing community-based solid waste management projects operating in C-Section.

![Fig 4.3: Solid waste strewn inside the collection points](image)

The Beginnings of Organised Community Participation in SWM

The high density living conditions of Duncan Village C-Section have, as previously indicated, consistently led to numerous environmental hazards such as fires, flooded dwellings, poor health, compromised waste collection services/management, blocked storm water system and the resultant poor
water quality. As a consequence a number of interventions have been initiated, ranging from voluntary community based waste management activities to external funded events by South African government departments and private organisations to international funding agencies and governments. With regard to community based waste management the Duncan Village Residents Association (DVRA) established the Duncan Village Community Development Trust. The Trust had a vision to formulate and implement poverty alleviation strategies that would create employment for the youth of Duncan Village. From these strategies emerged the need to use any available resources and turn them into employment and/or entrepreneurship opportunities. Waste was identified as a readily available resource and free raw material since it was produced at household level and often discarded at dump sites and landfill sites.

Subsequently, the Masincedane Project and the Duncan Village Waste Management and Recycling Project were established in 1996 and 1999, respectively towards the realisation of a cleaner environment as well as youth and women development/general community development. People did not throw away any used tin cans, because they knew the value of these items. Tin was a trading commodity that would ensure the sustainability of the economy of Duncan Village. The latter mentioned project employed about 110 youth from the 11 sections of Duncan Village. The tin can recycling component of this project was the most income generating activity that saw the Project relocating its operations to Fort Jackson, an industrial site that is approximately 20 kilometres away from Duncan Village in the outskirts of Mdantsane. During this time the Recycling project had “buy-back” centres across the township.

To many this relocation meant growth, but this led to the demise of this community-based waste management project in that during the middle of 2003 the project was privatized. Undoubtedly the project grew but whose
growth was it? A former planning committee member of this project and DVRA member informed the study that the company currently trades abroad in other African states under a new name with the same project manager whom they had entrusted with the development of Duncan Village youth. It transpired that the privatisation of the Duncan Village Waste Management and Recycling Project was a surreptitious exercise that had caught the community of Duncan Village by surprise. Arguably, the sustainability of the tin recycling project for the benefit of the Duncan Village community could have been the key to the development of a strategic waste management industry that would see the alleviation of poverty as an achievable goal. Also, the state of the environment in C-Section would have been greatly enhanced in the sense that there would be minimal littering (people would not throw away tin cans away), fewer dumpsites and greater awareness of the benefits of sound waste management practices.

In November 2003, as a mitigating measure against environmental degradation in Duncan Village the Department of Water Affairs and Forestry (DWAF) initiated the community-based Managing Water Quality Effect in Informal Settlement pilot project in this 12000 household informal settlement. This DWAF initiative was sparked by the commitment of C-Section residents to voluntary clean-up campaigns. This led to awareness campaigns, meetings, workshops, and informal educational gatherings on street corners and open spaces. Subsequently, DWAF in partnership with the Danish government provided the project with funding amounting to ZAR150 000 whereby each project volunteer from C-Section got a monetary incentive for their voluntary work as well as protective clothing. This pilot project was later translated into the Test Case Pilot Project that was funded by the City of Leiden, Netherlands and supervised by the BCM Environmental Health Department.
The Pilot Project combined a number of community driven operations that included communal waste collection, streams clean-up activities, environmental health awareness campaigns and the establishment of the pilot project administration office, which is still located at the Duncan Village Trust Centre building. While some improvements in the management of solid waste were realised during the running of the Test Case Pilot Project (2003 - 2005), a number of challenges continued to pose a consistent menace to the success of the project. These challenges included the disposal of refuse bags carrying human waste into the collection points; the emptying of refuse bags at the collection points so that refuse bags could be used for other purposes; and illegal dumping. Expeditiously, the BCM Health Department needed to find funds to sustain the project. In this regard the National Lottery made ZAR 2.0 million available for the reinstatement of the 2 year Test Case Pilot project that later on began as the Duncan Village Dense Settlement Project (01November 2007- 31October 2009). My study is largely conducted during the latter four months of the foregoing scheduled contract period of the activities of the Duncan Village Dense Settlement Project. A number of factors affecting the smooth running of solid waste management in the settlement will be discussed later in this chapter. The perspectives and perceptions of the relevant departments, councillors, the residents and the project workers and “one-man-contract” workers will play a critical role in deciphering the encrypted code for the environmental emancipation of the people of C-Section.

Community Participation by C-Section Waste Management Projects

The Duncan Village Dense Settlement Project

The project is led by a group of seven individuals who form the core staff. The “core staff” currently consists of “street cleaning supervisors”, a “toilet cleaning supervisor”, two “block opener supervisors”, an administrator, a plumber, and
a “community environmental educator”. The project once had a co-ordinator but is now deceased. Subsequently, the administrator has since April 2009 assumed dual roles as both administrator and “acting project co-ordinator”. The municipality has, according to the core staff, pledged to absorb those Duncan Village residents that have shown commitment to project activities into its permanent workforce as soon as suitable vacancies are available. This development has been communicated to the core staff through their respective ward councillors. As a matter of fact, during the writing up of this chapter, two of the core staff members applied for municipal posts and have since been called for interviews. Consequently, they will assume their municipal duties towards the end of the project contract termination date. As a consequence, there are job opportunities that have emanated from voluntary community participation in solid waste management. These job opportunities also suggest that the municipality has identified and recognised the need for capacity building through the recruitment of those community members that have attained sufficient experiential and prior knowledge into its environmental management workforce.

The contracted project contingency consists of 167 residents that are appointed on a rotational quarterly basis at community meetings by the designated councillor to serve by cleaning up the township. Each of these wards is therefore represented by 30 people with the exception of ward 10 that only consists of 17 persons, owing to the fact that it does not have an informal settlement. Consequently, every appointed person from each ward is scheduled to work two days a week, for three months. Wards 5, 6 and 10 are allocated Mondays and Tuesdays while the remaining wards (Ward 7, 8, 9) toil on Thursdays and Fridays. Wednesdays are an exception for the contracted community workers while the “core staff” is expected to be working Monday through Friday from 8am till 4.30pm each day. Each participating resident receives ZAR 87.50 per day and starts each working day at 8am and ends at 1pm, amounting to an accumulative salary of ZAR 700 per month per capita. The workers are grouped into teams, each consisting of 7/8 individuals.
one of which is the team leader that earns ZAR 780 per month. Each of the “block opener supervisors” earns ZAR 1200; the “street sweeping supervisor” and “community environmental educator” earn ZAR 1700 each, the plumber ZAR 4500, while the municipality’s resident “project administrator” earns ± ZAR 6500.

The Activities of the Dense Settlement Project in C-Section

The activities of the Dense Settlement Project are in line with the priorities of the relevant mentoring municipal departments. The Buffalo City Municipality Health Department is envisaged to provide the project personnel with gumboots, gloves, disinfectants and uniform/work suits, while the Buffalo City Municipality Solid Waste Management Services Department is allocated the duty of supplying the project with working tools such as brooms, spades and rakes. The latter department’s mission statement reads as follows: “To strive for a Clean, Safe and Healthy Environment, with proper Waste Management practices in place for all”, while its operations division manages the following activities:

- refuse removal;
- street sweeping with 140 personnel employed for this work as seen in ;
- “public conveniences unit” that deals with the cleaning of 117 public toilet blocks that are situated within BCM picnic sites, Central Business District (CBD), and within the City’s informal settlements, and
- The management of 8 waste disposal sites that include the Second Creek landfill site.

Therefore the project cleans the C-Section communal toilets together with Buffalo City Municipality municipal workers. The project supervisors/“core staff” go around the settlement at random schedules to monitor and control
the progress of the clean-up activities. The municipal workers are also supervised by their superiors who seldom grace the settlement with their presence. Therefore the project workers have, for the most part, been the custodians and stewards of these toilet cleanup activities.

Lack of municipal worker supervision and the perceived lack of commitment of the municipal workers appear to be the reasons the C-Section residents object to the municipality’s contracted project worker approach to job creation. They feel that they should be the ones enjoying full-time employment since little is being done by the municipal workers in cleaning up the settlement. Also, the project corps does the street sweeping with a small number of brooms that seem not to be up to standard; see fig 4.4. Nonetheless, progress in this regard is quite significant in that the informal settlement has, according to the Buffalo City Health Department, seen a reduction in the following:

- in the spread of algae in the resident’s immediate surroundings;
- in the infestation of mosquitoes;
- in the number of rodents roaming the streets and invading their shabby shacks;
- in the occurrences of the settlement’s “incurable rash” that had been a scourge in the lives of small children; and
- the alleviation of nasty pervasive odours.
The project has to participate in solid waste management by removing waste from illegal dumps to the 10 allocated municipal drop-off/collection points as shown in Fig 4.5. These drop-off/collection points are made of concrete slabs that were initially designed to have iron gates. A Buffalo City Municipality Solid Waste Management Department employee informed the study that the municipality had to discontinue the installation of iron gates to minimise their vandalism that is associated with metal recycling that forms an integral part of informal employment in the settlement (N. Skweyiya, personal communication, September 21, 2009). The locations of the drop-off/collection points have to be in close proximity to the paved roads of this informal settlement to facilitate easy access for the municipal trucks.

In spite of these conditions, for three months the project workers have to work at both the illegal dumps and municipal collection points without any gas masks or adequate supplies of tools and gloves. Working at these sites includes picking the loose and bare items that have been carelessly dumped
by the settlement’s residents (shown in fig. 4.6), sometimes with little or no regard for both the small children who venture into these dumpsites and their own project workers with whom they share the same dense space. The project corps picks up the loose waste items that are often lying inside or outside the collection points or those strewn at open spaces, and collects waste into the municipality supplied black refuse bags.

![Image of people collecting rubbish](image)

**Fig 4.5: The Dense Settlement Project collecting rubbish in C-Section**

The black bags containing the waste from the open spaces are then taken to the collection points and neatly packed inside the collection points. The dangers associated with working under these conditions seem not to distract the project corps from forging ahead with their weekly routine. Nevertheless, the project workers and members of the core staff cited the following as challenges that needed special attention and redress:

- Communal metal taps are vandalised and stolen. In this regard, there is rife speculation among the core staff that these taps are taken to “Chicks” (a metal and steel recycling center) as they have never been
retrieved nor culprits found. Township residents casually use the word “chicks” for any scrap metal trading business because one of the first businesses specialising in this trade in East London was called “Chicks”.

- The “core staff” has to walk across the vast township to supervise the ward members as they move from one spot to the next. One of the supervisors has allegedly been robbed of her personal belongings by a group of young teenagers.

![Fig.4.6: Loose waste that needs to be gathered into the refuse bags](image)

- The vandalism of toilets for copper water pipes to be traded at “Chicks”. This vandalism has led the municipality to cut off the water supply since water is wasted from the resultant leaks. Therefore, the project battles to clean up the toilets when the water supply is discontinued.

- On rainy days the project team is expected to perform their normal duties although there is no provision for appropriate protective clothing for such weather conditions.
- The impact of HIV/AIDS on the infected workers that has seen cases of conflict occurring among project team members since members may have not been aware of the status of one of their team members.

- The unfilled posts of the deceased project co-ordinator and block opener since early 2009.

- Shortages in working implements. There is no municipal maintenance or replenishment for the tools that have been damaged over time.

- Theft of the tools. However, in this regard, the project members collectively decided to make contributions when on one occasion five spades went missing. It is perhaps that “old Duncan Village spirit of solidarity against external entities” that caused this project corps to protect the “thieves” from being identified. Alternatively, it could well be just that they did not want to lose their jobs over a few rands they could easily contribute each month, towards the purchase of these tools. Also, they could have done so to ensure that the same favour would be returned by the culprits, in this manner eliminating any chances of being victimised.

The One-Person-Contract/Masincedane Project

The History of the Masincedane Project

The name of the second community participative Duncan Village waste management project is “Masincedane”. Masincedane is a Xhosa word meaning “let us help one another”. According to the Project Chairperson for C-Section “the project was initiated by the people of Duncan Village for the people of Duncan Village” (S. Gqoboka, personal communication, October 01, 2009). Currently, the Project consists of 24 members, 10 of which are the registered members of the co-operative. Of the 10 members of the co-operative, 7 are women and 3 are men. As a pledge of solidarity to the cause
of better waste management the Duncan Village branch of the South African National Civic Organisation (SANCO) approached the Buffalo City Municipality Health Department on behalf of the project to garner support for the volunteer programme. The Health Department heeded the call and supported the Masincedane project with tools and protective clothing. Subsequently, the project members were trained by environmental consultants for 3 months, starting January through March, 1996. An organised project initiative was henceforth born into the Buffalo City Municipality. The project went on an almost city wide cleaning campaign that covered more affluent East London suburbs such as Cambridge, Southernwood and Quigney. Therefore the commitment of the project members was not only limited to ensuring a better looking and cleaner Duncan Village but also an even cleaner Buffalo City. The Masincedane Project workers worked for three days in a week. Specific days were scheduled for specific area cleanups. The project members were chopping down alien vegetation; involved in the city wide greening project, and doing general solid waste/litter picking and disposal. In 1997, the project expanded to other nearby suburbs including Parkside, Scenery Park, Buffalo Flats, Fynbos and Vergenoeg. It was in 2008 that the local authority took the project members (One-Person-Contract) to Port Elizabeth to attend a training workshop. A visit to the informal settlement of Joe Slovo between Port Elizabeth and Uitenhage was part of this training programme.

The Challenges and Conflicts Affecting the Masincedane Project

The daily operations of the project have since 2007 been reduced from three days’ work to a mere single day’s work. Currently, the Masincadane project only works on Tuesdays performing the same duties as those of the Dense Settlement Project. Its employees have been earning ZAR 700 a month since 2007; the same amount as that earned by the Dense Settlement Project workers. As a consequence, there have been some hostile perceptions among the Duncan Village Dense Settlement Project members about the
amount earned by the Masincedane Project members. There is a general feeling among the community members that the Masincedane Project members are earning more money than the Dense Settlement Project members since they only work on Tuesdays while the Masincedane Project members work two days a week. Secondly, the Masincedane Project members do not rotate as the Dense Settlement Project members but are permanently on a month-to-month salary. Conflict seems to be a consequence of the lack of sufficient consideration to the foretold issues by the municipality. Some residents have attributed the C-Section residents’ perceived nonchalant attitude toward proper solid waste management to the inability of the municipality to come up with sustainable strategies that would equitably distribute financial, environmental and other related resources to the community of C-Section.

Moreover, the conflict over salaries between the Masincedane Project and the Solid Waste Department is pronounced due to the challenge of either poor communication channels or lack of a suitable platform/labour representation and/or due to insufficient political will. As previously alluded to, the project members currently earn ZAR 700 per month. But, throughout the history of Masincendane there have been verbal communications with the project members about salary increments. In this respect, the chairperson of the project briefly stated the following when outlining the history of the salary conflicts with the municipality.

In the beginning, the arrangement was that we would be entitled to a ZAR 300 per month salary, with increments of ZAR 50 every July of each year, but this arrangement continued only until the amount got to ZAR 600, and then we were told that a deduction of ZAR 200 would be effected. This amount would be deducted because the municipality was discontinuing the greening project. However, we noticed that they were deducting way more money than they had announced. To our dismay, we were only earning a little less than ZAR 300. Nevertheless, we continued because we needed any money that we could get. Hey, we really cleaned up this town, to the extent that in 2003
the Buffalo City Municipality was voted as the cleanest city in the Eastern Cape (S. Gqoboka, October 01, 2009).

After such commendable efforts and only after a drawn out salary adjustment engagement with the municipality did Masincedane Project members receive an increment. In 2007, the local authority changed the status of the project to that of the one-person-contract with the purpose of fostering entrepreneurship within the low-income community of Duncan Village. An accompanying promise of the same old increment of ZAR 50 a month was announced to the project members. At the time of writing this study, the issue of these increments was still a bone of contention. In this respect, a distraught lady who was also a representative for the project on this issue stated that:

I did not even want to talk to you about these matters because I am very frustrated and I was not in the mood to talk to you. It is only because you had contacted the councillor’s office before you came to my house that I am paying attention to you (Nololi, personal communication, September 24, 2009).

Moreover, originally the Masincedane Project used to receive refuse bags from the Buffalo City Municipality solid waste department for distribution to each and every shack in C-Section. The project workers would allocate one refuse bag per week to each dwelling. However, in the beginning of 2009, things changed;

We don’t get the sufficient number of bags for distribution anymore, and we do not know why that is the case. The progress of this project has become stagnant. We have been waiting for the next move to be made by the municipality, but to avail. Therefore we took it upon ourselves to call the municipality to a meeting so that the municipality can solve these problems. SANCO and the councillors helped us to put pressure on the Health Department to meet its end of the bargain. The General Manager of the Buffalo City Municipality Health Department has since resigned (Anonymous 1, personal communication, July 28, 2009).
Also, the following project weaknesses were emphasized:

- The shortage of working implements;
- Only one BCM work suit/uniform per person supplied since 1996;
- Reduced number of working days (Tuesdays only - one day a week), implying either a rationalisation programme, budget cuts and/or possible lay-offs;
- No office has been allocated to the Project, while the Dense Settlement Project enjoys office space at the Duncan Village Development Trust Building;
- Lack of progress and direction in as far as the original project objective of entrepreneurship is concerned; and

The Buffalo City Municipality and Solid Waste Management in C-Section

Solid Waste Management and Participative Decision-Making

The Ward 8 Councilor Mhlola and chairperson of the Buffalo City Municipality solid waste management sub-committee for Duncan Village stated that the public participation procedure that councilors follow should be in line with the Municipal Structures Act 117 of 1998. She stressed the importance of listening to the community at community meetings as well as liaising with the ward committees so as to have a good idea of the interests, problems and challenges besetting the community. As a rule, the BCM Community Services standing committee is the platform through which all the issues relating to solid waste, amenities and culture, integrated environmental planning and public health and safety are planned, deliberated and documented for further consultation with the mayoral committee. Finally, the mayoral committee brings these pertinent issues to the attention of the council. Thereafter, a resolution is made that will follow the same steps back to the councilor’s
With regard to the standing committee, the solid waste department has a representative with whom the councilors of the standing committee discuss issues relating to solid waste management in C-Section. “The erection of the drop-off/collection points; the establishment of both the Dense Settlement Project and the one-person-contract in C-Section are the latest results of the decisions made in the council after due processes were followed” (N. Mhlola, personal communication, October 16, 2009).

The Challenges Relating to Community Participation in Solid Waste Management

The councilor stated that the high density housing situation in C-Section is a major challenge in that the settlement is absolutely difficult to clean since there is limited accessibility to the inner core area of the settlement. She further stated that:

It is easy to get mugged in C-Section. An unknown municipal employed waste worker will be mugged here and nobody will know when or by whom. Also, there is the widespread lack of environmental education and little general basic education within the residents of this informal settlement. Everything here is a public good; toilets, drop-off points and taps are all public goods. There is a general lack of the sense of ownership. Nothing belongs to nobody, and as a consequence some people feel that they should not look after these facilities. Some feel no need to take responsibility for these facilities and subsequently little regard for the next user. That is why people dump trash anywhere and litter everywhere (N. Mhlola, personal communication, October 16, 2009).

With respect to the challenges at the level of councilor-solid waste department relations, there is the perceived lack of integration of the services that should be offered by the various municipal departments. There is a sense of denial as to the responsibilities that a particular department should undertake in a
specific case. A conflict of interests and the challenge of the ambiguity of roles and responsibilities of the municipal department officials seem to be the reasons that solutions to problems are difficult to finalise for C-Section. For instance,

if there is a stream that has developed algae and is full of solid waste substances that may block the drains and create an unbearable stench, the various community services departments have passed the buck on this particular issue. The other challenge pertains to the reservations expressed by the initially consulted department with respect to them taking it upon themselves to consult with the “relevant department”. I presume that those consulted departmental officials may feel that they are overstepping their boundaries if they consult the other departments on our behalf; however I also feel that they should not promise to do so if they will not fulfill their promise. That is why it takes too long to solve problems (N. Mhlola, personal communication, 2009).

Envisaged Strategic Plans for Effective Solid Waste Management

Given that people dump indiscriminately, the community services standing committee resolved to revive the strategy of developing community based cooperatives so that the sense of ownership will be restored within the community of C-Section. The resolve had just been made the day before the interview with the councilor. This resolve became necessary because the community services standing committee felt that

Since solid waste management is a new concept among this community, we want to build capacity within this community. We have had some bilateral talks with the Nelson Mandela Metropolitan Municipality so that we will achieve this end. We need to engage the community in nation building but the way forward is through capacity building and commitment to change. We as public officials in Duncan Village feel that much has changed since we started the community based solid waste management. C-Section is much cleaner than before the implementation of these existing SWM initiatives such as the erection of the drop-off points; the Lotto Project (Dense Settlement Project) and the one-person-contract. (N. Mhlola, personal communication, October 16, 2009).
In general, with respect to Duncan Village-C Section solid waste management plans, the Buffalo City Municipality Executive Mayor indicated in her state of the city address that plans were well underway to develop Duncan Village and that considerable progress has been made by the BCM municipality, particularly relating to solid waste management in Duncan Village. A few plans and achievements were spelt out when she stated that:

Accordingly, by the end of this calendar year, we commit to eradicate all the currently known illegal dumping sites, whilst improving the quality and reliability of our service in a manner that will ensure that no new dumps re-emerge. The Municipality has established 31 refuse collection points in Duncan Village as a pilot project, and purchased 150 high-volume refuse collection bins. Already, 21 waste collection cooperatives have been established and registered and it is to be hoped that this will go a long way in addressing our weekly refuse collection backlogs. The reliability of our waste management service must be seen in the context of public health, public safety and economic development and, in this regard, we are committing to doing our part, and would like to work with communities to ensure that the objectives of improved public health, public safety and economic development are met (Z Faku, State of the City Address, January 2, 2009).

However, during the writing of this chapter (October 2009), much of the illegal dumpsites in C-Section have not yet been eradicated. With respect to improving the quality and reliability of municipal waste services, there have been some noticeable shortfalls as relates to delivering such services as the municipality has been rocked by municipal worker strikes. Therefore, the waste collection service in C-Section has been significantly hampered by these strikes resulting in overflowing collection points. Indeed, there are 10 collection points in C-Section. However, there are indications that this number needs to be increased as these collection points often get filled to capacity or as some people tend to dump indiscriminately at illegal dumpsites. With regard to the establishment of waste collection co-operatives in C-Section, there is the above-mentioned Masincedane Project which has had challenges with forging ahead with their aspirations due to the lack of direction that should have been given by the municipality. Therefore quality public health,
resultant public safety and equitable economic development in C-Section seems to be dragging for longer than the desired time frame eloquently articulated by the Executive Mayor of BCM as “by the end of this calendar year”.

Environmental Education and Waste Minimisation in C-Section

The Role of the Buffalo City Municipality

The Waste Minimisation unit of the BCM Solid Waste Management Department Services is responsible for solid waste management education and awareness. The entire Buffalo City Municipality is manned by a contingency of only seven waste minimisation personnel. In this respect, the head of the Waste Minimisation unit informed the study that the shortage of personnel has had far reaching consequences for the mobility of the personnel (N. Skweyiya, personal communication, October 21, 2009). In terms of widespread coverage of their programmes and the frequency with which the unit reaches its audience, noticeable discrepancies are easily discernible in C-Section.

The community of C-Section is largely unaware of any Municipality led waste management educational programmes. These results reveal that 63 per cent of the interviewed households were unaware of the presence of municipal persuasive instruments geared towards waste minimisation. According to some respondents the extent to which there is no community awareness about the importance of waste minimisation is translated into the following observable issues. The dumping of waste outside the erected collection points is a daily occurrence. Furthermore, the unremitting dumping of waste in any available space, resulting in insidious illegal dumpsites across the length and breadth of the vast informal settlement. As an indication of either lack of
environmental awareness/sound public health practices and/or the lack of better options there is the littering of baby diapers across the ground (when there are no yards for private space) with seemingly little regard for the stench that emanates from the diapers. Along the same lines, there is the use of municipal refuse bags and/or grocery plastic bags as toilets and the resultant dumping of these bags at both the illegal dumpsites and municipal collection points. Furthermore, the dumping of carcasses into municipal collection points; and the rupturing of refuse bags by the local scavenging colonies during the retrieval of the “valuables” from the miscellaneous waste have been identified by most concerned C-Section residents as a result of the prevailing lack of environmental education and awareness amongst the community. Arguably, the question that arises is whether this state of the environment in C-Section is solely a consequence of the perceived general lack of environmental education or whether it is also contingent on the limited number of “ideal” living conditions and standards.

Some of the remaining respondents made it clear that the work done by the Dense Settlement Project Educator had helped them become aware of the dangers associated with poor household waste management. Others were students whom the Project Educator had taught at Mzokhanyo High School about the benefits of proper waste management. At community level, it emerged that the Educator has been the sole herald of environmental education in C-Section. The respondents stated that as a result of the educator’s commitment they had gained valuable knowledge concerning the benefits associated with appropriate solid waste management practices.

According to the principal of the school, the Project Educator has made considerable progress with regard to organising the school’s grade 10 and 11 Life Orientation (LO) classes. The marks they obtained from the assessment of their activities by the Dense Settlement Project Educator would be added to their progress reports for the accumulated grade 12/matric LO final mark. Yet
persistently the Project Educator has on several occasions consulted the relevant Municipal Departments to solicit funding for the formal presentation of certificates to the participating students, but to no avail. Although this committed Educator has had promises from the relevant department about funding for this formal presentation he has experienced a number of incoherencies, with no clear indication as to whose responsibility it was to finalise the funding of the formal presentation.

When asked to comment on the municipality’s role in environmental education in C-Section the Project Educator responded that they “once came here and simply stood still in the shadows, never uttered a word and left everything to me, never to be seen again till today” (W. Manga, personal communication, July 16, 2009).

Buffalo City Municipality Community Participation Integration Processes

The Views of Municipal Authorities

Furthermore, the superintendent of the BCM solid waste management department argued that the issue that was raised in the 2003 Integrated Waste Management Plan document about little public consultation is outdated. She stressed that the solid waste management department always undertakes to adhere to the following procedures before the implementation or enactment of its by-laws is finalised:

- A situational analysis exercise is conducted for each residential area;
- The by-law consisting of considerations emanating from the different situational analyses results is subsequently developed in consideration of the National Waste Act, 2008;
- Then the public participation/consultation process is put into action;
• A draft is developed;
• This draft is then submitted by the municipality's internal legal department to parliament to be gazetted;
• The by-law is subject to review after every five years.

The situational analyses are conducted so as to develop appropriate models for each of the residential areas falling under the jurisdiction of the Buffalo City Municipality. As a consequence of the foregoing procedure the community of C-Section is well represented by both ward councillors (for ward 8 and for ward 9) in the Duncan Village Community Services Steering Committee. The ward councillors are therefore responsible for updating their constituencies on any further developments taking place about solid waste management plans and other applicable environmental plans (L. Cebanto, personal communication, August 18, 2009).

In this regard the Chief Environmental Health Officer of the Buffalo City Municipality Health and Public Safety Directorate pointed out that Public Health by-laws allow for the tendering of public nuisance complaints directly to the Health department. In this way the Health Department receives feedback from the community on critical issues in order to integrate any pertinent issues in the drafting of these by-laws. Waste is regarded as a public nuisance under the Buffalo City Municipality Public Health by-law.

In this manner the community participates in ensuring a better quality of life and optimum service delivery. The health officer categorically summarised the issue of community participation in decision-making and planning when he stated that “before by-laws are passed, consultation must take precedence so that the people will own these by-laws” (M. Gowa, personal communication, August 06, 2009). However such an analysis of the problems associated with
poor solid waste management cannot and should not be adjudicated by exclusively giving consideration to the opinions of municipal officials but by considering the views of the man on the street. It is in this context that the study takes into account the views of the residents of C-Section as relates to the integration of their own views in the local authority’s decision-making processes.

The Views of C-Section Residents

Starting with the comments of one of the core staff members of the Dense Settlement Project, is a discernible sense of discontentment associated with the lack of participatory decision-making within the C-Section community. In this regard a street committee member pointed out that the municipality continues to employ people in its workforce that are not from C-Section. These people are supposed to clean/sweep/service the toilets and the streets. There is therefore a general view amongst the C-Section community that the community should be consulted on any solid waste management department vacant posts so that the employment process will give careful consideration to the commitment the employees will display if they are C-Section residents. The community leader further argued that the current municipal employees working in this dense settlement have shown little or no commitment in cleaning up the neighbourhood. In addition to the hiring of “uncommitted expatriates” there is poor supervision that have both become major catalysts and contributing factors impacting on the diminishing level of service delivery by municipal workers at all levels of the formal employment hierarchy. The following quote bears testimony to the extent of the community’s indignation at the perceived lack of consultation with respect to environmental affairs in C-Section.

They seem to exude a sense of disgust for the waste in our area; they act like they belong to a far superior social stratum and therefore abstain from dirtying their hands at the expense of our children’s health. Yes, we need the municipality to consult and consider us as the “first in last out” waste worker
contingency. A resident of C-Section will certainly commit to cleaning up his/her own community space, because he/she can relate to the plight of this community. Quite more often than not, one finds that a municipal waste worker that is working in C-Section is from Beacon Bay or some other distant affluent suburb. This is unacceptable (Anonymous 2, personal communication, August 28, 2009).

The importance of community meetings in establishing a platform for reprimanding slothfulness and any other deviant behaviour was also emphasized by the Project workers. However, it would be difficult to call the workers from the “other suburbs” to give account to the residents of C-Section at their community meetings. The issue is that these municipal workers are only accountable to the relevant Buffalo City Municipality department and not to the residents of C-Section. There is therefore a feeling among the core staff of the Dense Settlement Project that the municipality should employ equitable employment procedures that place the needs of the poor communities before those of the more privileged communities. Secondarily, there is general consensus among the core staff that a general meeting should be convened by the Duncan Village Community Services Steering Committee. Respondents cited a number of personal difficulties that could have been addressed had the wage issues been communicated in a democratic manner. The perception is that the Steering Committee that comprises the 3 ward councillors, 6 BCM officials and the project acting co-ordinator seemed to be exclusively privy to the developments pertaining to environmental decision-making affecting Duncan Village-C Section until shortly before the implementation of the secretly planned process or event.

Another issue that emerged concerning the integration of community participation in the decision making process pertaining to waste management is that of the municipal collection points. Some of the C-Section residents felt that they had been left out concerning the decision to erect these concrete
collection points. They categorically stated that they were not consulted nor “capacitated” on the significance of these collection points. A street committee member; long time resident of C-section; hailing from across the Kei River (10 years ago); and the C-Section Zionist Church Pastor had this to say:

The municipality simply came here and erected these walls and then left us to figure out how and what these walls were for, only much later did the Dense Settlement Educator announce through the megaphone. As a matter of fact when these walls first got here, they had iron gates but we woke up one morning and these gates had disappeared. The Educator called us to the ‘sqiki’ (open space) and taught us about what these walls were for; how to use them—what to do and what not to do; and that the municipality would come four times a week to collect the waste from these walls. We as C-Section residents still prefer the skips. We do not even know why they discontinued the use of those. These walls are vulnerable to dogs that come in there and ravage the plastic bags; our chickens are eating waste inside these walls together with the rats. Our children play inside these walls. Even the wind blows away most of the thrash because these walls are not closed up. It is extremely hard to contain waste this way, especially when the municipal waste trucks do not live up to their promise of coming four times a week (L. Gungu, personal communication, October 01, 2009).

There is also a general view that the local municipality has organised clean-up campaigns and provided all the tools and machinery necessary to carry out the clean-ups only when some dignitary and high profile public official was visiting the settlement or when there was an imminent election. These municipal led clean-up campaigns are perceived to be pre-election campaign strategies that are organised in order to secure favourable votes in a particular envisaged up-coming election. Another Duncan Village Dense Settlement Core Staff member and former political activist in the struggle against apartheid cited a number of discrepancies with respect to the accountability of the relevant department officials, particularly the nonchalant attitude displayed by the Buffalo City Municipality health department official that was “deployed” to oversee the Project’s progress and operations. This
official was supposed to work hand in hand with the deceased co-ordinator who had died mid-April 2009, however even before his passing “the Buffalo City Municipality ‘deployee’ was not involved in the sustainable strategy towards waste minimisation for Duncan Village” (Anonymous 3, personal communication, July 29, 2009). The influence of persuasive instruments such as environmental cleanup campaigns and greening projects can have a lasting impact on how residents perceive the value of participating in market based activities. Therefore the following section looks into the role of market-based activities in enhancing community participation in solid waste management in C-Section.

BCM Market Based Instruments and Community Participation in SWM

The Solid Waste Management Services Department Superintendent stated that the community of C-Section did not participate in the municipal rate/tax payer’s programme. It was learnt that the C-Section community was exempted from participating in any market based activity for the purpose of municipal revenue. The only Duncan Village area that currently participates in rate paying is Gompo Town while the remaining formal housing households of Duncan Village Proper are regarded as indigent, hence they are subsidised. Also, a willingness to pay survey (WTP) for the improvement of services in C-Section has never been conducted because C-Section is not included in the Buffalo City Municipality’s housing database. The reason is that it is not divided into recognisable erf numbers and that the current informal housing structures were never been part of the city’s land planning and housing development plans. Therefore, the municipality cannot bill them. In this respect the Superintendent of the Buffalo City Municipality Solid Waste Management Services Department argued that:

As a municipality department we need to know exactly how many households we are providing the waste management services for; but these shacks are not registered in our database system. The other challenge is that the owners
of these shacks change from one month to the other. The historical, political background of Duncan Village ... one has to be constantly mindful of the political atmosphere. One must also expect that in Duncan Village, some activities may never go according to plan as result.” (L. Cebanto, personal communication, August 18, 2009).

Certainly, identifying sustainable strategies towards waste minimisation does to a certain degree involve pinpointing any and where possible all the obstacles that are attributable to progress in this regard.

Obstacles to Progress in C-Section

The C-Section assigned solid waste management department official emphatically stated that the department was confronted with a lot of challenges. The high-density layout of the area was perceived to be an impediment to the department’s operations. A considerable number of the planned solid waste management operations “have not gone according to plan”. These challenges were attributed to the unbecoming attitude of some of the C-Section residents. In this respect the official argued that

The people have this notion that “it is not the responsibility of the residents to clean-up the area but that of the municipality; hence they let things just fall apart. Also, the problems associated with the political instability (and the resultant rioting) in the area have cost the municipality dearly, because the department has had to make means to go clean up the mess time and again; the burning of tyres on the streets has even slowed down the very service delivery they are demanding from the council/councillors (Anonymous 4, September 10, 2009).

The official further argued that the municipality programmes in C-Section have not been sustainable, and that the department has had to duplicate its programmes at higher costs than initially envisaged. He further stated that
The C-Section community is quite different. We have gone out to other municipalities to see how we can benchmark. However, upon completion of both our study and the implementation of the latest innovations of applicable solid waste management strategies in low-income communities like C-Section, we evaluate our progress only to discover that the gains we have made have been lost. There is no place like C-Section, anywhere. They do not want to do voluntary work. They are always looking for incentives. For every clean-up campaign one has to bring something for them. Also, they do not want municipal workers to work in their community. They want to be treated like municipal workers, with full employment benefits. They interpret things differently to the extent that they do not even listen to their own ward councillors who serve as both their own political leaders and representatives. There is constant resistance to change in this community. Perhaps the clarification of the roles of the ward councillors in the environmental decision-making/planning process will be part of the grand solution. Sometimes I am not sure if they are aware of their roles at all (Anonymous 4, personal communication, September 10, 2009).

In addition, a Buffalo City Municipality Health Department official stated that

If the illegally connected electricity is disconnected from the shacks by the municipality, then they will retaliate by vandalising other municipal facilities. They have on numerous occasions vandalised the toilets and stolen the taps and collection point gates. We have even changed these taps (from copper to plastic taps) since we had suspected that the informal salvagers may have been exchanging the scrap metal (taps) for cash at the middlemen scrap metal businesses in the Central Business District (Anonymous 5, August 06, 2009).

Interestingly, although there is discontent among municipal officials about the motives of community members, there is significant involvement of women (both young and old) in solid waste management projects. The following section will therefore look into the role played by women as well as the differences in perception about the roles that have been and should be played by the women in solid waste management. Also, the role of the youth needs
to be clearly defined. The following seeks to penetrate the aspirations, ambitions and expectations of both the youth and the women.

Women and Youth Development in Solid Waste Management in C-Section

There is considerable emphasis and concern about the discrepancies associated with youth development in this community. Community members felt that youth development should include the teaching of the youth about waste at both school and higher education levels. In this regard, a respondent pointed out that

In these latter days it is the children that teach parents about contemporary issues. Here in Duncan Village this trend took place since the early eighties; we need to extend it beyond political issues and to translate our energies into both environmental awareness and accountability” (N. Ngxale, personal communication, July 15, 2009).

Furthermore the respondent argued that the youth have a very important role to play in the sense that they can call community meetings that have their primary agenda and theme as environmentally aligned as possible. Pointing the researcher to the pile of waste leaning against one wall of a neighbour’s shack while a group of youth leaned against the other wall of the same shack, she said “you see, they could even sell those cardboards or start their own recyclables buy-back business” (N. Ngxale, personal communication, July 15, 2009).

Several times reference was made in retrospect about the then Department of Water Affairs and Forestry (DWAF) Duncan Village Test Case. The Test Case was efficacious in the sense that it targeted women development. While it began as small pockets of voluntary active participation it was later translated
into the restoration of the dignity of women as they subsequently earned a living from this initiative. However, the voice of the youth with regard to solid waste management still leaves much to be desired as they remain passive and seem to be impervious to the calls for new ideas for a better environmental quality lifestyle (N. Nyebe, personal communication, July, 29, 2009).

Furthermore, the unemployed youth stated that it would be of benefit to both parties that the municipality contracts those amongst the community that own bakkies (pick-up trucks) to collect the waste from these collection points. In that way more job opportunities will be offered to the people of C-Section. The respondents stated that it seemed like the municipality is battling to fulfil its target and promise of collecting four times a week, resulting in litter around the collection points as well as throughout the immediate surrounding areas of the dwellings. The following issues were raised about the role that women and youth can play in ensuring sound household solid waste management with clear indications that the man were not so keen to respond to questions relating to cleansing/waste management issues; waste management is predominantly deemed a “woman’s duty”. The woman assigned responsibilities included:

- Planning, organising and leading clean-up campaigns, while continuing environmental education with the Project Educator;
- Women should keep an eye on their children so that they do not play at the dumping sites, or at the water streams/still water pools and inside or close to the collection points around C-Section;
- Informing and advising the residents at community meetings about any threatening situations that may emanate from current or potentially environmentally harmful behaviour and natural environmental anomalies;
They can also assume both monitoring and regulatory positions over the collection points and toilets in order to ensure that these collection points and toilets are only used for dumping appropriate re waste items;

There is also a general outlook among men that unemployed women and youth are the main generators of waste, placing them in a position of being duly expected to account to the community for their actions through more vigorous participation in solid waste management;

Interestingly and in contradiction to the preceding accusations levelled against the women by the men, the women and youth were of the opinion that “it is the men’s habit of unparalleled liquor consumption that has resulted in the widespread littering of liquor bottles across the length and breadth of C-Section;

The youth, and women whose children are sometimes epidemiologically affected by the incessant waste should be at the forefront of aggressively demanding speedy service delivery from the municipality through the available protocol.

Also, waste management is not the exclusive responsibility of households and the municipality but is also the responsibility of the unassuming informal salvagers that have turned waste into a source of livelihood in the same way but in a smaller scale when compared to the one exercised by the monopolistic corporate solid waste management conglomerates. Therefore, the following section examines the world of the scavenger and briefly extricates the dynamics embedded in the life of the C-Section scavenger.

Scavenging (Informal Salvaging) by C-Section Residents

Scavenging in C-Section is done in the dumpsites and wherever there are metals and liquor bottles, such as in demolished shacks rubble and at
taverns. One will also observe informal salvagers scouring the body works, roadside welding and motor mechanics small businesses that are in the periphery of this Duncan Village area. The drop-off/collection points around this informal settlement are the sources of recyclables such as cardboard paper, bones, tin cans and 2 litre plastic bottles. Also, scavengers often find food at these collection points. They indicated that they would rather die from food poisoning than from starvation.

The role of scavengers was illustrated when the project workers were busy with their daily duties. A couple of boys carried a bed walking toward the collection point. The project workers started clamouring, indicating to the boys that they (as the waste workers) would not be able “to put this bed inside the bags, otherwise the municipal truck will leave it there unattended to thus creating more waste”. The boys’ responses lacked the sense of propriety as they were hurling insults at the project team that was hard at work at the collection point. Interestingly, it was hardly 5 minutes that the bed was being whisked away by scavengers into the maze of this dense informal settlement.

Also, some of the local Rastafari church members run art work small business from their shacks. Alternatively, they display and sell this artwork at their Rastafarian church during exhibition functions. The variously coloured plastic bags they get from the drop-off/collection points are used to create a silhouette for the letters labelling the artwork. Some of the tin cans they get from these collection points are re-used for making little wind-turbines for the “maskitikiti”(the wire toy car) for the little children. “For us Rasta Man waste is turn into de tangible objects, man”, he retorted (R. Levi, personal communication, August 13, 2009). While the local scavengers could find some valuable items in Duncan Village, they still preferred to spend a good portion of the day at the Second Creek landfill site (N.B. This took place before the official closure of the dump site). At the landfill site one will find a colony of these scavenging individuals (great and small) scouring the
dumping trucks and sorting the waste that already lies on the ground as shown in fig 4.7 and 4.8 respectively.

![Scavengers scavenging at Second Creek Landfill Site](image)

**Fig 4.7:** Scavengers scouring the trucks at Second Creek Landfill Site

Apparently there are more goods that they salvage from the Second Creek landfill site than at all the collection points and dumpsites in C-Section collectively. The scavengers could obtain a variety of goods, including food, clothing, bricks (for resale), scrap metal and waste chocolate from the Nestle truck (for resale to vendors or for personal consumption). Therefore, for these informal salvagers solid waste picking is a means to running sustainable waste businesses for as long as there are landfill sites to access. In this respect, one of the scavenger leaders stated that

People do not understand our ways, yet we are cleaning up the environment, but since we do not have jobs, this is our own way of creating employment for ourselves, like (President) Mbeki said “Vukuzenzele” when he came here, (referring to the former state president’s visit on 28 March, 2008 in honour of the unveiling of the memorial monument for the 32 massacred Duncan Village residents in August 1985); fair enough, we are doing it for ourselves now (M. Nkohla, personal communication, August 5, 2009).
Fig 4.8: Scavengers sorting waste at the Second Creek Landfill Site

Apart from scavenging within C-Section, being a scavenger also means waking up at 3 a.m. and walking to the more affluent suburbs like Cambridge, Amalinda, Haven Hills and Morningside to collect any “valuables” that may be salvaged from the “suburban” household refuse bags. Notably, little has changed over the years with regard to the pricing system of the recyclables middlemen.

I started in 1989, back then for a 2 litre plastic bottle you got 10 cents, nowadays the same bottle only gets you 25 cents, and if the dealer is in a good mood you may be lucky enough to get 30 cents” (Tshawe, personal communication, July 31, 2009).
These roaming scavengers work according to the municipality’s refuse collection schedule. That means that if the municipality collects waste in Cambridge on Mondays and Tuesdays then that is where these scavengers will be located on those days. Wednesdays, are for another suburb and so forth.

A scavenger that collected 30 of these bottles was expecting to earn ZAR 6 for the 2 litre plastic bottles. Each plastic bottle has a market value of 30 cents while the 750 ml brandy bottles are valued at 85 cents each. An elderly female scavenger is sorting the waste in preparation to trade it for cash as shown in fig 4.10. She stated that:

I will most probably bring home close to ZAR 10 today. I could bring home more if it was not for my weakening knees, or else I would even collect, carry and sell the cardboards as well. Moreover, if I could sell these 5 litre bottles to the vegetable vendors I will get ZAR 2 for each bottle, but they are on the other side of town and it is too far for me right now. I will have to settle for less and take them to the agent that sells maas in Oriental Plaza, although he only
gives 50 cents for each 5 litre bottle (Sylvia, personal communication, August 11, 2009).

Fig. 4.10: Sorting of waste bottles by a scavenger

C-Section Scavengers and the Closure of Second Creek Landfill Site

As previously mentioned, there had been complaints and concerns from the nearby Parkside and Buffalo Flats communities initially about the smell and litter from Second Creek landfill site that had been affecting a nearby primary school. The residents of Parkside and Buffalo Flats started bombarding the local newspaper with letters and emails when the situation got worse and fires broke out at Second Creek landfill site. Smoke and smog filled up an area of close to a 2 km radius that also covers the Central Business District. For about 3 weeks the fires raged. However, even though these scavengers knew about all this mayhem they were determined to continue “working” at the Second Creek Landfill Site. Their argument is that the Daily Dispatch newspaper people and the people living in the suburbs “do not eat from the
landfill site”. In justification of their argument a scavenging leader and the” deputy landfill boss” stated that

We do not like these fires either. Sometimes the fires burn our own livelihood but we know the hotspot here. I know this place like the back of my hand. Should they close down that site, we will not be able to earn money to provide for our families; these plans that they make do not take our interests into consideration. Even their promise to train us in recycling never materialised. We are still waiting. I am running a brick business there; my customers need my bricks (as shown in fig 4.11). Already, I have collected close to 600 bricks over a month’s time in order to sell the bricks at 60 cents each. That is a ZAR360 salary a month, man. Who is going to give me that kind of money, tell me (L. Ntlanganiso, personal communication, August 12, 2009)?

Fig.4.11: The brick business started by scavengers from discarded bricks
The Integration of Scavenging into BCM Solid Waste Management Plans

The Buffalo City Municipality Waste Minimisation office indicated that the solid waste department had made plans to formalise scavenging. This formalisation had been envisaged to include the issuing of name tags and aprons to the scavenging colonies, so that they can be easily identifiable as legitimate waste workers that are working in collaboration with the municipality in cleaning up the city. Nonetheless, the municipality has made inroads to ensure that the more affluent suburban communities sort their waste at source in preparation for the arrival of the scavengers and to help minimise further littering caused by the spilling over of waste during the hasty searches.

Some of these informal salvagers do not even have Identity Documents (ID’s) so that they can claim grants for their own children; consequently we are trying to help them since they are also assisting us in reducing waste. Especially the work they do in reducing plastic litter ... plastic does not decompose. However, we are still awaiting confirmation from the Acting General Manager (N. Skweyiya, personal communication, September 7, 2009).

Second Creek waste scavengers including those from C-Section have been trained on recycling so that they can have their own buy-back centres. Yet, although Second Creek landfill site is officially closed (until further notice) and only open for construction waste, dumpers have been suspected to have concealed some prohibited solid waste under the builders' rubble. Consequentially the scavengers have broken through the fence to continue their businesses. “Generally, provisional plans are in place to give recognition to the impact of the contribution that has been made by the informal salvagers over the years; these informal salvagers save the municipality millions of rands” (N. Skweyiya, personal communication, September 7, 2009).
CHAPTER V
DISCUSSION

The high density form of housing in C-Section has led to the inability of municipal waste collection trucks, municipal workers, and community project workers to have easy access to the inner areas of this settlement. Generally, as a result, municipal solid waste management is limited. The same problems of high population densities were experienced in the suburban areas of Kenya that were occupied by the rural immigrants and the jobless that lived in poorly planned housing infrastructure, making it impossible for the municipal trucks to access such settlements (Henry et al., 2006). In addition, and as a consequence the respondents in the foregoing study blamed the municipality’s slow rate of the delivery of improved municipal solid waste management services for the state of the environment; stating that, as a result, they had no choice but to dump on paths, riversides and road reserves. Invariably these communities were engaging in poor household waste management and restricted community participation in waste management (Henry et al., 2006). The community of C-Section appears to experience the same problems as those in Kenya’s low-income areas. The exception is that the community of C-Section has, due to its political history learnt only one way in dealing with grievances against the local authorities, and it is through protests and noticeable lack of co-operation with state-owned entities. This implies that the level of household/community participation waste management in C-Section is directly linked to the level of satisfaction that the residents have with regard to the overall commitment of the local authority to service delivery. The breakdown in relations between the community and the municipality needs urgent attention. A workable community mobilization strategy towards optimum customer utility needs to be formalized by the Buffalo City Municipality in order to enhance community participation in solid waste management.
The challenge in this community is with the vandalism and theft of municipal infrastructure that has been put in place for the benefit of all the community members. Such vandalism seems to be conspicuously unique with the community of C-Section when compared to other informal settlements under BCM jurisdiction. Is it because these facilities are public goods, owned by a remote entity and hence predisposed to plunder, or is it due to the level of poverty or the combination of both factors? In this low-income area of C-Section, political solidarity and social cohesion seem to supersede environmental accountability, particularly when a municipality-induced environmental management intervention exercise does not yield monetary benefits. Are these criminal activities indicative of a greater and pressing need which for this community is not worthy of sacrificing one of them to the municipal authorities’ punitive measures? This sense of solidarity is indicative of the need to overcome the frontiers of poverty and perceived oppression, irrespective of the source of the oppression. It is immaterial to this community whether the local authority is post-apartheid; all that matters is the need for their livelihoods to be secured. Some will vandalize if that will ensure the availability of the next meal. Moreover, the vandalism and theft of state property are old practices that have been inherited by this community from the anti-apartheid era protests that characterized the long history of this neighbourhood. It is therefore still “them against us”, but this community/”us” is no longer protesting against a white dominated government which was the “them” during the apartheid era but against a black dominated government which is the “them” in post apartheid South Africa. Therefore, it appears that the level of community participation and the nature thereof, in solid waste management in C-Section is also largely contingent on the availability of sources of income. Whether such income will be derived from the environmental management facilities or from working in the waste management projects may be impractical for some of the residents of C-Section.
Central to the lack of adequate service delivery is the sporadic supply of refuse bags to this community, which invariably affects community participation in solid waste management. Perhaps the municipality takes advantage of this community in this manner due to the non-payment of municipal services for cost recovery of services since the existing settlement is not part of the land-use planning and housing development structure of the municipality. Arguably, the exemption of this community from paying for services should not only be based on the non-integration of the existing C-Section housing structure into the municipal billing system. This community is largely a no and low-income area. Compounding the situation is the dependence by many on social assistance grants that are provided by the Department of Social Development.

Due to the non-payment of services, the community of C-Section will continue to be a victim of the “by-the-way environmental management strategy” of the Buffalo City Municipality. While the municipality does not deny that the community of Duncan Village is a low-income / indigent community, and hence in need of a significantly subsidized municipal services charge; it is imperative that due consideration is given to the significance of ensuring the integration of the conceptual frameworks of environmental justice and sustainable development during all municipal service delivery planning processes. Environmental justice, sustainable development and enhanced community participation within the socio-economic/political context of C-Section can be best demonstrated by the Buffalo City Municipality through formal employment opportunities that exclusively target the C-Section community. Actually, the foregoing proposal once became a demand from Khayelitsha (the Cape Town Township) residents to the City of Cape Town municipality to create a policy that will ensure that the contracted private waste management company that was servicing Khayelitsha will exclusively employ the residents of Khayelitsha (Ferrara et al., 2008).
When this was not the case these residents eventually made it impossible for the private company to service Khayelitsha to the extent that the contract of this company was not renewed. Subsequently, the Municipality was forced to create a policy that made it mandatory for any private company servicing Khayelitsha to exclusively employ Khayelitsha residents (Ferrara et al., 2008). Perhaps it is also in the ambit of the Buffalo City Municipality to do the same for the residents of C-Section, but that may never materialize in the same manner as in Khayelitsha seeing that cheap labor is readily available in C-Section. The BCM may not see a need to employ C-Section residents as part of its formal workforce since that would increase the costs of employment benefits and of market related/inflation targeted salaries. Also, the municipality solely runs waste management services in Duncan Village and has not contracted a private company to assume waste management duties in this community for obvious reasons - the contracted company would charge the municipality for costs which the municipality may not be able to recover from a low-income community such as C-Section.

This poor community may as a consequence be confined outside both the employment equity and service delivery frameworks of the existing BCM policy on solid waste management in C-Section. The half-hearted commitment of the public officials creates the impression that the challenges associated with poor service delivery will continue to be a consequence of the environmental and social injustices that were inherited from the apartheid government. The promises of better housing, job opportunities, and improved service delivery seem to have reached their limits. The community of C-Section deserves to be treated with dignity; it is therefore incumbent on the municipality to execute its service delivery function within the framework of the Batho Pele (translated - People First) principles that were established to ensure that a new service delivery approach places people at the centre of the planning and decision-making processes. One of the Batho Pele principles – “Redress” - requires that “public servants … welcome complaints as an opportunity to improve service delivery and to deal with complaints so
that weaknesses can be remedied quickly for the good of the citizen”. In this respect, there is an objection amongst the members of the Masincedane Project one-person-contract about the absence of municipal benefits in their contract while such an objection seems not to be readily acceptable to the municipal officers. It is the project workers’ prerogative to have ambitions and to state their views about their expectations concerning the job prospects without warranting the inference that they are overstepping their boundaries and imposing these views on the municipality. Such short sighted perceptions seem to go against the grain of the national strategies that are developed to ensure that optimized service delivery is realized and achieved for the benefit of all the citizens of the Republic of South Africa. In contrast though, the KwaDukuza Municipality (KwaZulu-Natal) afforded the one-person-contract (OPC) the unemployment insurance fund (UIF) while also violating the Basic Conditions of Employment Act (BCEA) requirements by not offering these OPC’s benefits and leave credits (Samson, 2004). Also, it is not apparent whether this short-term contract worker exercise is not merely a cost saving mechanism that will ensure that the municipality is not liable for labor benefits to its workforce. Is this establishment of community based projects not a labor casualization strategy that will result in the exploitation of the workforce? Who is responsible for protecting the labor interests of these project workers? Is the minimum wage principle a matter of concern to the local government authorities? Although Miraftab (2004) objects to the casualization of labor and the associated exploitive privatization of waste collection services by the local municipalities through the handing over of these services to private corporate companies in Cape Town townships, a similar phenomenon seems to be taking form and shape in Duncan Village.

The amounts that the projects workers earn are too low and far below the minimum wage for companies with 10 or less employees and more than 10 employees, respectively. Interestingly, the Dense Settlement Project operates in a similar fashion as the Johannesburg Zivuseni Poverty Alleviation Project in the sense that it was community based; involved in street-sweeping and
dump site cleaning and was based on a rotational recruitment system that ensured that the majority of the unemployed residents from poor communities had equal employment opportunities (Samson, 2007). The difference though is that the salaries that were earned by the Zivuseni Project in 2002/03 were comparably far more than those earned by the Dense Settlement Project, i.e., ZAR 700 for the latter in 2009 against ZAR1200 in 2003 for the former. Whichever point of view is used to examine the fairness of the salaries of both the Dense Settlement Project and the Masincedane Project, it seems that unfair, exploitive labour practices exist. Essentially, the Buffalo City Municipality has an obligation to these Project members to veritably employ a poverty alleviation compensation system that will sustain the growth of the individual project worker as well as that of the corporate contingency of C-Section waste management project workers. However, there may be limitations as to the funding of these community-based projects in that there seems to be reliance by the municipality on Lotto (Lottery Board) funding for the perpetuation of the project. But why is there such reliance by a municipality whose primary responsibility is to adequately service any and all communities falling under its jurisdiction, irrespective of their economic standing, racial, cultural and historical background? Who will ensure the sustainability of waste management activities and poverty alleviation should the Lotto funding cease. In light of escalating impatience and service delivery protests in Duncan Village and in the greater South African landscape it is imperative that the BCM takes notice of these questions and that the C-Section community be assured of its right to be placed in the local authority’s short, medium and long term sustainable service delivery plans.

Furthermore, the twinning agreement between the Buffalo City Municipality and the Municipality of Leiden (Netherlands) has made it possible for the municipality to obtain financial support for the erection of the 10 collection points in C-Section. Although such a partnership is commendable, the dependence of the Buffalo City Municipality on international donations from the developed world and local private business funding for both waste
management infrastructural projects and salary related activities for C-Section waste project workers is a cause for concern since there are no guarantees for the sustainability of these projects should the partnerships and twinning agreement cease. As a matter of fact during the field work there was uncertainty as to whether the Dense Settlement Project contract would be renewed and for how long it would run. Therefore, the precarious nature of the future of solid waste management in C-Section poses an imminent threat to the realization of both social and environmental justice for this historically disadvantaged community.

The role played by councillors in ensuring that their constituencies are not exploited is not so well defined. There are therefore limited opportunities for the project workers to corporately meet with the councillors to discuss pertinent waste management issues. The councillors and the Buffalo City Municipality allegedly discuss these issues behind closed doors with little regard for both the importance of reporting back and ensuring that such a reporting mechanism is put in place for the benefit of their constituencies. Referring to the waste collection services management in Cape Town, Miraftab (2004) argues that the dubious role of councillors is exacerbated by their propensity to “promote and mobilize the volunteer groups, promising to get compensation for them but in return catching their votes” (Miraftab, 2004, p. 884). The widespread perception that the councillors may not be acting in good faith with regard to the integration of C-Section community interests and aspirations but were only concerned with their own political interests is a consequence of the lack of transparency particularly with respect to the financial plans affecting the lives of this poor community has had far reaching consequences for the relationship between the councillors, municipal departments and the applicable constituencies. The ubiquitous dumping of waste appears to be the result of a brewing rebellion over the perceived lack of service delivery. The people of C-Section have a notion that the municipality does not really care for them, so the attitude is “why should we
care” about their environmental plans; they do not trust the local authority. Central to this lack of trust is the issue of the slow pace of housing delivery.

The community’s negligence of proper waste management is also a result of both the lack of environmental education the members of this community obtained or acquired and of the general lack of pride that the people have in their neighbourhood. Although it is not clear as to why people dump waste indiscriminately, it is clear that the people of C-Section wish to live in a better looking neighbourhood. This preceding assertion is made in light of the protests against poor service delivery which have rocked Duncan Village over the past few months as is depicted in chapter III. However, it is not the object of the foregoing assertion to validate the appropriateness of these protests, but merely a description of events as they have unfolded in C-Section. What is obvious is that the community is not happy about the state of the environment in C-Section, and that they have the Buffalo City Municipality/local authority to blame for this state of the environment. But, the question is whether these protesters are cognizant of their own contributions to the sordid state of the environment; particularly pertaining to waste management. The extent to which community participation in solid waste management is concertedly embraced by the majority of the residents of this neighbourhood at individual household level is overshadowed by the activities of both the Dense Settlement Project and the Masincedane Project. These Projects overshadow the assessment of the extent of household commitment to proper waste management through their effective clean-up activities which create the impression that household waste management in C-Section is perfect, particularly during the four working days per week allocated to the Dense Settlement Project. Accordingly, while the remaining non-working days reflect the positive impact of these organized projects, on the other hand the inability of some households to participate in proper waste management is clearly visible. The illegal dumpsites become incessantly pervaded in this dense settlement during these non-working days of these organized waste management projects. Nevertheless, it is imperative that the fight for zero
waste be strengthened and intensified at household level first, so as to minimize all costs to both the municipality and the environment. Central to the intensification of proper household waste management in C-Section is the need for more robust support of the Dense Settlement Project Educator by the relevant municipal departments. Ideally, the Project Educator should be working hand-in-hand with the Waste Minimization Unit. There is a challenge that is exacerbated by the lack of capacity that the BCM Waste Management Services Department possesses. Seven individuals may be overburdened by the amount of work that is needed to reach the far-flung Buffalo City Municipality towns, townships and informal settlements. Community involvement as is depicted by the Project Educator’s role within the community of C-Section should not translate into the abdication of the duties of those that are currently employed by the municipality to plan and implement the city’s environmental education programs.

Furthermore, there seems to be conflict between the councillors and the solid waste management department officials over what both parties call the ignorance of the other party about its role in waste management affairs. On the one hand the solid waste department would rather have the councillors do their jobs fully knowing what their boundaries are. On the other hand the councillors suggest that the solid waste department may not know how to solve the waste management problems in C-Section resulting in undesirably longer periods for the eventual delivery of waste management services in C-Section. The conflict over whose role is which one causes a souring relationship between the councillors and the solid waste department officials. The alleged ambiguity about the roles of either party will further affect the decision-making process as the power struggle over the most applicable waste management strategies for C-Section takes precedent over the swift delivery of municipal services to this community. Linked to both poor service delivery and protracted decision-making is the challenge faced by the community with respect to the infrequency of the municipal waste collection service. Certainly the councillors should know about this issue as they live in
this neighbourhood, however, the desirable outcome of minimizing waste in C-Section still appears to be far from reality.

The lack of clarity with respect to time schedules indicating when the projects are expected to report back to the municipality and, in turn, with respect to when the BCM municipality is expected to give feedback has a bearing on the rate at which expeditious decision-making will be achieved. While the councillors and the municipality officials were spelling out the public consultation/participation procedures, the Dense Settlement Project core staff appeared to be uncertain about what the steering committee had been deliberating during its meetings concerning the future of the project itself and their own future. What was an anomaly was that the project core staff did not have any meetings during the duration of the field work for this research. The Dense Settlement Project Core Staff only holds ad hoc meetings particularly “when there is a pressing matter”. Members of the core staff only knew about the project plans when one of them chanced to have an informal conversation with the councillor. And so the running of this project is generally enshrined in a cloud of secrecy that conspicuously excludes the majority of the project workers. Obviously, in reference to Culley and Hughey’s (2008) three dimensional view of power these foregoing surreptitious undertakings of the steering committee tip the scales in favour of those that control the resources (financial/ informational) to the extent that people who had communally fought so hard for their collective liberation from the oppressive forces of apartheid have been subtly sidelined by their own compatriots.

With respect to the involvement of women in solid waste management, the history of the establishment of waste management projects in C-Section revealed that women were largely responsible for initiating clean-up campaigns with no expectation of municipal compensation or incentive for their services, while the men only joined these projects after they had been developed into part-time jobs that offered them monetary gain. The same
trend was discovered by Poswa (2004) in Mthatha, Eastern Cape. Also, the men tended to refer the interviewer to the women in the participants’ households and this behaviour was also another pattern that replicated the findings from the research (Poswa, 2004). While on the one hand men assigned waste management activities to the women, on the other hand the women were lambasting the high level of liquor consumption that was attributed to the male gender in C-Section. This high liquor consumption was blamed for much of the refuse that households had to deal with on a daily basis, since allegedly men littered when they were intoxicated. Corresponding to the high liquor consumption by the male gender in C-section is the issue of limited recreational facilities within this community. The spatial dimension, the economic status and the history of this neighbourhood are some of the factors that have continued to place restrictions on the availability of “morally acceptable” recreational options that are readily available in the other neighbourhoods of the Buffalo City. Moreover, these foregoing factors have inevitably dealt a devastating blow to the state of the environment in C-Section with consequential negative impacts on household waste management as was depicted in Chapter IV.

Scavenging in C-Section is both a nuisance and an asset to different community members depending on what role each stakeholder plays in the waste management cycle of activities. Scavenging is a nuisance for those project waste workers that pack the waste into refuse bags, while it is an asset to those people whose source of livelihood depends on the very same activity that involves opening/tearing up the bags, often with messy outcomes. Interestingly, the practice of scavenging still lacks the attention it deserves although it offers the municipality a sustainable cost saving incentive as is the case in Latin American countries (Rapten, 1998). Giving these scavenging colonies name tags as a permit to gain access into other suburbs under the guise of legitimate municipal recognition of their practice still leaves these scavengers with little opportunity for growth. These scavengers need to be
empowered to run their own waste collection/recycling/composting businesses.

The Orange Grove composting co-operative has been wielded by the municipality as the token of the successful establishment and implementation of a community-based waste management entity (Integrated Waste Management Plan, 2003). However, since the establishment of this composting co-operative no similar activity has been duplicated elsewhere except empty promises to help develop the scavenging corps that are scattered throughout the East London area into fully-fledged business entities. Also, the problems associated with the invasion of the Duncan Village Second Creek landfill site (after its closure) by scavengers could have been avoided had the municipality followed up on its promise of offering these scavengers business skills training; knowledge on waste recycling methods; mobile recyclables buy-back premises such as storage containers; and information on business contacts and partners.

Such expedient supportive interventions may also help protect the interests of the scavenging corps from the exploitive pricing system of the middleman and hence the community participation in solid waste management by C-Section scavenging residents could be decently rewarded. To this end, in the report entitled “A model for waste recovery in South Africa”, Swart (2004) argues that it would be in the interest of both the local authority’s effective waste reduction strategies and the waste scavengers’ sustained economic growth and development for the applicable local authority to integrate the services of scavengers at landfill sites. This proposed waste recovery model supports the inclusion of municipal waste workers during curb side collection; local community participation at both corporate projects and household level; and of scavengers in the manual waste recovery and sorting exercise at landfill sites towards the realization of an ideal waste recovery model. However, the National Waste Management Strategy (DEAT, 1999a) planned to ban all
scavenging at landfill sites. It will therefore be interesting to learn about what will finally become of both the Second Creek landfill site and the former “resident” scavenging communities.

Policy mechanisms in the Buffalo City seem to be lacking the much needed inclusive decision-making element in that those that are from low-income communities are still marginalized as demonstrated by the exclusion of C-Section on issues pertaining to both the solid waste management decision-making and planning processes. C-Section is an illustration of the stark exclusion of the poor from the environmental decision-making processes. Therefore, the question is whether the councillors representing poor communities such as C-Section even have a voice in the Buffalo City council meetings and whether they give feedback to their constituencies with the intention to veritably seek their responses to council decisions. There is therefore no discernible indication of the commitment to procedural justice that comprehensively engages the C-Section community for the purpose of ensuring that community participative solid waste management programs are owned by the residents towards the realization of enhanced public health; environmental quality and equity and enhanced collaborative solid waste management in C-Section.

The limitations of each of the parties that are involved in solid waste management in C-section are often construed by the responding party to be as a result of the other parties’ incompetency. In particular, the municipal departments tend to blame the residents for the state of the environment in C-Section in defence of their own incompetency. Consequentially, the relationships between the community, the solid waste projects, the BCM Solid Waste and Health departments and the political leadership lack singleness of purpose in as far as environmental management is concerned. There is no co-ordination of the aspirations of both the governing authority and its constituency; hence the suspicion and the distrust that was inherited from the
apartheid era continue to wreck the C-Section community. Community participation in solid waste management and the failure thereof may be characterized by irregularities and conflicts until a significantly inclusive solution is found by all the stakeholders that are involved in the management of both community participation and solid waste management in C-Section.
CHAPTER VI

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study sets out to investigate a variety of issues affecting community participation in solid waste management that include; the nature of the relationships between the various stakeholders; the causes of the failures in sustainable waste reduction; the level of commitment of all role players; the world of the informal waste worker in the context of Duncan Village; the impact of both market-based and persuasive instruments on community participation in solid waste management in C-Section; and whether procedural justice is used to attain both environmental justice and superior community participation in solid waste management in C-Section. To this end, a number of challenges have been identified including the high density living conditions in C-Section that have adversely affected all efforts aimed at improving waste management. The study establishes a link between poor community participation in solid waste management in C-Section and this community’s expectation of the municipality to deliver better services that are of the same quality as those provided in the other neighbourhoods falling under the Buffalo City Municipality. Service delivery protests have indicated that the C-Section community is angry with the municipality due to their perceived endless environmental plight and may continue to use any available mechanism to retaliate and frustrate the municipality. Vandalism and theft are some of those mechanisms that were inherited from the anti-apartheid era protests in the same way that the C-Section environmental landscape was inherited from the apartheid era.

In C-Section vandalism and theft have hampered progress in as far as the effective utilization of communal municipal waste management facilities is concerned. These facilities include those that are critical to the realization of
the ideal community participative solid waste management environment. Vandalism is also linked to the C-Section economic milieu that is characterized by joblessness and the resultant poverty. The joblessness in this community has invariably necessitated a subsidized system of municipal service provision. The community of C-Section does not pay for municipal services. As a consequence, a poor community may fall victim to the negligence that manifests itself through the withdrawal and, or limited allotment of basic services in the name of budgetary constraints. Furthermore, cheap casual labour is abundantly available in C-Section thus minimizing any chances that the pertinent decisions affecting the residents’ proposal to formalize the employment of project workers will be favourable to the cause of selective employment opportunities.

The thread of ignorance and victimization runs through the social and environmental fibre of this poor community. While the councillors seem not to be privy with their constituencies to matters related to the decision-making and planning processes on waste management in C-Section, the municipal officials seem to be annoyed with the demands of the community and categorize these demands as unreasonable. The categorization of these demands as “unreasonable” flies in the face of Batho Pele principles that seek to guide all attitudes, practices and interactions associated with service delivery in the Republic of South Africa. It is the right of all workers to enquire from their employer about service benefits. Moreover, the project workers in C-Section earn far less money than the minimum wage and there is no additional sum of money that is equivalent to municipal service benefits for municipal workers that are at the same job description level. The relations between the different role players in the management of waste in C-Section are adversely affected by this lack of transparency that is a consequence of the non-availability of a uniform platform upon which the least of the role players will engage in constructive debate with the relevant authorities.
The study also recognizes that the dependence of the municipality on foreign funding (international donors or private sector) for waste management projects in C-Section is risky in as far as the proliferation and sustainability of these projects is concerned. Should these projects cease, there is the likelihood that this community will place very little value on the gains that have been made in ensuring a cleaner and healthier environment for the C-Section community. Invariably, community participation in solid waste management will significantly decrease. Given that the existing waste management projects are making a big difference in ensuring both enhanced community participation in solid waste management and cleanliness in C-Section, responsible community participation in SWM at household level appears to be taking both a secondary and diminishing position. Illegal dumping and littering seem to be a perpetual challenge that becomes conspicuously pronounced on the days on which the project workers are inactive. The foregoing anomalies would be much worse if these projects were to cease in C-Section. The role played by these projects in solid waste management is critical to the management of environmental affairs in townships such as C-Section. It is imperative that the BCM finds sustainable funding that will ensure the long-term survival and perpetuation of its waste management programs in C-Section with little dependence on external funding. Parallel to the efficiency of these waste management projects is the utilization of educational campaigns/persuasive instruments that have informed the waste reduction attitudes and perceptions of C-Section residents. While the project educator has yielded relatively good waste management awareness results, further capacity building in as far as both the number and skills of environmental education personnel is concerned is essential to a wider coverage of the “good news” of proper waste management in C-Section.

The role played by women in waste management is one that is generally and typically assigned by men to the “weaker sex” within communities of the same culture as that of C-Section. Although this assigned role may be perceived by some staunch feminists as the abuse of women, the C-Section women
effortlessly undertook to participate and initiate waste management projects as both a mitigating public health measure that would help protect their children from exposure to harmful bacteria, and as a source of income. Men are generally perceived to be the most littering gender and more so due to their propensity to excessive liquor consumption which allegedly clouds their judgment. In this regard there is an inference that the non-availability of alternative recreation facilities within the parameters of this neighbourhood and in the greater Duncan Village may have caused the male gender desire to engage in sound community participation in solid waste management to abate.

The study further suggests that supportive and inclusive interventions must be developed by the municipality in order to help protect the scavengers from the exploitive pricing system of the middleman, as well as from the inadequacies associated with the BCM’s poor waste management policy planning processes that have not been able to ensure the economic stability, inclusion and personal growth of each one and all of the scavengers servicing the BCM. These municipal program interventions must include business skills training; knowledge of waste recycling methods; mobile recyclables buy-back premises such as storage containers; and the provision of information on business contacts and partners. On a larger scale, waste minimization at landfill sites, source separation at household level, and enhanced community participation must be achieved. Policy mechanisms in the Buffalo City seem to be lacking the much needed inclusive decision-making element in that those that are from low-income communities are still marginalized as demonstrated by the exclusion of C-Section on issues pertaining to both the solid waste management decision-making and planning processes. Municipal procedural justice is lacking in that it undermines the importance of engaging poor communities (such as C-Section) as equal partners in the fight for zero waste in the Buffalo City. C-Section is an illustration of both the stark exclusion of the poor from the environmental decision-making process and of the negative impacts of that exclusion on community participation in solid waste
management, particularly at individual household level. Certainly, communities that have no need for a “remedy” require less intensified intervention, while those with more problems require swift and rigorously intensified intervention programs so that environmental justice and equity will be realized.

Recommendations

With regard to the high density living conditions impeding the smooth running of waste management activities in C-section, the municipality should provide project waste workers with hand-carts or tricycles to move in-between the household dwellings as is used in the semi-urban areas of India (Sundaravadivel, 2000). In this way the effectiveness of community participation in solid waste management will be immensely enhanced since the most inaccessible waste infested crevices in this wood and iron township will be within reasonable reach.

The vandalism and theft of municipal infrastructure is as a result of the disconnectedness of the community with the municipality due to the community’s naivety about their collective responsibility for the waste management communal services. To this end and in due consideration to the cultural and historical background and political context of Duncan Village, a waste management committee for each of the 17 sections of C-Section needs to be established. The responsibilities of these committees will be to formulate rules together with their respective sectional communities so that these rules can be owned by the people of C-Section. Upon the establishment of these rules by a core committee, a set of penalties for the breach of any of those rules should be formulated and communicated to each household. These penalties must be primarily based on fairness, integrity and the African principle of “Ubuntu” that will ensure that the offenders are not abused but
held accountable for the disturbance of peace they inflict on the community. Also, the deployment of some individuals within the community to assume security duties (not necessarily vigilantism as they will be working in partnership with the BCM Public Safety Department) at these municipal waste management facilities will ensure the minimization of both illegal dumping and the vandalism of communal infrastructure. Throughout the history of Duncan Village, and in accordance with the Xhosa cultural statutes, such offending immigrants would be required to pay a fine or face deportation to their original rural villages by the presiding Duncan Village residents’ governing council/headmen. The BCM may have to initiate and recognize these governing institutions as part of the management team that is responsible over community participation in solid waste management in C-Section, thus sharing the decision-making processes together with the councillor as the leader of these management teams. The decentralization of the management of solid waste in C-Section is critical to an unimpeded service delivery, maximized security, risk minimization and optimum community participation in solid waste management.

Efficient service delivery is tantamount to the provision of opportunities to collective decision-making. It is imperative that the municipality goes a little further in reaching out to its constituency by having more frequent public participation and public debates on issues affecting the provision of services. Holding public participation meetings once a year; when a bill is to be passed or when an election is imminent may lead to irreconcilable conflicts with the communities. The municipality remains a stranger that cannot be trusted in this community. A community with a political history like that of C-Section will take to the streets if not given the opportunity to voice their grievances about the delivery of municipal services. It can only be fair that those with fewer services be given more attention than those with more or better services.
The BCM needs to ensure that the existing waste management projects are clear on the terms of the contracts and that these terms of the contracts are collectively agreed upon, and where applicable for compromises to be reached, with sensitivity to the need for transparency at all costs. Transparency will minimize the prevalence of long brewing conflicts that oftentimes result in an irretrievable breakdown in relations between the local authority and its constituency. With respect to reimbursement for services rendered an inflation targeted salary increase for the waste management project workers may also minimize salary related grievances.

The provision of environmental education for the community of C-Section also requires that more of the residents be trained as additional project educators seeing that there are some students who have been taught by the Project Educator. To this end, some of these students can be formally trained at institutions of higher learning after their high school graduation to function as accredited environmental educators with the additional requirement to do community service in Duncan Village/C-Section. People need to be taught why it is important to dispose of waste in a responsible way even when there is no monetary reward. It is incumbent on the municipality to provide bursaries for this purpose so that household community participation in solid waste management will also be of the same standard as that of the waste management projects.

For the purpose of the expansion and growth of the existing community participative waste management projects into sustainable and viable business entities intervention measures that foster interactions between the one-person-contracts and corporate waste management companies need to be organized so that these one-person-contracts can learn about the waste management business from successful business mentors. Although the dependence of a municipality on external funders for projects of this nature is not commendable the municipality would do well to facilitate the continuation
of these projects through additional sponsors that would understand the value of giving the people of Duncan Village a decent salary for the work they do as well as find sponsors for additional equipment. The same foregoing advocacy on behalf of the poor will apply to the scavengers whose source of income is obtained from selling refuse bags and dumpsite retrieved goods for resale at recycling businesses. In this regard, research reveals that in Brazil when these scavengers were turned into co-operatives the incomes of these scavengers had increased tenfold (Medina, 2000). Such an exercise must be duplicated in Duncan Village so that community participation in SWM at this level will bring back the human dignity to these poor people. Community participation in solid waste management in C-Section needs an integration of the aspirations and dreams of this community in the planning of environmental management policies with special consideration and attention to the historical, cultural and political history of Duncan Village. Modelling waste management activities, policies and strategies after developed country strategic models may not yield the best results for the achievement of “zero waste”. It is critical therefore that any conducted situational analyses be thoroughly executed so as to help clearly define and identify the unique challenges that make communities like C-Section hard to categorize according to conventional environmental landscapes so that appropriate environmental management solutions to these challenges will be invented. It appears that further research needs to be conducted in those low-income informal settlement communities whose historical pasts have been permeated by political activism and rebellion against apartheid and how the remnants of this political activism, behavioural tendencies, and associated perceptions impact on the planning and implementation of post-apartheid era environmental management policies in the Republic of South Africa.
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