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Alliances and Partnerships in Recycling in Cape Town, South Africa

The recycling system in Cape Town, working towards sustainability?

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Contents

List of Figures

List of Tables

Abbreviations

ANC	African National Congress
ARTS	Athlone Refuse Transfer Station
CCT	City of Cape Town
CORC	Community Organisation Resource Centre
CT	Cape Town
CUP	Coalition of the Urban Poor
FEDUP	Federation of the Urban Poor
HBZW	Hout Bay Zero Waste
ISWM	Integrated Sustainable Waste Management
IWMP	Integrated Waste Management Policy
MRF	Material Recovery Facility
MSA	Municipal Systems Act
MSWM	Municipal Solid Waste Management
NEMWA	National Environmental Management: Waste Act 2008
NGO	Non Governmental Organisation
PPM	Poor People's Movement
PPP	Public Private Partnership
RTS	Refuse Transfer Station
SA	South Africa
SDI	Slum Dwellers International
SRTS	Swartklip Refuse Transfer Station
SWMD	Solid Waste Management Department

1 Introduction and Problem

Worldwide population growth, globalisation, an increasing urbanised population and the awareness that we depend on environmental sustainability have been some of the major trends in recent years. By the year 2011 world population will reach 7 billion humans and is projected to surpass 9 billion people by the year 2050 (United Nations 2009:vii). Today already half of the world's population is living in cities and is expected to continue to urbanize substantially over the coming decades (United Nations 2008:3). Globalisation has allowed the world to sustain much larger populations and vastly higher standards of living than ever before in history. It is now cities, as much as countries that drive economic growth (South African Cities Network 2006:1-2).

Regarding this global development cities all over the world face many challenges today. Rapid urbanization, population growth and economic development are contributing factors to many types of environmental stress. They are putting significant pressure on the ability of cities to provide urban services like housing, infrastructure and basic services to their residents. In most developing countries urban poverty is a growing problem with millions of people living in slums and informal settlements without adequate urban services (United Nations 2008:3pp).

Many aspects of life in a modern city are extremely wasteful – everyday people throw away tons of paper, plastic, glass, metal and food. Today urban areas are the main consumers of resources and the main waste generators. The increasing amount of solid waste in cities all over the world is a growing concern on a global level due to the fact that our planet has a finite carrying capacity for waste. When waste is not properly managed it pollutes our water and air and can create severe human health risks. The earth is a closed system and any resources being taken out of the system like plastic, metal, glass or paper and buried in a landfill are resources lost to us (City of Cape Town 2009a:13pp; Thompson-Smeddle 2009:61pp).

Therefore some of the key environmental issues in the world today are the unsustainable use of natural resources and the unprecedented waste production (City of Cape Town 2009b:15). Excessive consumption and wasteful production patterns inhibit sustainable development. The consequences of inadequate solid waste management impact the ecosystems of cities, contribute to the degradation of the urban environment and pose a health hazard to urban populations. Fact is that the constantly rising production of waste will be a desperate burden for urban society (Un-Habitat 2008:126pp; United Nations 2001:1pp).

Regarding those problems on a global scale the following thesis wants to deliver an insight into current waste management and recycling practices in South Africa and especially in the City of Cape Town. The thesis is structured as follows:

Chapter 2 introduces the scientific framework of the thesis. A description of the empirical methods used to conduct the interviews is given in Chapter 3 which also introduces the analysis tool of Integrated Sustainable Waste Management (ISWM). This tool will be used for the assessment of the different recycling alliances in Cape Town. Chapter 4 delivers and insight into informal waste recycling practices worldwide and on a South African scale. Referring to this Chapter follows a brief description of the study area Cape Town with regards to its geographical, socio-economic and historical characteristics in Chapter 5. Chapter 6 examines current waste management and recycling practices in reference to the City of Cape Town (CCT) and the following Chapter 7 introduces and examines current alliances and partnerships in recycling in Cape Town. Chapter 8 presents the results of the previous chapters and discusses the outcomes of the assessment in Chapter 7. The final conclusion and a view on future prospects of recycling in Cape Town are situated in Chapter 9.

2 Objectives and Theoretical Foundations

2.1 Research objectives, intentions and tasks of the study

Waste and its management practices are influenced by various stakeholders like the state, local government, the market, producers and consumers as well as by informal waste recyclers. The intention of my study is to present an analysis of the current structures and functionalities of the recycling sector in Cape Town, seen from an environmental perspective and a perspective which emphasises the relationships between social and political structures and the informal sector. Main attention thereby will be directed on the different stakeholders who are involved in activities like waste picking and trading with potential recyclables. Tasks of the planned diploma thesis are to uncover those different stakeholders involved in recycling, the existing connections and alliances between them and the connections between the formal and informal recycling sector. By the means of empirical research, the following research questions shall be answered:

- How are reclaimers integrated into the urban waste disposal system? Are they of any interest for formal urban solid waste management policies?

- For whom does waste allegorize a valuable resource and how are the attitudes of civic authorities towards informal waste recyclers?

- Could the integration and inclusion of those informal operators into the formal urban recycling system and urban solid waste management policies lead to a more efficient urban waste disposal system, to the minimization of the waste problem and to a mobilization of socioeconomic development potentials?

The aim of the study is to comprise the current status of Cape Town on its way to a sustainable city regarding solid waste management and to discover and highlight possibilities, problems and constraints of the integration of informal recycling into Municipal Solid Waste Management.

I will approach the issue of recycling in Cape Town via a combination of the urban 'Political Ecology', the 'Sustainable Livelihoods' and the 'Integrated Sustainable Waste Management' (ISWM) approaches. The first two approaches constitute the framework of my thesis in a broader sense. Below I will present them individually and accordingly combine them to one holistic framework. For the detailed investigation of the alliances between the different stakeholders in recycling and their characteristics, I will use the ISWM approach as an assessment and analysis tool and give a brief description of it.

2.2 The Political Ecology approach

Urban environmental problems result from intertwined economic, political, and cultural processes. While ecological processes contribute to the transformation of urban environments, it is economic, political, and cultural processes that create and maintain unequal and unjust urban environments. Those human and environmental issues have to be examined in a holistic way. It is about combining the 'Brown Agenda'[1] with the 'Green Agenda'[2] which means to serve the needs of the people as well as the needs of the environment. Urban political ecology seeks to expose the complex socio-ecological relationships that shape urban environments (Njeru 2006:1048).

Main focus of analyses in Political Ecology, are problematic human-environment relations. The approach wants to reveal that ecological problems are not solely a subject of natural science, but that those problems are deeply associated with political actions and more precise with the question about space and power (Reuber & Wolkersdorfer 2007:768p). Therefore, one of the main assumptions of the approach is that environmental change, positive or negative, is always governed by social circumstances. An important role in the context of political-ecological analyses plays the question about the environmental relevant stakeholders. Those stakeholders can be individuals or collective stakeholders of different operational and power levels, which are often characterized by differing or conflicting interests (Gebhardt et al. 2007:954). Those differing interests can result in environmental crises and disputes and, regarding the context of disparate power relations, the involved stakeholders have variable options for their actions.

Environmental change, environmental crises and environmental conflicts must be looked at in the context of poverty, marginalities and vulnerability on the one hand and in the context of local, regional, national and global authorities of disposition and decision on the other hand (Bohle 2007:810). In the end, political-ecological analyses have the aim to conceive the environment and their natural resources from an actor's oriented perspective, as objects of differing interests (Gebhardt et.al 2007:955). Coy and Krings (2000:398) state:

> *"Complex phenomena like environmental changes can't be solved by technocratic means, they demand for equally complex methods of resolution which are based on the knowledge of power structures, interests and the logics of action of the affected and involved stakeholders."*

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[1] The Brown Agenda focuses on reducing direct threats to human health and well-being by improving the quality of people's living environments (e.g. better sanitation and housing, and less industrial pollution) (Bolnick et al. 2006:26).

[2] The Green Agenda focuses on reducing more indirect threats to human well-being by preventing resource degradation and the loss or deterioration of natural life-support systems (Bolnick et al. 2006:26).

2.2.1 Analytical levels of Political Ecology

Political Ecology is a stakeholder oriented approach. The focus is to reveal the constellations of the involved stakeholders and their interests and strategies. Another intention is to identify the greater linkages like political power relations, specific legal rules or the actions of public and non-public institutions. Local processes are embedded in this greater frame and react on the concrete situations locally (Coy & Krings 2000:396pp). This 'actor-oriented multi-level' analysis is the basic principle of the politic-ecological functioning. The approach uses so-called 'explanation chains' as analytical procedure. The first step is to combine 'place-based' factors like local physical and human elements or stakeholders with 'non-place-based' factors and stakeholders of different hierarchical arranged levels of analysis. The location with a certain ecological problem - which affects the environments of the local population - constitutes the initial point of such an explanation chain. The next levels surveyed are local and national governments, which take influence on the civil society by norms and laws and whose institutions simulate and define the frame of action for the use of nature. In the last resort governments can restrict the possibilities of action for powerless groups of society, what can cause negative influences on the environment.

Today an integral part of Political Ecology is the appreciation of the complex interests and actions of place and non-place-based actors creating environmental conflicts (Bryant & Bailey 1997:6; Coy & Krings 2000:398). Like Watts (2000:257) states, 'Political Ecology' has the intention:

> *"[...] to understand the complex relations between nature and society through a careful analysis of what one might call the forms of access and control over resources and their implications for environmental health and sustainable livelihoods."*

2.2.2 Resource allocation and power relations in Political Ecology

Social power relations (whether material, economic, political, and/or cultural) are particularly important in the context of Political Ecology. As Heinen et al. (2006:12) state:

> *"It is these power geometries [...] that ultimately decide who will have access to or control over resources or other components of the environment [...]. These power geometries [...] shape the particular social and political configurations and the environments in which we live."*

Power is the heart of a politicized environment and the unequal power relations of differing stakeholders form a central research interest of Political Ecology. Political ecologists view the environment with its short running natural resources as a 'battlefield of diverging interests' where people compete for power, influence and rights of disposal. An important

research focus therefore rests on the analysis of power struggles and distributive conflicts on natural resources fought by diverse groups of interest on diverse operating levels. If individuals, households and social groups lose their rights of disposal, that will inevitable result in increased social vulnerability and accordingly to the undermining of their livelihoods because they then lack certain livelihood assets (Gebhardt et.al 2007:950pp; Krings 1999:129p; Bryant & Bailey 1997:5). According to Bryant and Bailey (1997:37) power means the ability of an actor to control its own interactions with the environment and the interactions of other actors with the environment. Therefore action and power are closely aligned with each other.

2.2.3 The commodification of waste

Waste is a culturally defined construct. According to the cultural and social context it has different values or no values attached to it. It can be seen as a livelihood resource or a health hazard; or it can simply be ignored along the sides of roads. With recycling, material previously defined as useless waste, changes into a valuable resource in the commodity chain. Waste is seen nowadays as a saleable resource and conflicts can arise over these changes in the perception of value. Informal recyclers, who had always seen waste as a valuable resource, are now threatened by public or private waste management operations that have discovered the value in these resources and claim ownership over household waste. Waste becomes a content of political discourse and persons and institutions that control waste will shape the policies and relations designed and enacted to deal with it. This means the bureaucratic culture of a city and its character of government-society relationships will have much to say about problem perceptions and policy priorities regarding waste (Gutberlet 2008a:29pp).

2.2.4 A Political Ecology of waste and recycling

As demonstrated, Political Ecology focuses on questions of resource allocation, power relations and scopes of action. The approach tries to examine in which way nature actually becomes a subject of politics. Using the term nature, one thinks about natural resources like water, soil, flora and fauna. As resources they secure the survival of people (Adam 1999:60pp). In this study, waste and the included valuables is also seen as a natural resource and as a commodity to generate an income. The reclaiming of waste presents an important survival strategy for people throughout the world. Many thousands in developing country cities depend on recycling materials from waste for their livelihoods (Wilson et al. 2006:797, Medina 2007:249; Gutberlet 2008b:223). Therefore, the informal recycling system depends upon its access to waste and it is in fact an important issue for waste pickers since usually the waste they collect on the streets and at landfill sites, is municipal property. In this study the approach of Political Ecology situates the stakeholders involved

in recycling centrally in the analysis and tries to explain the interactions between them and the wider situation of waste management in Cape Town. One aspect of a Political Ecology of waste is to show how stakeholders and their associated processes and activities at one scale can affect stakeholders and their possibilities to gain a livelihood at another scale. This will be examined in Chapter 7.

2.3   The Sustainable Livelihoods Approach

The Sustainable Livelihoods Approach aims to increase the sustainability of poor people's livelihoods through promoting a more supportive and cohesive social environment and through a more secure access to natural resources and a better management of them (DFID, 1999a:3). Central to the approach is the need to recognize that those who are poor may not have cash or other savings, but that they do have other material or non-material assets like their health, their labour, their knowledge and skills and the natural resources around them (Rakodi 2002:10). The Department for International Development (DFID) (1999a:1) gives the following definition of the term 'livelihood':

> *"A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base"*

2.3.1   Sustainable Livelihoods in an urban context

Originally, the Sustainable Livelihoods Approach was developed for and applied to the rural sector. Livelihoods in urban areas have different characteristics, and hence have to be distinguished from rural areas. The livelihoods of the poor are determined predominantly by the context in which they live and the constraints and opportunities this location presents. There are various specifics of urban life, which have to be acknowledged and integrated into any livelihoods appraisal conducted in an urban context. One characteristic which distinguishes urban poverty from rural poverty is commoditisation, which is an important aspect of this study. The quality of life of poor urban people is influenced by what local governments do or not do. The relationships between the poor, local governments and other actors in the political context are critical to their well-being (Köberlein 2003:36; Meikle 2002:37). As urban economies are highly monetized, access to a monetary income is essential for the survival of the urban poor. Unlike their rural counterparts, they are compelled to pay for all essential commodities and are usually unable to fall back on their own productions of food and so on. This means that people in cities are to a great extent dependent on cash incomes and natural resources, like, in case of the waste pickers, it is the solid waste and the recyclable materials they collect and sell

(Rakodi 2002:11). Thereby, entitlements or the rights to access assets play an important role. Like in this case, it is the access to the resource waste, which the individuals can then manage and thus transform into an income, food or basic necessities to secure a livelihood. This asset is determined by contextual factors and hence access is the key when facilities belong to others (Rakodi 2002:43pp).

2.3.2 The Sustainable Livelihoods framework

The Sustainable Livelihoods framework, presented in a schematic model (see Figure 2.1) is a tool to improve our understanding of the livelihoods of the poor by identifying the main factors that affect people's livelihoods, and by revealing the relationships between them. The purpose is to provide a basis for identifying appropriate objectives and interventions to support livelihoods. At the centre of the model are the assets on which households or individuals draw to build their livelihoods. Vulnerability aspects on one hand and policies, institutions and processes on the other hand constitute the external environment of the framework (DFID 1999b:1; Rakodi 2002:9).

Figure 2.1: *The Sustainable Livelihoods Framework*
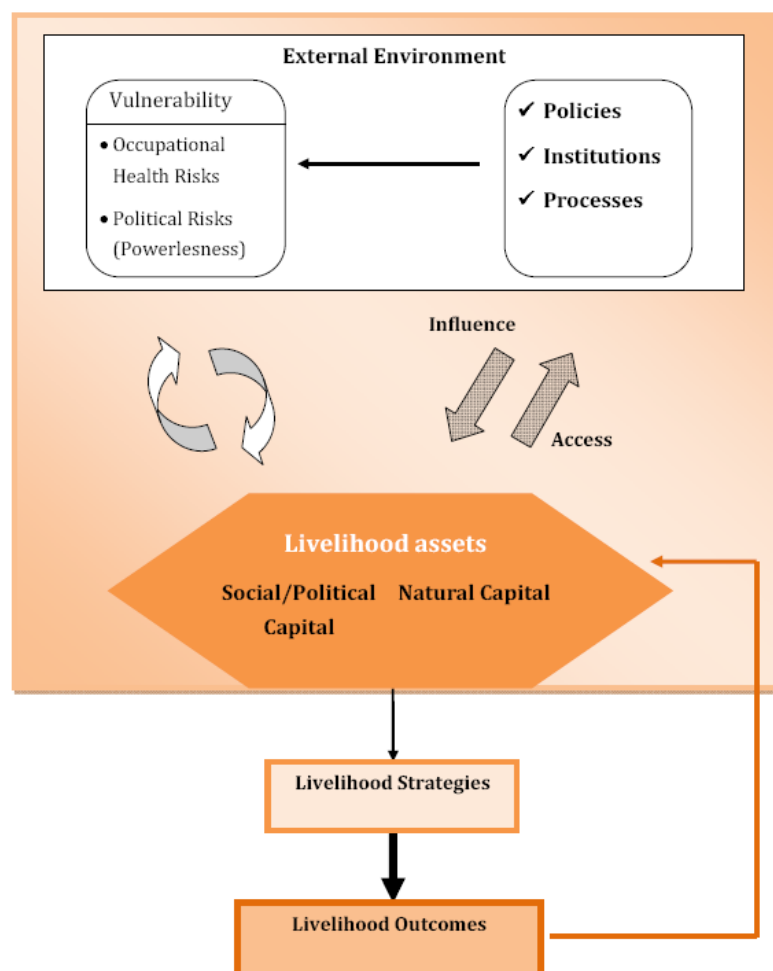
Source: (own illustration adapted from Rakodi 2002:9; Bohle 2007:806).

Questions which can be answered by making use of the Sustainable Livelihoods framework:

- What are the legal framework and policies with regard to informal sector activities?

- Which structures and processes pertaining to urban solid waste management have an impact on the informal waste recycling activities?

- Which are the income generating activities pursued to achieve a livelihood?

- What problems do people struggle with due to their occupation?

- How far do the occupational activities contribute to livelihood security versus vulnerability?

- Which type of risks are the waste pickers mainly exposed to?

- Which events or contingencies regarding their occupation as waste pickers can cause economic and social emergencies?

- Which are the vulnerabilities that are common among the informal waste recyclers?

2.3.3 The External Environment

Livelihoods of individuals and households are shaped by various factors of the external environment. These factors underlie permanent changes or processes, and to adjust their livelihoods, individuals always have to respond to these changes and processes. Those changes can be good and offer opportunities to escape from the trap of poverty but they can also indicate a threat by being helplessly exposed to a new situation and by living in a state of total insecurity or vulnerability (Köberlein 2003:45).

2.3.3.1 The Vulnerability Context

Livelihoods are exposed to vulnerability, which means that they might be affected by matters of insecurity, risks, emergencies or other possible damages, to which people and their assets are susceptible and over which they have limited or no control. Assets are positively or negatively influenced by the vulnerability context (DFID 1999b:3p). The types of risks people face can be natural, environmental, economic, social and political. It is vital not to explore exclusively the risks people are exposed to, but also the mechanisms and strategies adopted to withstand these risks. Any analysis of vulnerability also has to identify the capability of individuals to mobilise their assets in order to exploit opportunities to resist and recover from negative outcomes of a changing environment (Rakodi 2002:14). The vulnerability context is appraised primarily in terms of risk exposure according to political risks, like powerlessness, and to occupational health risks:

✓ *Political Risks – Powerlessness:* In the context of the study this refers to all policies, processes, or events which are implemented by national and especially local government, which can have a detrimental effect upon the livelihood security of the actors in the informal recycling economy. The lowest level of the recycling chain, the so-called 'informal recycling sector' recycles large proportions of waste produced in cities. Powerlessness refers to processes and events, which according to the low position of the informal waste recyclers in the recycling chain result in exploitative and discriminatory actions towards the recyclers (van de Klundert & Anschütz 2001:12).

✓ *Occupational Health Risks:* In the context of the study they refer to all health risks which informal waste recyclers face while exercising their daily work and which can cause severe damages to their health. Those damages can affect their ability to further carry out their work and therefore also have a detrimental effect upon their livelihood security.

2.3.3.2 Policies, Institutions and Processes

The access to assets and its application is considerably influenced by policies, institutions and relationships between individuals and organizations on the external side (Rakodi 2002:9). They are very important as they operate at all levels, from the households up to the international level, and, in all spheres, from the most private to the most public (DFID 1999b:17). The institutions are both public (e.g. political, legislative, governmental) and private (e.g. commercial, civil, NGOs). Processes may be formal or informal and influence or transform the way how organizations and individuals interact. They include policies, laws, social norms and incentives. They embody power relations and have a significant impact in the access of the poor to all types of assets (Rakodi 2002:15).

2.3.4 Sustainable Livelihood Assets

Sustainable Livelihood Assets, in the context of this study, are defined in terms of capital relating to natural and social resources. Capital is a term traditionally applied by economists, which is understood as the stock of economic resources built up by human actions. Social and Natural Capital are no capital stocks in the strict economic sense of the term, in this study, they are seen as livelihood building blocks (DFID 1999b:5).

2.3.4.1 Social/Political Capital

By definition Social Capital is built up by the relationships and networks developed and drawn upon by the urban poor to survive and improve their livelihoods. It comprises social resources like networks, membership of groups, relationships of trust and reciprocity and the access to wider institutions of society. It represents a non-monetary source of power,

influence and security, as well as a source of information and knowledge for those who lack ownership and access to other forms of capital. It is recognized as a vital part of the livelihood strategies of the poor (Phillips 2002:133; DFID 1999b:9; Meikle 2002:41). Closely linked to Social Capital is Political Capital, based on the access to political processes and to decision-making. It is best seen, as Rakodi (2002:10pp) has stated, as a gatekeeper asset, permitting or preventing the accumulation of other assets. It is widely acknowledged that Social / Political Capital is a valuable and critical resource which contributes to the well-being of the urban poor, especially during times of crisis and economic change (Meikle 2002:41). Social Capital is seen important for facilitating local solutions to problems. It is critical that the local authority provides an environment in which initiatives, where local citizens work together in identifying and acting on local problems, can take place (Amis 2002:104pp). Depending on the assets and capabilities people have at their disposal, especially Social and Political Capital, the relationships that secure access to resources and how they are distributed can be renegotiated (Rakodi 2002:16). Social Capital in the context of this study means the membership in social networks on which the actors are able to draw on in pursuing their livelihoods. This study understands social networks like cooperation's amongst waste pickers as the most important embodiment of Social Capital.

2.3.4.2 Natural Capital

The term Natural Capital refers to the natural resource stocks that generate value and productivity in people's lives. Those natural resource stocks are usually common property sources such as land, forest, water, etc., which can be directly used for production. Normally, natural assets are less determining in urban contexts but waste as a source for income generation is an essential issue for livelihood security. Therefore, the most important natural asset in the context of this study is solid waste (DFID 1999b:11).

2.3.5 Livelihood strategies and Outcomes

In the context of the external environment the available assets form the livelihood strategies of individuals and households. The strategies which they adopt to escape poverty produce outcomes, which are defined in terms of greater or less-well being (Rakodi 2002:9; Bohle 2007:806). If the outcomes of the livelihood strategies adopted by poor people are positive, they can improve food security and make more sustainable use of natural resources. In case of the study the adopted livelihood strategies should maintain and improve the access to waste as a resource for income and to make the waste pickers voices heard amongst national and local governments (Rakodi 2002:16).

2.3.6   Sustainable Livelihoods - a people-centred approach

As we have seen the Sustainable Livelihoods approach sees the world from the point of view of individuals and social groups who are pursuing livelihood strategies in instable and insecure conditions and with limited assets. It is therefore a people-centred approach that must be responsive and participatory. According to Rakodi (2002:19) the operationalisation of a livelihoods approach implies:

- ✓ Direct support to assets, by providing poor people with better access to the assets and resources that act as foundation for their livelihoods and may also be valued for other reason.

- ✓ Support to the more effective functioning of the organizations, policies and processes that influence access to assets and the livelihood strategies open to poor people.

2.4   Combining Political Ecology and Sustainable Livelihoods

In this analysis, the perspectives and actions of alliances and stakeholders of the formal and informal recycling sector in Cape Town will be situated centrally within the multi-levelled contexts of waste management policy in South Africa (see Figure 2.2). The study of the relationships between the stakeholders in the recycling sector will help to provide a better understanding of current waste management strategies.

The central questions relating to urban governance and management are how the structures and processes impinge on the ability of the urban poor to achieve secure livelihoods. And what patterns of urban governance and urban management might facilitate or hinder urban livelihoods. Even within an open, democratic society, political power is highly unequal. The livelihoods of the urban poor are primarily determined by how individuals respond to

Figure 2.2: *Analytical Framework*

the circumstances in which they find themselves and the economic opportunities available to them. The actions of city governance can significantly affect the circumstances and opportunities which confront poor urban people, whether positively or negatively. All too often they undermine rather than support the livelihood strategies of the poor. Therefore, it is important to consider the ways in which the structures, processes, policies and activities of the institutions of city governance influence the livelihoods of the urban poor (Devas 2002:206). The Sustainable Livelihoods Approach has to take account of the institutional, economic and political circumstances within poor people have to maintain their livelihoods. Relating to Rakodi (2002:26) one way to analyse issues of urban governance and urban management is to apply the assets and vulnerability analysis to identify how urban governance and management impact on the various forms of capital on which the poor depend.

Poor people face a vicious circle because they lack the resources, the influences and the power to change their circumstances. The institutions of city governance should be responsive to their needs and therefore give them an opportunity to break this vicious cycle of poverty.

2.5   Stakeholders and alliances in urban solid waste management

There are many stakeholders active in urban solid waste management. All these stakeholders have roles and responsibilities that influence, to a more or lesser extent, the performance and the sustainability of the current waste management systems in their cities. Some of these actors work closely together, others do not. Their alliances are sometimes based on family, ethnic or religious ties and some of them are based on socio-economic dependency, while others work together on pure business grounds (Grafakos et al. 2001:5). Many developing countries aspire to modern waste management systems, which are associated with relatively high recycling rates. Regarding the current situation in all countries, especially in low- and middle-income countries, many people of the informal recycling sector, which operates outside of the official municipal workforce, are involved in reuse and recycling. This informal recycling sector refers to the waste recycling activities of people which are involved in the extraction of recyclable and reusable materials from mixed waste (Wilson et al. 2009:629; Wilson et al. 2006:797; van de Klundert & Anschütz 2001:12). The general main stakeholders in the informal and the formal recycling system and their linkages are shown in Figure 2.3 (p.14).

Figure 2.3: *Stakeholders in urban recycling systems and their relations*
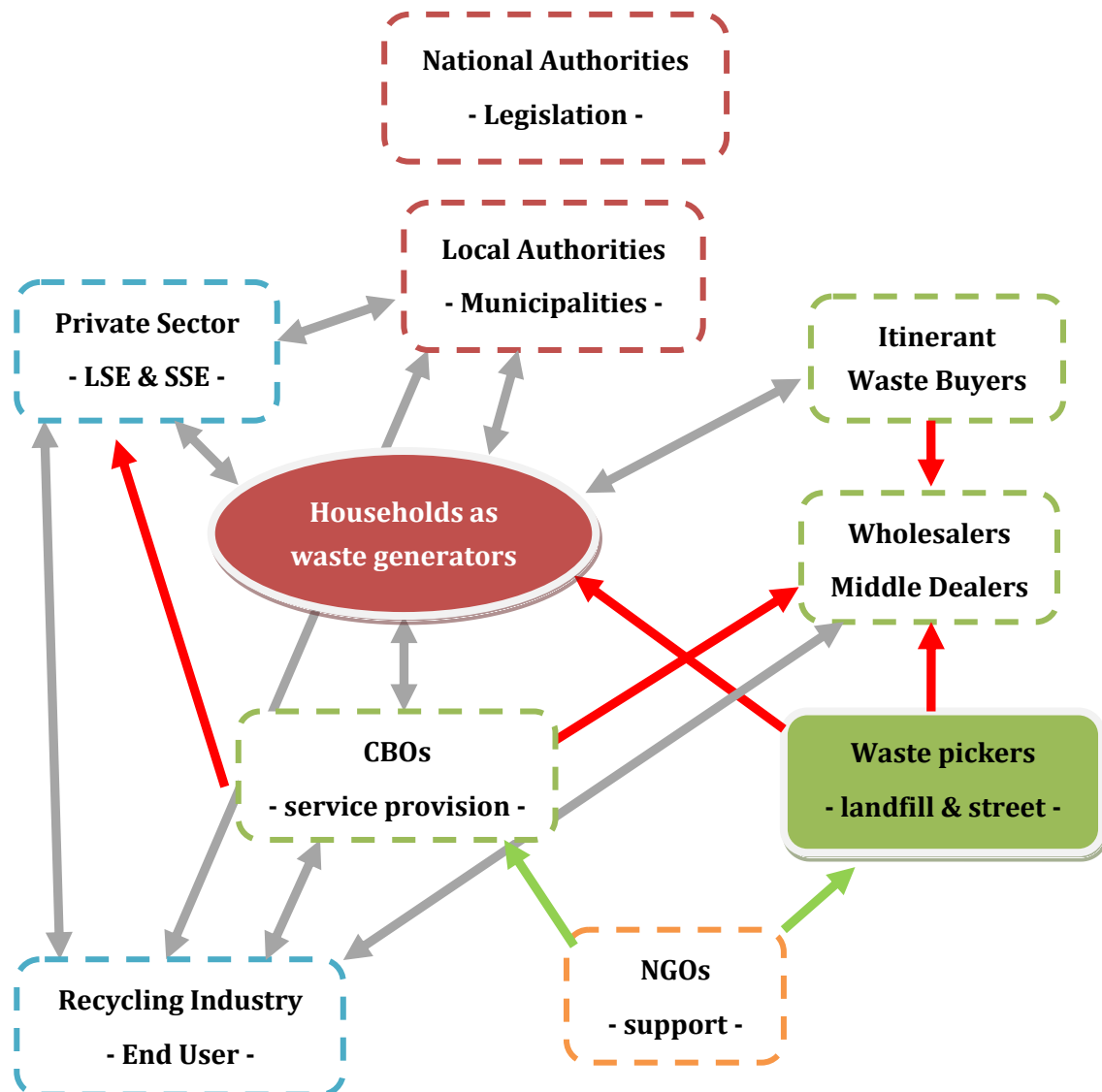
Source: (own illustration according to Grafakos et al. 2001:13).

In Figure 2.3, grey bolts with two ends represent symbiotic relationships. To give an example, itinerant waste buyers collect and buy the recyclables from households. In doing so, the households get rid of their unwanted things and they get the 'feel good factor' that they did something good for the environment. The waste buyers in return get recyclable items which haven't been mixed up with the rest of the household waste, for example wet food leftovers. These clean recyclables can be sold to a higher price than already 'contaminated' ones. Green bolts with one end symbolise supportive relationships which are not based on profit generation, such as linkages between waste pickers and NGOs. Not organized waste pickers are highly vulnerable stakeholders in the recycling system due to their low position in the recycling chain and their political powerlessness. NGOs can help

to improve the situations of waste recyclers by showing them new ways to improve their position in the recycling chain. Red bolts with one end stand for exploitative linkages. For example middle dealers buy all the recyclables from individuals and groups which cannot sell them directly to the industries because their collected amounts of recyclables are too low. Therefore they have no chance but to sell their collected materials to the middle dealers which are aware of their position and therefore pay them much lower prices than the industries would do.

Some of the stakeholders are examined closer:

- ✓ *The public sector:* Its principal role is to create the conditions for a more effective and efficient Solid Waste Management service that contributes to social equity and enables, facilitates, regulates and monitors alliances. This sector includes national authorities, local authorities and local public departments. If local authorities implement recycling schemes they are a key stakeholder in formal recycling (Grafakos et al. 2001:13).

- ✓ *The large scale private sector:* It can play a role in reducing public sector costs and providing certain municipal solid waste management services, because of its access to financial resources and its potential ability to operate efficiently. This sector comprises Large Scale Enterprises (LSE) and micro and registered Small Scale Enterprises (SSE) for collection, transport, disposal and recycling activities (Grafakos et al. 2001:13).

- ✓ *The small scale, non-recognized private sector:* This sector is actively involved in many aspects of Solid Waste Management services, particularly in low-income areas. This sector includes informal waste pickers who pick up discarded materials from streets and dump sites, itinerant waste buyers who collect and buy 'unwanted' items from households, traders in waste materials (middle dealers, wholesalers) who are usually specialised in one material and aggregate those materials and compress them for more efficient supply and sell them to industries and small-scale recycling enterprises that process recyclables into intermediate industrial feed stocks (Grafakos et al. 2001:13; van de Klundert & Anschütz 2001:12).

- ✓ *CBOs and NGOs:* These organisations are working with those who have a direct interest as service users, but who can also be involved in promotion, decision making, coordination and actual provision of recycling services like informal waste pickers (Grafakos et al. 2001:13).

- ✓ *End-user industries:* These recycling industries purchase processed recyclables as feed stocks to make their final products.

Alliances between different actors in waste management can be defined as established relationships between two or more different actors resulting in a mutual benefit - without assuming equality - which finds expression in activities within waste management. These alliances between stakeholders in waste management may vary in their content (financial, management, advice) and they may differ in strength (weak or strong, fixed or loose) (van de Klundert & Anschütz 2000:11; Grafakos et al. 2001:14).

2.6 Integrated Sustainable Waste Management

Integrated Sustainable Waste Management (ISWM) refers to a waste management system that best suits the society, economy and environment in a given location. The concept of ISWM also includes socio-cultural, environmental, institutional and political aspects that influence the overall sustainability of a waste management. It differs from conventional approaches of waste management by seeking stakeholder participation, by including waste prevention and resource recovery explicitly, by encouraging the analysis of interactions with other urban systems and by promoting an integration of different habitat scales, like the city, neighbourhoods and households. It is an approach to reach better and more sustainable solutions to solid waste problems (van de Klundert & Anschütz 2000:1pp). ISWM is a framework for understanding solid waste management. It recognizes three important dimensions in waste management namely stakeholders, waste system elements and sustainability aspects (see Figure 2.4). The term 'integrated' reflects the fact that solid waste management consists of a variety of activities, including prevention, recycling and composting, operated by a variety of actors at many scales (Scheinberg et al. 2008:7).

Figure 2.4: *The Integrated Sustainable Waste Management Framework*
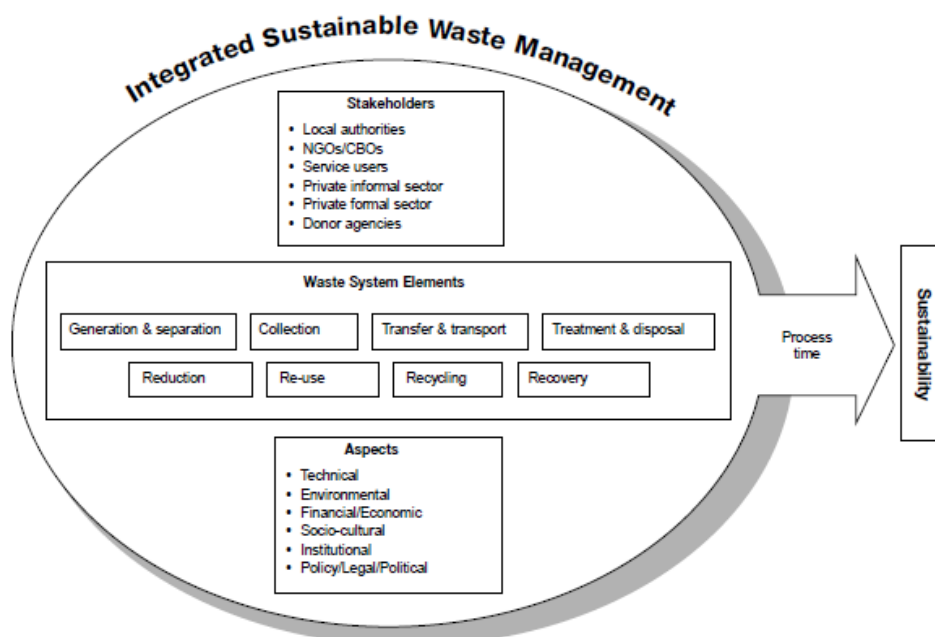
Source: (van de Klundert & Anschütz 2001:14).

2.6.1 The dimensions of the ISWM Framework

According to van de Klundert & Anschütz (2001:12) ISWM has three major dimensions:

- ✓ The stakeholders involved in waste management,

- ✓ The elements of the waste system and,

- ✓ The aspects of the local context that should be taken into account when assessing and planning a waste management system.

2.6.1.1 Integration of different stakeholder groups

A 'stakeholder' can be defined as a person or an organisation that has a stake, an interest in waste management and recycling. However, stakeholders in waste management differ in each city, so they need to be identified in the local context. Stakeholders have various interests and roles in their particular waste management, but they can cooperate for a common interest. Their influence on other stakeholders and their importance in a project or a plan can vary (van de Klundert & Anschütz 2001:12). To achieve sustainability in waste management, it is important to look at the roles, interests and power structures prevalent in waste management. Experience in several countries has shown that co-operation and co-ordination between the different stakeholder groups will ultimately lead to increased sustainability of a waste management system. On the other hand, ignoring certain activities or groups, (e.g. the informal sector) will result in decreased sustainability of the system, for example in the form of negative public health effects or increased unemployment (van de Klundert& Anschütz 2000:6).

2.6.1.2 Waste System Elements

All waste system elements should be looked upon as being stages in the movement of materials from the cradle to the grave. A waste management system is a combination of several stages in the management of the movement of materials within the city and the region. ISWM recognises elements like collection, transfer, treatment and disposal but it also gives equal weight to the elements of waste minimisation, reuse, recycling and composting. The presence and the absence of system elements in a certain waste management system are influenced by the history and the character of the particular locality (van de Klundert & Anschütz 2001:13).

2.6.1.3 Integration of different Aspects

The concept of ISWM holds the idea that including social, institutional, political and environmental concerns pays off at long sight in form of a greater sustainability of waste management systems. In the past, many projects have failed due to an overemphasis on technical aspects alone. Even nowadays, where the tendency is to look at the economic

aspects and to stress on the benefits of including the private sector in solid waste management and recycling, spontaneous privatisation processes at grassroots level are usually overlooked. These processes consist of small-scale and micro enterprises and community-based organisations undertaking waste management tasks, like recycling, that the government does not carry out satisfactorily, does not carry out at all, or that are traditionally outside the purview of the government. This spontaneous grassroots level privatisation processes are sometimes called 'social privatisation', in contrast with conventional privatisation, because many of these entrepreneurs work out of a social concern and not merely out of a profit motive. ISWM calls for mixed privatisation options, combining conventional and social privatisation, adapted to the local circumstances (van de Klundert& Anschütz 2000:4pp).

2.6.2 ISWM as an assessment tool

The ISWM concept can be the basis for an analysis of the sustainability of existing waste management systems. The analytical framework was derived from the concept of sustainable development - which embodies the two basic tenets of meeting environmental goals, as well as promoting socio-economic equity - and from the concept of ISWM and in the end adapted to the Solid Waste Management sector (Grafakos et al. 2001:69; van de Klundert& Anschütz 2000:10). According to van de Klundert & Anschütz (2000:12) an assessment of alliances can lead to:

- ✔ An identification of actors included and those who are excluded from the formal SWM.

- ✔ An identification of problems and progress, dangers and opportunities of the different alliances.

- ✔ An evaluation of the impact of alliances.

- ✔ A comparison between different alliances in the same local context, and between the same alliances in different countries.

- ✔ Recommendations for the improvement of existing alliances.

Mostly activities of alliances in recycling are oriented towards socio-economic goals like providing employment opportunities, and only partially determined by ecological considerations. Finally, this framework also assesses their contributions to the 'Green Agenda' (see 2.2, p.4). Grafakos et al. (2001) used various indicators to assess the contributions of existing alliances to sustainable development. Some of the indicators, which relate to different ecological and social goals, are used to characterize the recycling alliances located in the City of Cape Town.

3   Methodology

3.1   Procedure and methodology

When doing research on waste picking/reclaiming[3] the use of both qualitative and quantitative methods can provide rich data on waste pickers and their activities, which is also representative of the larger population. Due to the limited time frame of a final diploma thesis it is not possible to conduct an overall survey on reclaiming and its linkages to the formal sector using qualitative and quantitative methods. The preceding qualitative research can be seen as preparation for a bigger survey within the framework of a dissertation and it is needed to investigate the linkages between reclaimers and the formal sector (Medina 2007:114pp). Qualitative research which stands at the beginning of every scientific action takes up an important function for the acquisition of connections, reasons, effects and dynamics of social processes and it provides valuable insights that may not be obtained by other methods. Qualitative researchers, by being in direct contact with the social phenomenon under study, can develop a deeper and fuller understanding of it. Since waste picking is an informal occupation, no official statistics or records exist and due to a lack of previous studies on waste picking in Cape Town the collection of primary data is necessary to complete information gained through secondary analysis (Medina 2007:109pp).

The database for the analysis of the urban waste disposal system and the formal and informal recycling sector in the City of Cape Town shall be gained by the use of qualitative methods. The combination of methods will contain comprehensive literature research and the collection of primary data using partly standardised oral expert interviews. The function of the interviews is always based on the intention of the study. Both, function and intention determine the subject of the interview (Gläser & Laudel 2004:40pp).

The interviews will be conducted on the basis of a manual which shall assure that all relevant issues are actually addressed. They will be structured by means of pre-formulated questions which will be asked in every conversation and questions which will be prepared specifically for each expert. The conversation manual is a guideline to remember the topics and key questions which have to be asked necessarily. Thereby the manual is that flexible that it can be adjusted to the stakeholders interviewed respectively. This interview method provides the possibility to ask the questions in a modified order and to ask further questions at interesting parts of the conversation, impartial of the manual. It is advisable to

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[3] In this study I will use either the term 'waste pickers' or 'reclaimers when referring to informal people who pick and sell recyclables as an occupation. I have chosen those two terms due to the answer of Interviewee 7 (see Appendix II) to the question how the pickers would like to be called by society: "They are reclaimers, they are reclaiming their livelihoods. They don't mind you calling them waste pickers but they like to be called reclaimers."

record the interviews by tape if the interviewee agrees. Hence the interviewer can concentrate squarely on the interview (Meier-Kruker & Rauh 2005:61pp; Schnell et al. 2008:387pp).

The choice of the experts as interviewees depends on the intention of the study. Every person who has a specific knowledge which is relevant for the study can act as an expert. They are not the object of study but they are a medium by which the interviewer can gain knowledge about specific facts. Expert interviews are a method to open up this knowledge. The purpose of expert interviews is to make the specific knowledge of the experts accessible to the researcher (Gläser & Laudel 2004:111pp).

The needed information should be gained by multiple and from each other independent sources. The more sources you have the better it is for the empirical coverage of the findings but the number of interviews is limited by the required effort. Considering the time of four weeks for research in Cape Town two individuals from each identified stakeholder group shall be interviewed. The empirical coverage of the findings will be enlarged by the additional literature research. As experts I will choose people who are in relation to the object of research or people who are part of the sphere of activity which forms the object of research. The interviewees can be experts and representatives of the municipality and the Solid Waste Management Department in Cape Town, scientists from the university of Cape Town or other institutions which are doing research in waste management and the informal sector, persons who have a direct stake in recycling and waste disposal like the waste-pickers and professionals from different NGO's who are engaged in waste minimization, recycling and the needs of the urban poor working as waste-pickers or in the informal trade with recyclables.

The interpretation of the interview records (see Appendix II) will be made with help of the qualitative content analysis. The interview records provide the raw data and in the beginning of the evaluation it is not clear which for the study relevant information they contain. The qualitative content analysis evaluates text by extracting information from the text in a systematically procedure and by processing this information apart from the original text that is to say changing it, synthesizing it with other information or discarding it. The qualitative content analysis suits excellent if specifications of social issues shall be extracted from text. Therefore it suits especially for the evaluation of expert interviews (Gläser & Laudel 2004:197pp). If the methods of the qualitative content analysis are clearly defined they can replace and alternatively complement statistical studies (Mayring 2002:65).

3.2 Methodology of an ISWM assessment

As seen in Chapter 2.6, the Integrated Sustainable Waste Management (ISWM) approach focuses on the stakeholders in recycling and the alliances between them. Resulting data obtained from the expert interviews and the ISWM framework as a tool for analysis will be used to reveal existing power relations in the recycling sector of Cape Town and some factors that determine the livelihoods of informal waste recyclers. It is about to find out what the 'waste related livelihood aspects' are.

Due to the limited capacity of this study only some of the goals and indicators are chosen. In doing so, the aim is to identify the characteristics of the local alliances and to find out how the different stakeholders in those alliances are connected with each other. The used indicators can reveal the causes of the level of performance and thus are relevant to show policy makers and other actors where to put forward efforts to improve the recycling system (Grafakos et al. 2001:16). By applying the ISWM concept on the alliances in recycling in Cape Town, conclusions about the current status of Cape Town on its way to a sustainable city regarding solid waste management can be made and possibilities, problems and constraints of the integration of informal recycling into the Municipal Solid Waste Management System can be discovered and highlighted.

With the help of this framework I will:

- ✓ identify existing types of partnerships in recycling and,
- ✓ Use the indicators developed from Grafakos et al. (2001) for a qualitative exploration of socio-economic and ecological aspects of the partnerships.

3.2.1 Sustainability assessment

Van de Klunder and Anschütz (2000:12) have identified the following steps which have to be taken to assess the contribution to sustainability of alliances between stakeholders in waste management:

- ✓ **Step 1:** Identify stakeholders and their alliances

✓ **Step 2:** Define sustainability goals

Ecological sustainability goal:	Re-use and recycling should be maximized.
Social and economic goal:	Employment in SWM should be safe and healthy and provide a sustainable basis for a livelihood.
Political and social goal:	Legitimacy (official recognition and social acceptance) of SWM activities.
Financial and social goal:	The system should be affordable for the users and financially viable for local authorities involved (and private enterprises where relevant).

Source: (van de Klundert & Anschütz 2000:13).

✓ **Step 3:** Define sustainability indicators

Van de Klundert & Anschütz (2000:15) recommend that indicators should be formulated at four levels namely a policy/regulatory, organizational, operational and performance level.

- *Policy/regulatory level:* What policies do exist? Which issues are included in policies and how? How does the regulatory framework related to the SWM stakeholders and activities look like?

- *Organisational level***:** What institutional structures support this policy? Who carries out the policy? What type of alliances exists between stakeholders?

- *Operational level:* How is the policy implemented? What happens in practice?

- *Performance level:* What is the outcome of the policy? How well does the operation function?

✓ **Step 4:** Apply indicators to cases

The application of the indicators to the cases starts with the development of an overview of existing and non-existing alliances in the concerned city. Then the indicators must be applied to each existing alliance of stakeholders (van de Klundert& Anschütz 2000:16).

3.2.2 Sustainability goals and indicators

3.2.2.1 Ecological sustainability

> **Goal 1:** Re-use and Recycling should be maximised.

The processes of re-use and recycling make essential contributions to ecological sustainability in a number of ways. The use of natural resources can be reduced, through the reduction of the extraction of raw materials and energy, emissions can be decreased as less energy is used for reprocessing secondary materials than for extraction of virgin materials and the burden of solid waste can be decreased, as smaller volumes of waste remain for disposal. Therefore, solid waste recycling and re-use is an important component of a sustainable approach for solid waste management. The legal framework also is a major factor affecting the possibility for source separation of waste either by consumers or at the final disposal site (Grafakos et al. 2001:20).

Table 3.1: *Indicators for the Maximisation of recycling and reuse*

Goal 1: Maximisation of recycling and reuse	
Policy/regulatory level	Relevant legislation allowing or prohibiting separation or recycling of waste.
	Incentives and (or) barriers through the policy or regulatory framework for the introduction of recycling practices.
Organisational level	Length of the trading chains[4] and the existence of buy back centres.
	Existence of buy back centres or composting plants, which indicate whether there is a market for recyclable materials or not.
Technical level	Whether source separation takes place at the level of waste generators.
	Whether there is separation and marketing of recyclable materials.
Performance level	% of waste stream that is recycled.

Source: (Grafakos et al. 2001:21).

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[4] The length of trading chains indicates the number of actors in it; the longer the recycling chain, the less viable and reliable the alliance is (Grafakos et al. 2001:21).

3.2.2.2 Socio-economic sustainability

Goal 2: The system should remain financially viable for consumers, local authorities and private enterprises.

This goal will be achieved when the financial costs are less or balanced with the revenues for both parties of the alliance. If one of these partners does not benefit from the existing financial arrangements the alliance is not financially viable (Grafakos et al. 2001:24pp).

Table 3.2: *Indicators for the financial viability of the system*

Goal 2: Financial viability	
Regulatory level	Ways of cost recovery (fees, taxes, subsidies etc.)
	Policy towards privatisation.
Organisational level	Access to credit.
	Sources of revenue for the actors in the alliance.
Performance level	Degree of cost recovery.
	Profitability for the entrepreneurs.
	Affordability for local authorities and users.
	Stability of prices for recyclables.

Source: (Grafakos et al. 2001:25).

Goal 3: Legitimacy: acceptance by government and civil society

The extent to which an alliance is considered legitimate is important, because it influences the degree to which activities are accepted and complied with by other actors. This refers to the legal framework on which an alliance can be based and to the public acceptance. Cultural aspects, such as views on waste in culture, also influence legitimacy of certain activities in solid waste management (Grafakos et al. 2001:28).

Table 3.3: *Indicators for the Legitimacy of the system*

Goal 3: Legitimacy	
Policy/regulatory level	Are the actors supported by the law?
	Are the actors formally recognised by the authorities or not?
Performance level	Are there any public objections?
	Are the actors harassed or penalised?

Source: (Grafakos et al. 2001:28).

4 Waste Management and Informal Recycling – Worldwide and on a South African Scale

4.1 Problem - South Africa

In line with global trends there is evidence of rapid ongoing urbanisation in South Africa. More than half of the country's population lives in cities and towns and it is estimated that up to 80 per cent of the country's population will reside in urban areas by the year 2026 (City of Cape Town 2009b:12). Along with a growing population, a rapidly growing economy and increasing living standards, waste volumes in South Africa are expected to increase at the rate of 2-3 per cent (Theron 2007; Oelofse & Godfrey 2008:1). Policies and planning documents see recycling as an important element for waste reduction but there is no legislation in place that compels communities to recycle. South Africa is lagging behind many other countries in terms of waste recovery with an estimated 30 per cent recycling figure compared to 50 per cent for countries such as Japan and Germany (Langenhoven & Dyssel 2007:116).

In the early 1990s municipal solid waste was disposed off in 4000 disposal sites spread out across the country. Of these, only 200 met minimum environmental standards. Municipal solid waste treatment methods are still focused on end-of-the-pipe methodologies with landfill disposal being the main option (Thompson-Smeddle 2009:65; Department of Environmental Affairs and Tourism 2007:40). One of the most critical municipal priorities post-apartheid has been the sustainable provision of basic services to all residents on a fair and equitable basis. Before 1994 poor South Africans had no access to basic services like waste removal and drinking water. Although there has been a significant increase in the number of poor households receiving basic services still many people remain un-serviced (ILRIG n.d.:6). Another key challenge for South African cities is the growing number of unemployed people and the trend towards a growing informal economy. In the year 2005, some 46.5 per cent of national unemployment was concentrated in cities and informality has been on the rise in cities throughout South Africa (South African Cities Network 2006:3-17). Reclaiming is an important livelihood strategy for more than 37.000 people in cities around the country (Langenhoven & Dyssel 2007:115).

4.2 Alternative waste management strategies

But Cities can address solutions to global dilemmas like increasing waste generation, environmental degradation and the expansion of poverty. To achieve sustainable urbanism, cities need an alliance with nature in order to recycle their waste products into usable inputs for the industry. Sustainable Waste Management (SWM) encourages the generation of less waste, the re-use of consumables, and the recycling and recovery of waste

materials. The implementation of a Sustainable Integrated Solid Waste Management system is one of the key parts to address sustainable development in the 21st century (Ferrara et al. 2008:4; Grafakos et al. 2001:20). It is necessary to establish sustainable systems of solid waste management which protect environmental health, meet the needs of the entire urban population including the poor, support the efficiency and productivity of the economy and generate employment. The essential condition of sustainability implies that waste management systems must be absorbed and carried by the society and its local communities. In other words, these systems must be appropriate to the particular circumstances and problems of the city, employing and developing the capacities of all stakeholders. Therefore the principles of sustainable waste management strategies are (after Schübeler 1996:18p):

- ✓ Minimising waste generation
- ✓ Maximising waste recycling and reuse, and
- ✓ Ensuring the safe and environmentally sound disposal of waste

Due to the different conditions, technology commonly used in developed countries often fails in cities in developing countries. Conventional solutions only consider the formal sector, ignoring the existence and possible contributions of the informal sector that has developed around recycling (Medina 2005:3p).

4.2.1 Conventional approaches to waste management

Conventional waste management approaches and solutions often fail in developing countries because of differences between industrialised and developing countries:

- Developing countries have an abundance of unskilled and inexpensive labour and a scarcity of capital. Developing countries need affordable SWM solutions that create income opportunities for unskilled workers and particular the poor.

- Many cities in developing countries have a dynamic informal sector that includes informal refuse collection and waste picking.

4.2.1.1 Modernisation of municipal waste management

There is a clear trend towards the modernisation of solid waste management systems in South Africa, what includes changing environmental standards, privatisation, diversification of management strategies away from disposal towards recycling and an increasing pressure for cost recovery. This modernisation of waste management opens new niches and puts governments and the formal private sector into new relationships. Thereby, waste pickers can be losers in this process, but they can also be winners especially, when waste picking is seen as a contribution to solving the waste management problems. Like Scheinberg et al. (2006:1) stated:

> *"The best chance to support sustainable and positive change comes when there is a commitment to work with waste pickers embedded in their professional context [...]"*

They set the focus on regarding waste pickers as professionals who want to do that kind of work. 'Pre-modernised' waste systems are characterized by a single technology like the landfill site which is managed by a single major stakeholder, mostly local government. Waste pickers and other stakeholders operate at the margins and have the status of informal sector actors, which are not a part of the government waste management system (Scheinberg et al. 2006:4). Modern waste management systems are integrated systems characterized by multiple stakeholders providing services and a great diversity of technical operations all tied together in a single co-ordinated management system (Scheinberg et al. 2006:5).

Commitments to 'help' those people earning a living from picking waste often objectify them as victims and poor people. The projects designed to 'help' or 'rescue' waste pickers treat picking as a disembedded phenomenon. The pickers are more treated like a social problem rather than as entrepreneurs who can make choices and act strategically, or as economic actors in the solid waste and recycling systems. The common approaches have the goal to eradicate waste picking and none of them treat waste pickers as stakeholders in the waste management system. The focus is on getting them out of the waste management system, rather than identifying interesting niches within it. The pickers are treated as 'target groups' and they are not engaged in solving their own problems (Scheinberg et al. 2006:8pp).

Scheinberg et al (2006:10) identify waste pickers as losers in the process of modernization when they are ignored and their access to landfill sites is denied as a result of modernization and because formal participants gain privileged access to those materials. Waste pickers become winners in the modernization process, when they are able to achieve legitimacy and a status as an important stakeholder in the solid waste system. The modernization process has to be considered as an opening to actively legitimize waste pickers as important stakeholders and economic actors. Scheinberg et al. (2006:11) mention four kinds of steps that should be taken to strengthen waste pickers in their economic role in the waste management system:

- ✓ **Step 1:** Supporting waste pickers to enter new service roles and niches in separate collection and recycling;

- ✓ **Step 2:** Assuring pickers structural access to sorting space at transfer stations, controlled and sanitary landfills;

✓ **Step 3:** Supporting better market leverage and/or diversification of activities through cooperatives and associations;

✓ **Step 4:** Opening channels of communication with formal stakeholders and decision-makers and into the planning process.

The integration of waste pickers as stakeholders in a recycling planning process needs a change in the attitudes of local and national policy makers. It is about viewing informal waste pickers as entrepreneurs and professionals within the waste system. Melanie Samson (2008:16) describes waste pickers as the prototypical neoliberal citizens[5]. They have accepted that neither state nor industry will provide them with employment so they have taken the initiative to create their own income.

4.2.2 Participatory Sustainable Waste Management

Gutberlet (2008a:4) suggests a more radical approach towards waste management, one that implements 'inclusive waste management' a concept that combines social and environmental issues by addressing livelihood concerns, such as the generation of employment, increased income generation and improved occupational health. By participatory waste management the author means:

> *"Strategies that involve the recyclers organized in associations, co-operatives or other forms of community organizations in selective waste collection. This entails building the capacity of recyclers towards the enhancement of resource recovery, such as door-to-door and other selective collection methods".*

Participatory and inclusive waste management is an alternative to conventional waste management. It means including those individuals that are already working with resource recovery, by performing activities known as waste picking or reclaiming (Gutberlet 2008b:224). Social innovation in governance at a local level, taking into account civil society, will only strengthen when new links are established between excluded and integrated segments of the local society. Pre-requisites for inclusive, participatory waste management are responsive governments and organized recycling initiatives. Cooperative recycling should not be treated as a separate program, but rather be integrated into the municipal solid waste program. Government recognition and commitment are essential. Empowering informal recyclers through capacity building, information and participation enables their social inclusion (Gutberlet 2010:171pp; Gerometta, Häussermann, Longo 2005:2018).

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[5] Neoliberal citizens see their lives as an enterprise and take responsibility for achieving their own individual goals. They believe in self-reliance and do not expect the state to provide them with what is seen as the rights of citizenship (Samson 2008:15).

4.2.3 The Waste Management Hierarchy – an alternative approach

Waste minimization should be the key alternative to simple landfill management (see Figure 4.1). The Waste Management Hierarchy approach has the goal to reduce waste that ends up in the landfill. According to Ferrara et al. (2008:7) waste minimization comprises:

> *"Any activity that has the target to minimize waste generation and pollution at source and to promote a hierarchy of waste management practices, namely reduction of waste at source, re-use, recycling and safe disposal".*

Figure 4.1: *The Waste Management Hierarchy*
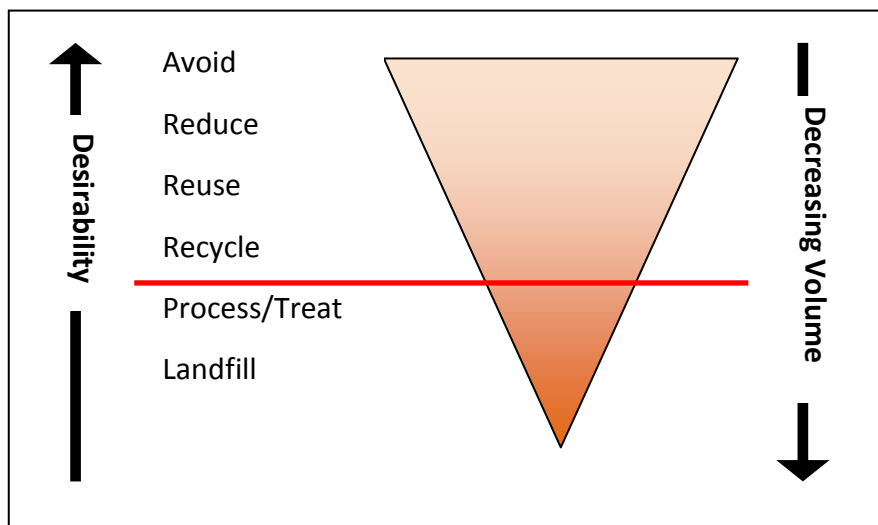
Source: (own illustration adapted from Ferrara et al. 2008:8).

Options for waste minimization that can help conserve landfill capacity and lead to a more effective SWM include:

- ✓ *Avoidance:* refers to actions taken before waste is generated. For example, at a local level, individuals can use their own reusable cloth bags for shopping.
- ✓ *Reduction:* refers to actions to decrease the amount of waste generated. Imposing a tax on plastic bags, for example, provides incentives to reduce the production and consumption of plastic bags.
- ✓ *Re-use:* is the act of using a material again either for its original purpose or for a similar purpose without significantly altering its physical form. Reuse consumes less energy and resources than recycling.
- ✓ *Recycling/Composting:* means the separation, collection and use of waste materials that are fed back into the market. Recycling is the processing of waste materials that can be broken down and manufactured into new products. Composting refers to the biological decomposition of organic waste that allows it to be returned back to its original state (Ferrara et al. 2008:8).

However, in most developing countries, the typical approach to SWM has been the inverted triangle of the Waste Management Hierarchy, where the majority of waste ends up in landfills, as most formal urban waste systems focus on end-of-the-pipe solutions and rarely invest in recycling. Furthermore most of the official recycling programs are not inclusive but rather exclude the informal recyclers that are already doing this job (Gutberlet 2008b:227).

4.2.4 End-of-the-pipe strategy - landfilling

Looking at the Waste Management Hierarchy landfills are the terminal stop for waste if it cannot be avoided, minimized, re-used or recycled. They have a limited life-span and do not reduce waste; they only contain it. Landfills create a number of environmental problems and costs. Besides using massive space, they release carbon dioxide and methane gas, which contribute to the greenhouse effect. If garbage dumps are uncontrolled they emit gas and toxic leaching which leads to contaminated drinking water sources. Due to their odour emissions and hazardousness people do not want to have a landfill site in their proximity, as a consequence the sites have to be located very far outside the city in less populated regions and therefore the garbage has to be transported over large distances. Landfilling is a tremendous waste of resources, because valuable materials are not reintroduced into the production cycle. It does not contribute to the creation of employment because it is not a labour-intensive process. With increased waste generation it is imperative to track alternative practices to land-filling like recycling, that are able to 'close life cycles' or return waste to a more useful form (Ferrara et al. 2008:7; Gutberlet 2008a:27).

4.2.5 Benefits of recycling

Even though recycling is not the absolute solution to increasing amounts of waste because it does not minimize the waste produced, it has a number of social, environmental and economic benefits no matter if it is conducted as a formal or an informal activity. According to van de Klundert & Lardinois (1995:14pp) recycling has:

Potential benefits to the waste management system:

✔ Successful recovering of materials that would otherwise end up in the waste stream.

✔ Reduction of the amount of waste materials requiring collection and transport, therefore reducing costs.

✔ Extension of the lifetimes of sanitary landfills or composting facilities.

Social and environmental benefits:

- ✔ Providing employment for a number of people who might otherwise not be able to survive.

- ✔ Conservation of resources when materials are recovered.

- ✔ Reduction in environmental damage from exploiting primary resources, including mining and deforestation.

- ✔ Reduced waster usage in primary production.

Potential benefits to the local economy:

- ✔ Supply of raw materials to the local manufacturers.

- ✔ Providing of income-generating activity for a large number of people, which would otherwise rely on support from the municipalities.

Recycling also helps to address one of the major global issues of our times, global climate change. Recycling helps diminishing greenhouse gas emissions by diverting waste from landfill sites. It is believed that landfill gasses supply 50 per cent of human-caused methane emissions and 2-4 per cent of all worldwide greenhouse gasses (Zerbock 2003:8pp). But not less important recycling contributes to the generation and redistribution of income and hence can tackle poverty reduction. Recycling conducted by informal waste pickers saves the money of municipalities in various ways. It contributes to the reduction of the volumes of waste that need to be collected, transported and disposed of, therefore municipalities can save fuel, equipment, labour costs and extend the life spans of sanitary landfill sites (Medina 2008:3; Schübeler 1996:41; Gutberlet 2008b:223).

4.2.6 The economy of recycling

Resource recovery and recycling of urban solid waste apart from the environmental and social benefits largely depends on economic considerations. The attractiveness of resource recovery and recycling as a method of handling waste depends on how the costs and benefits of the available resource recovery and recycling methods compare with the costs of conventional methods of waste collection and disposal that would otherwise be used. From the position of responsible authorities, recycling should be of interest if the revenue obtained from the sale of recovered materials exceeds the costs of collection, sorting and separating. From the buyers' point of view, reclaimed material becomes profitable if it ends up cheaper than producing or buying virgin material (Lohani 1991:65). But regarding the attractiveness of resource recovery and recycling, the society as a whole should be considered. Issues concerning the assessment of costs and benefits of resource recovery are according to Lohani (1991:66):

- ✓ The potential value to the society of the unrecovered waste material,
- ✓ The value of the recovered materials in terms of saving imports and scarce raw materials,
- ✓ The impact on pollution of the natural environment,
- ✓ The effect on public health and safety.

The debates over cost recovery and revenue generation from waste management must therefore consider and recognize the important environmental, economic and social contributions that informal recyclers make. Although large and wide-ranging waste enterprises may be able to reduce costs with economies of scale, co-operative schemes and community based recycling enterprises provide the chance for environmental education and in terms of technology investment and maintenance costs they are cheaper than large-scale operations even considering economies of scale (Gutberlet 2008a:7).

4.3 The Recycling value chain in South Africa

One part of Solid Waste management is about services and the other is about commodities. Recovery means claiming resources from the waste stream, upgrading them and selling them. Recycling is a (formal and informal) private sector industrial activity which is globally organized. Prices and standards are set on the global level and applied by local private businesses in the recycling supply chain (Scheinberg 2008:13). Once a product has been manufactured, there are several points at which recycling can occur:

4.3.1 Recycling at the stage of manufacturing

In the first instance, recycling occurs at the manufacture stage, where defective products or waste materials are returned to the manufacture cycle as feedstock. Alternatively waste can be passed on to collectors and re-processors for conversion to a raw material state for use in production of the same or other products (dti 2009:6).

4.3.2 Post production recycling

The second stage where recycling occurs is post production. Here materials and products that are not of the correct standard are discarded. These materials are sent to recyclers for processing, where they will be returned to their original state used in the production of the products. Materials recycled at this stage are high quality as they have not been contaminated during the consumption stage (dti 2009:6pp).

4.3.3 Post consumption recycling

At this stage the greatest diversity of role players occurs (see Figure 4.2, p.34), those are:

Figure 4.2: *The Post Consumption Recycling Chain*
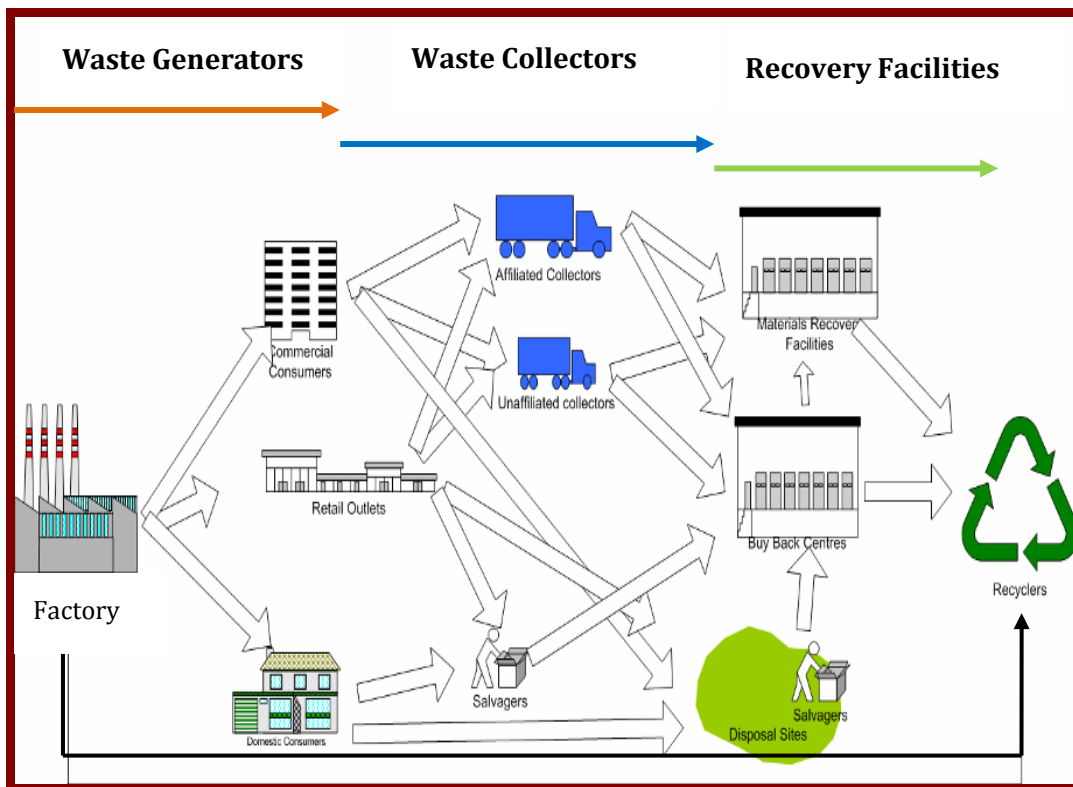
The bulk of recyclable items occur at the stage of the waste generators. They include discarded packaging materials, consumer goods and defective products. Waste generators can be classified into four categories: The retail sector (shopping malls, warehouses, and outlets), the commercial sector (large offices and small home offices), the industrial sector and the domestic generators (consumers). The collection of those recyclables involves several classes of role players, and each class of generators can be serviced by those different, and often several, groups of collectors: Private Collectors, Independent Small Collectors and waste reclaimers (dti 2009:7pp).

Recovery facilities are characterised by the fact that operators of these facilities are able to invest in stock, and can purchase small quantities of materials which are held on the premises until a viable consignment is available in terms of labour and transport costs. In South Africa there are two different types of recovery facilities (dti 2009:8pp):

Buyback centres

- ✔ Form the largest network for recovered materials.

- ✔ Sizes of facilities range from small local "Scrap Dealers" to large national operations.

- ✔ They are distributed in the areas where generation of recyclable materials is sufficient enough to make the establishment of a buy-back facility viable.

- ✔ Smaller centres usually purchase materials from reclaimers and small collectors.

- ✔ Larger buy-back operators occupy facilities that are substantial in size.

Materials recovery facilities (MRF):

- ✔ MRFs are large industrial type facilities recovering and sorting waste from the general waste stream.

- ✔ They are capital intensive and range from highly mechanised to highly labour intensive.

- ✔ MRFs can be classified as either 'clean' or 'dirty' facilities. Both facilities use the same technology for sorting materials into different fractions and recovering it for recycling.

- ✔ Clean facilities accept dry materials only, after the general waste has been sorted into wet and dry components. The wet component is landfilled and not being sent to the MRF.

- ✔ Dirty MRFs accept unsorted waste and separate it into recyclables and waste for disposal.

Regarding the recycling value chain landfill sites are also possible facilities for the recovery of recyclables. Reclaiming on landfill sites is widespread in South Africa due to large quantities of recyclable materials in the waste arriving at landfill sites. Because of the informal character of this practice it leads, according to the dti (2009:10), to "unacceptable health and safety risks for the reclaimers, as well as to operating problems for landfill managers". The term recycler refers to the final processor/manufacturer using materials that have been recovered to produce new products. Here the recovered product is broken down into the original material components, such as metal, plastic, glass or paper (dti 2009:7).

4.3.4   Recycling initiatives and waste separation systems in South Africa

According to a study about recycling of the Department of Trade and Industry of South Africa (dti 2009:9) recycling of waste is not viewed as an essential part of waste management in South Africa at the present. Fragmented and un-coordinated initiatives exist but no standard mechanism is in place for implementing, enforcing and funding of recycling (see Chapter 7). The majorities of existing recycling initiatives in South Africa have been developed on an ad hoc basis and have been funded by the private sector with minor financial inputs from local authorities. There are no formalised systems for

separation of waste in South Africa, although isolated systems have been initiated by municipalities (e.g. Cape Town 'Think Twice' project) and private initiatives. The poor co-ordination of collection for recycling and the lack of data on the amount of waste suitable for recycling have impeded the recycling process so far (dti 2009:10).

4.3.4.1 Relations between the formal and the informal recycling sector

In most situations, few clear boundaries can be drawn between the formal and informal sector, both are involved in the collecting and recycling of waste materials. Relatively strong commercial connections exist between the entrepreneurs in the chain (varying from waste-pickers, intermediate traders to manufacturers of recycled end-products) regardless of their status as formal or informal; the two sectors tend to operate in, what van de Klundert & Lardinois (1995:9) called a 'symbiotic relationship', with the informal enterprise acting as supplier or sub-contractor to a formal waste business or manufacturer. When informal waste collectors or recyclers are organised they can receive exclusive rights to recover resources from municipal refuse. That blurs the boundaries between the municipal government and the informal private waste sector (van de Klundert & Lardinois 1995:9).

4.4 The informal waste recycling economy

Like the recycling value chain shows (see Figure 4.2, p.34) there are numbers of formal and informal entrepreneurs that link to waste management and that are more or less actively involved in collection and recycling activities. The informal waste picking economy consists of:

- Street reclaimers,
- Itinerant scavengers who pick through garbage bins and roadside dumps.
- Landfill reclaimers.

In most cases informal sector recyclers constitute the base of the recycling system and the chain, they work at the lowest level with little power and reputation (Rogerson 2001:249pp). As this study focuses on informal waste recycling activities, there will be now a closer look at informal waste recyclers and Non-governmental Organisations (NGOs) that often work with them. A detailed description of all the stakeholders involved in municipal Solid Waste Management and their linkages was presented in Chapter 2.5.

4.4.1 Non-governmental organisations (NGOs)

The term Non-governmental Organisation can refer to such diverse organisations as churches, universities, labour organisations or environmental organisations. They operate between private and governmental realms and they can act as intermediaries between

grassroots initiatives and municipal governments. NGOs can help to increase the capacity of people or community groups to play an active role in local solid waste management. They may also provide important support to informal sector waste workers and enterprises, assisting them to organise themselves, to improve their working conditions and facilities, increase their earnings and to extend their access to essential social services such as health care and schooling for children. As partners, they can sometimes confer a degree of credibility and perspective on the informal sector in the eyes of the municipality. More sustainable livelihoods and stronger asset bases for poorer groups like informal waste pickers are obvious needs for poverty reduction. Local organizations are important for informal waste pickers in regard to services and access to credit, and for the protection of civil and political rights (Bolnick et al. 2006:5; Schübeler 1996:21; van de Klundert & Lardinois 1995:12). GroundWork, a NGO working with waste pickers in South Africa is presented in Box 4.1 (p.38).

Box 4.1: *groundWork – Waste Campaign*

Waste Campaign

GroundWork is an environmental justice and developmental NGO and is the South African member of 'Friends of the Earth International', the world's largest grassroots environmental network. GroundWork works on air pollution, waste and environmental health issues primarily in South Africa but increasingly in Southern Africa. It seeks to improve the quality of life of vulnerable people in South Africa, through assisting civil society to have greater impact on environmental governance.

In 2008 groundWork began to work with waste pickers after realizing that they face many struggles, that they are negatively affected by poor waste management practices and that they are entrepreneurs which make important contributions to the environment and the municipalities. Therefore groundWork wants to find mechanisms to strengthen the struggle of waste pickers. GroundWork was concerned that the new waste management legislation being drafted (National Environmental Management: Waste Act 2008 (NEMWA), see Box 4.2, (p.44) did not recognize the role of waste pickers in municipal management and therefore threatening to undermine their livelihoods. It lobbied the government extensively for the rights of waste pickers and to recognize people who earn a livelihood from collecting waste of landfill sites throughout South Africa. groundWork has also been involved in facilitating the formalization of a National Waste Pickers Association to ensure that waste pickers are not marginalized from involvement in municipal waste management systems and, in particular, to secure their rights of access to landfill sites.

GroundWork waste campaign coordinator Musa Chamane spent eight months travelling to landfill sites all over South Africa, facilitating workshops to introduce groundWork to the waste pickers, reporting to them on the research done by groundWork and to identify key issues faced by waste pickers. GroundWork wants to support the waste pickers and to connect and link them with each other but the initiatives must be driven by the waste pickers themselves. The role of groundWork is to create opportunities for waste pickers to meet and engage and to provide information and support to waste pickers, helping them organizing themselves that they can voice resistance to local municipal managers who do not want them on landfill sites (Samson 2009b:34pp).

4.4.2 The informal recycling sector in developing countries

As mentioned earlier informal collection, separation and selling of recyclables is a common and widespread survival strategy for the unemployed and excluded population in most cities in developing countries. Waste pickers can be seen at work around the world. It is estimated that in developing countries about 1 per cent of the urban population - at least 15 million people - survive by reclaiming recyclables from waste. In South America they

are called *recuperadores*, *recicladores, catadores* etc., depending on the materials they collect and the place they work, in Cairo they are known as *zabaleen* and in South Africa they are called *waste pickers*, *salvagers*, *trolley people* or *reclaimers*. Sometimes they are also called *scavengers* but the waste pickers do not want to be called like that. This term expresses a disregard from other people towards the waste pickers, it associates them with waste and dirt (Chamane 2009:22pp; Gutberlet 2008b:224). The factors that 'push' people into waste picking are fundamentally economic, informal waste workers are often driven to work as waste collectors by poverty and the absence of more attractive employment possibilities. In South Africa reclaiming has become an increasingly important livelihood strategy for those excluded from the realm of wage labour (Samson 2008:5; Rogerson 2001:254; Medina 2008:1).

There are many ways in which recyclables are separated from garbage. Waste pickers recover materials out of the garbage from businesses or households, of the streets, out of central storage containers, from transfer stations and landfill sites. They sell the materials to middlemen or directly to the industry or they keep some of them for their own consumption. The general rule is: the further upstream the picking takes place, the better (Rogerson 2001:250; Gutberlet 2008a:6; Medina 2005:8). The activity often involves individuals who work independently, organised groups including co-operatives and sometimes entire families who live on garbage dumps or reclaim materials in the streets. Different modes of transportation and various organizational structures are used, and demonstrate the creativity and resourcefulness of the people involved (Gutberlet 2008a:33).

4.4.3 Waste picking at landfill sites

Waste picking at landfill sites occurs all over the world. The sites are workplace of thousands of men, women and even children who sort the waste in search of valuable materials. The waste pickers usually specialise in one or two types of materials and they are very good at recognising such materials at the waste mound. Sometimes they directly sell the recovered materials at the landfill sites, as seen in Stellenbosch where waste buyers come on the site to buy the materials directly from their 'place of origin' (see Figure 4.3,p 40).

Figure 4.3: *Reclaimers selling recyclables at the Stellenbosch landfill site*

Source: (Tischler 24.04.2010)

4.4.4 Street picking

In South Africa there is a long history of people collecting waste off the streets to survive. During the apartheid era, waste dump sites were often located close to townships and rural villages. The waste was mainly collected from white areas and dumped in black townships where it posed a great danger to the health of communities living nearby. But the unemployed and the poor scrounged around the dump sides for scraps of food to consume and bottles to sell (Benson & Vanqa-Mgijima 2010:1). Since various South African governments have begun to adopt neo-liberal policies the scale of private reclaiming has increased according to Benson & Vanqa-Mgijima (2010:2) for at least three reasons:

- ✓ Local authorities have largely abandoned waste services as part of the cut backs in the provision of public services, the need to obey tight fiscal restrictions and the worship of private businesses.

- ✓ Large companies want to cheapen input costs by recycling paper, wood and other recyclable materials. Companies have also responded to legislation requiring them to use higher percentages of recyclable material.

- ✓ The sheer scale of job losses over the period has shunted so many more people out of jobs and onto the street.

4.4.5 Problems and challenges of informal waste picking

✓ *Vulnerability and stigmatization*

Because waste pickers work in the 'second economy' as the informal economy is called in South Africa, and they mostly belong to socio-cultural minority groups like recent migrants, unemployed, disabled, women, children and the elderly, they are often socially and economically excluded and powerless in local policy and decision-making. Despite their resourcefulness they usually present one of the most widely excluded, disempowered and vulnerable parts of the society. They face multiple hazards and problems due to their daily contact with 'waste'. Because society mostly associates negative thoughts with waste, people working with it on a daily basis are therefore associated with dirt and diseases. Often they are perceived as a nuisance, as criminals and as a symbol of backwardness, but in fact they are just ordinary people who treat waste as a resource (Medina 2005:8; Anschütz 1996:11; Gutberlet 2008b:224).

✓ *Occupational Health Risks*

Though municipal waste is counted as non-hazardous it is littered with batteries, light bulbs and other goods containing heavy metals as well as a variety of toxic chemicals as there are in paints, cleaners and garden pesticides. Therefore, informal and organized recyclers are exposed to severe physical, chemical and biological hazards. The working conditions of landfill sites and streets often imply high risks of accidents, additionally to socio-economic exclusion and stigmatization, which also affects the health of the recyclers. Occupational safety of waste pickers especially at landfill sites is very poor because picking commences already during the unloading of the trucks. Often there are machines to compact and spread the waste and waste pickers search in close proximity to those operating machines (see Figure 4.4, p.42). Working at a landfill site presents a constant potential for injuries. Sometimes people get run down and killed by those machines. Another point is that waste pickers rarely use any protective clothing such as masks or gloves when working through the waste. Therefore they often get cut by sharp needles and broken glass or they get bitten by rats and dogs. Summing up, waste pickers are exposed to numerous hazards when working at a landfill site and with waste in general (Gutberlet 2008a:13pp; Hallowes & Munnik 2008:12; Medina 2005:9; Rodic-Wiersma et al. 2008:4). In many countries in the world as well as in South Africa, reclaiming materials at landfill sites is often restricted or banned due to health and safety related reasons. It is understandable that landfill managers and local authorities do not want people to get hurt but bans only drive these activities underground. Waste pickers adapt by reclaiming materials at odd hours or bribing the police. The result is usually lower incomes and even

more difficult working conditions for them. Innovative resolutions have to be found and best alternative practices for reclaimers working at landfill sites have to be examined.

Figure 4.4: *People reclaiming materials in close proximity to trucks and working machines*

Source: (Tischler 24.04.2010).

✓ *Economic Aspects*

Because industry demands large volumes of recyclable material it does not buy directly from individual waste pickers. Instead, middlemen (e.g. the buyback centres) purchase recyclables recovered by waste pickers and then sell the materials - after some sorting, cleaning, and processing - to waste dealers, who in turn sell to the recycling industry. The industry encourages and supports the existence of middlemen and waste dealers as a link between them and the waste pickers in order to assure an adequate volume and quality of the materials. In these circumstances waste pickers must sell their materials to a middleman. So middlemen often earn large profits because they pay waste pickers just a fractional amount of the prices they get paid from the industries. That explains the low incomes of most waste pickers and their poor livings. There is a huge potential for exploitation by the middlemen especially in monopsonistic[6] markets. Another problem is that waste pickers in the informal sector are very vulnerable to fluctuations of market prices for the recyclables because recovery and recycling of waste materials are dependent on the market demand for the recovered materials (Medina 2008:1; Medina 2005:9; Rodic-Wiersma et al. 2008:3).

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[6] Markets where there is only one buyer, as opposed to a monopoly where there is only one seller (Medina 2005:9).

✓ *Public policies and attitudes*

Public policies and attitudes towards waste picking are negative. Most authorities consider waste picking as a problem and a source of embarrassment which has to be eliminated. The informal waste economy is governed by the attitudes of municipal authorities, which can range, like Medina (2005:16pp) noticed, from open repression and police harassment via the neglect of waste pickers existence to collusion where the pickers are officially accepted but only in return for bribes or support of political parties. Although waste pickers play a significant role in resource recovery, policy makers have generally adopted prohibitive rather than accommodative actions towards their activities (Medina 2005:16pp; Medina 2008:1; Rogerson 2001:250pp). The conditions of waste pickers in South Africa are very precarious because as we have seen they are often banned from municipal landfill sites due to health and safety reasons. Instead of making the workplace safer municipalities spend millions on hiring security companies to keep the pickers off the sites. During 48 visits of groundWork (see Box 4.1, p.38) to landfill sites all over the country they have to observed that waste pickers are discriminated against and they are often discarded by the system (Chamane 2009:23).

4.4.6 The problem - Unorganised waste picking

Unorganized waste picking can have an adverse impact on neighbourhoods and cities and the pickers themselves. For example, the pickers often scatter the contents of garbage bags or bins but they do not always put the leftovers back and therefore increasing the municipality's costs for waste collection (Medina 2008:1). The majority of informal waste pickers and recyclers is poorly organized and they often work in highly exploitative arrangements in relation to both middlemen and recycling companies (Rogerson 2001:254). Working as individuals they have no power to face exploitative middlemen and discriminatory municipal officials on an equal level. Mostly they are not aware about the positive environmental and economic impacts of their work and of their rights. Even if they are aware, they lack the power to express their needs and to fight for them. As displayed, unorganized waste pickers face many problems and challenges due to their low status in society. Although the waste economy is a significant area for informal entrepreneurship, the majority of activities are unsupported and exist at bare survival levels. The role of waste recovery as an element for livelihood creation demands the attention of local governments and NGOs in developing world cities (Rogerson 2001:256).

4.5 Supporting waste pickers - Organizing for empowerment

Waste pickers have mainly organized themselves in Microenterprises, Cooperatives and Public-Private-Partnerships (PPP). Those different models can lead to more efficient recycling and more effective poverty reduction (Medina 2008:3pp).

Microenterprises:

✓ They serve neighbourhoods that lack municipal waste collection services while providing income opportunities for entrepreneurial individuals. They usually recover recyclables in the waste before disposal.

Cooperatives:

✓ They are most numerous in Latin America. Brazil alone has about 500 waste picker cooperatives, with about 60,000 members.

Public-private-partnerships:

✓ They can benefit waste picker groups and the broader society. They are a form of co-governance[7]. PPPs suit governing situations where public-private parties co-operate in governing interplays to reach a win-win outcome, by exploiting mutually available resources (Kooiman 2003:103).

Governments can support this process of formalization by legalizing waste-picking activities, preferably on a national level, which is usually a first significant step towards improving the lot of waste pickers (see Box 4.2). This could be followed by a sequence of measures. A careful analysis of waste pickers' activities would provide reliable estimates of the number of people involved and their economic impact (Medina 2008:2).

Box 4.2: *The National Environmental Management: Waste Act 2008*

National Environmental Management: Waste Act 2008 (NEMWA)

The NEMWA came into effect in 2009. It forms an overarching Waste Management Act governing all spheres of waste management. Before it was promulgated it did not recognize the role of waste pickers in municipal waste management. Therefore groundWork and various community groups started working to ensure that waste pickers were not excluded from the new legislation. After successful lobbying the Waste Act was improved and it is the first time that informal recyclers in South Africa are officially recognized in law. The Act does not, however, stipulate when salvaging should be permitted or how this should be done. Now it is about to ensure that regulations are developed requiring municipalities to engage with reclaimers and to respect their rights (Samson 2009a:2). The Act (RSA 2009:61pp) stipulates in section 51(1):

"A waste management license must specify—

(i) if applicable, the conditions in terms of which salvaging of waste may be undertaken"

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[7] Co-governance means utilising organised forms of interactions for governing purposes (Kooiman 2003:97).

Reclaimers in South Africa are rendered virtually invisible in the sphere of legislation, key waste management documents that do refer to them make it clear that it is government's intention to actually eliminate reclaimers in the long term (Samson 2009a:2). The official silence at the level of national policy and legislation creates the space for local councils to disregard and marginalize reclaimers and treat them with contempt in local processes to formalize recycling (Samson 2008:18).

4.5.1 National movements - Waste pickers organizing around the world

Due to an explosive growth in the number of cooperatives in recent years, waste pickers have formed national movements in different countries. National associations of waste picker groups exist e.g. in Argentina, Brazil, Colombia, India and since the year 2009 also in South Africa (see Box 4.3) (Medina 2008:3). They have mobilised to demand recognition and formal integration into municipal waste management systems (Samson 2009b:50).

Box 4.3: *South Africa's first National Waste Picker Meeting*

South Africa's first National Waste Picker Meeting

On July the 2nd and 3rd in 2009 more than 100 waste pickers from across the country gathered for South Africa's First National Waste Picker meeting in Johannesburg. They came from 26 landfill sites of seven provinces and a small number of waste pickers working in the streets attended the meeting. Two provinces were not represented. That was the first time in South Africa that waste pickers were met to decide for their future. The meeting was organised by groundWork. The waste pickers reported that they had come in order to create stronger links with other waste pickers and to learn new strategies about how to forward their struggles and to share ideas and experiences. They hoped that they would be able to address the discrimination they face and to force the government for recognition when they work collectively. They identified key challenges for them including privatization of landfill sites, or health issues and they developed strategies to ensure the exploitative practices of middlemen. The workshop delegates identified collective organization as the key to achieve all the objects and the challenges they are faced with. They noted that:

> *"It is only where waste pickers are united that we see them advancing and the municipality will not listen to an individual, but it will listen to a collective."*

At the end of the meeting the delegates elected a national working group with one representative from each province to take the planned agenda forward and they finalised a Final Declaration from the First National Meeting, where they recognize that they have rights to earn a livelihood from that work and they identified their main challenges and their commitments for the future (see Annex 1, Appendix I). But there is also a need to explore how to overcome exclusions and divisions based on race, nationality and gender among the waste pickers. The aim is to ensure that all pickers can participate and have a voice in the merging national processes (Samson 2009b:34pp).

4.5.2 Enhancing the effectiveness of informal recycling activities

Supporting the formation of waste picker cooperatives can result in grassroots development, poverty alleviation and environmental protection. First of all, policies must recognize the various economic, social and environmental benefits of waste picking and recycling because repressive policies like banning waste pickers from landfill sites often have negative and destructive impacts on the working and living conditions of waste pickers. According to Medina (2005:17) supportive policies range from legislation of waste picking activities, encouraging the formation of waste picker cooperatives, awarding of contracts for the collection of recyclables, to the formation of PPPs between local authorities and waste pickers (Medina 2005:18). By getting organized and working together, waste pickers can actively work against the earlier mentioned problems and challenges they face when working as individuals. In compliance with Medina (2008:1) by getting organized informal waste pickers can:

- ✓ Strengthen their bargaining position with industry and government,
- ✓ become actors in the development process,
- ✓ overcome poverty through grassroots development,
- ✓ gain stability, higher incomes, and legalization of their activities,
- ✓ obtain better prices by circumventing middlemen and,
- ✓ enter into contracts with industries or municipalities.

The effectiveness of informal waste recovery may be further enhanced through active support aimed at improving the organisational capacity of informal workers, improving equipment and facilities for the collection and sorting of materials, and co-ordinating municipal waste collection and disposal operations with informal recovery (Schübeler 1996:47).

Getting organized also means a change in power relations between waste pickers and government, middlemen, industry, and broader society, which will lead to significant improvements (Medina 2008:2). Despite the fact that organising not just benefits the pickers themselves but also the local municipalities, very few cities in the world have incorporated recycling cooperatives and associations in waste management and only few policies have been developed to support this approach (Gutberlet 2008b:223). The organization of the informal sector is a key factor for success and integration into the municipal waste management system.

4.5.3 Cooperatives in recycling

Recycling co-operatives and associations are widespread, mainly in Latin American countries, and there they are often more efficient in resource recovery than the official waste management programs. In Brazil waste picking is now recognized as an occupation

and organized waste pickers are seen as legitimate stakeholders who can voice their opinions at the local, state, and national levels (Medina 2008:2; Gutberlet 2008b:228). Co-operative recycling practices can be part of a strategy to reduce urban poverty. The various experiences from Brazil and other countries demonstrate that individuals become empowered by being part of organized and structured recycling groups, as opposed to working as informal autonomous recyclers without a supporting network. Also cooperatives can develop strategies to further add value to their recovered material, through artwork or the creation of new products (Gutberlet 2008a:8). As an initial step, informal workers require organisational and technical support to promote their activities and to alleviate the unacceptable socio-economic conditions in which they live and work (Schübeler 1996:24).

4.5.4 Benefits of organizing

With a paradigm shift from treating waste carelessly towards viewing it as a resource, recyclers can be recognized as environmental service providers, instead of being a nuisance and being treated with aversion. There are many benefits it there is organisation and formalisation of informal waste recyclers. One of the main benefits is the possibility for them of entering into agreements or contracts with local municipalities or the private sector. Recovering materials as a co-operative raises the productivity and the income of waste pickers. A benefit for the municipalities is that the cooperatives can provide their services at no-cost as they already do when they work as unorganised individuals in the informal sector (Medina 2008:2; Gutberlet 2010:172). But there are also less tangible benefits: working as part of a cooperative and wearing a uniform can boost waste pickers' self-esteem (Medina 2008:2). Medina (2008:3) presented some impressive examples how the support of organisation amongst informal waste pickers not only benefits them but also can generate significant economic benefits for the society as a whole. For example the economic impact of the 40.000 operating waste pickers in Buenos Aires is estimated at $178 million (ca. 149 mil. €) year.

4.6 Formal Integration of the informal recycling sector into MSWM

As we have seen there are economic opportunities in waste management and unemployment is one of the major problems today. Solutions focusing only on technology and economic efficiency are not enough to tackle the complex social questions. Waste legislation can target social inclusion as well as resource conservation and economic viability (Gutberlet 2008a:4).

Cross-sectoral partnerships involving the informal sector will generally result in achieving some degree of formal status and recognition, and some degree of institutionalisation of their function (van de Klundert & Lardinois 1995:32). Incorporating existing informal

recycling activities along the operations of formal MSWM can, in many cases, be socially desirable, economically viable and environmentally sound because it increases recycling activities and outcomes. To do so, however, decision makers need to engage with the informal waste recyclers as potential partners (Medina 2008:4; Rodic-Wiersma et al. 2008:4). At that point it is essential that the contribution of informal workers to MSWM is officially recognised (Schübeler 1996:33). But according to Zerbock (2003:12) municipalities should not only recognize the informal trade in recyclables, they should embrace it. By allowing small enterprises to address the problem, jobs are created, valuable funds as well as landfill space is saved. Local governments could support and legitimize these entrepreneurs through micro-loans or some small-scale assistance. By building on the strengths of the existing formal and informal collection, materials recovery and recycling activities, a joint effort could constitute a significant step up the hierarchy of waste management options, diverting waste away from disposal and developing in the direction of more recycling. Encouraging waste separation at source would provide an opportunity to the informal sector and if citizens are well informed and the activities of the waste pickers are convenient, citizens are willing to segregate waste at source (Rodic-Wiersma et al. 2008:4pp).

In this study, integration refers to the recognition of the informal recycling sector by the formal sector. It should be seen as enrichment for MSWM. Reclaimers should be viewed as legitimate stakeholders and as possible partners for alliances in recycling programs. Municipalities should avoid any practices which adversely affect the activities of the informal recycling sector. The goal in considering integration is primarily the improvement of the Solid Waste Management, which may address social development goals such as to increase the income of waste pickers. This informal integration can relate to PPPs between the reclaimers and the municipalities which represent important local-level initiatives addressing urban poverty. Integration means that the informal activities can find an appropriate place in future projects, plans and policies on solid waste management in South Africa and Cape Town.

Résumé

As stated there is currently no legislation in South Africa making recycling a legal requirement. The various acts and strategies dealing with waste have adopted the waste management hierarchy with the main focus on waste minimization and recycling. But in reality many municipalities are faced by insufficient services and are still busy with implementing collection services and providing access to services like solid waste removal for all people. Therefore they often lack formal recycling programs.

Due to high unemployment rates and the lack of recycling programs, many people in South Africa make a living by reclaiming waste from landfill sites or streets. They face many

challenges including exploitative middlemen, hazardous waste on landfill sites and the privatization of landfill sites and recycling services. The process of privatization excludes informal reclaimers from the access to waste therefore compromises their livelihoods. It is government policy to discourage salvaging of waste directly from the operational area of a landfill site due to safety and health reasons. Waste pickers are in many cases just banned from the landfills without thinking about the outcomes regarding their livelihoods. Many examples in countries all over the world show that waste pickers are making important social, economic and environmental contributions to municipalities and the society. When modernizing waste management systems they should be regarded as legitimate stakeholders and professionals already operating in the solid waste management system and not as a nuisance and a problem.

In contrast to countries like Brazil or Colombia, the process of recognizing waste pickers and their valuable contributions to the environment and the society on a national as well on local levels in South Africa is just in the beginning. A first and important step has been made by recognizing them in the recently promulgated NEMWA. And the waste pickers are beginning to take actions by themselves by getting organized collectively around the country. They start to fight for their rights and to develop possibilities to overcome the various challenges they face. The Polokwane Declaration[8] that emerged out of the first National Waste Summit in 2001 commits government, business and communities to reduce waste generation and disposal by 50 per cent and 25 per cent respectively by 2012 and to achieve zero waste by 2022. By setting these ambitious goals, South Africa has made a huge commitment to waste minimization. In order to fulfil these goals, national and local governments have to think about new integrative alternatives of waste management and about the role of informal waste pickers as legitimate stakeholders in municipal waste management systems. It needs good governance on all levels to get the waste problem under control and to support the livelihood strategies of these informal entrepreneurs in waste recycling.

The next chapter deals with the study area of Cape Town. Thereby, I will have a closer look at the physical geographical features, the socio-economic as well as demographic aspects, which shape the city and influence its population. I will also examine some historical aspects of the city because developments in the past also play an important role for the current structure and socio-economic situation of Cape Town.

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[8] Polokwane Declaration, http://www.environment.gov.za/ProjProg/WasteMgmt/Polokwane_declare.htm, accessed on 24.05.2010.

5 City of Cape Town – The study area

5.1 Physical Geography

Cape Town was founded in 1652 by Jan van Riebeeck for the Dutch East India Company as a temporary refreshment station for ships trading with the Far East. It was the initial point of the white settlement and for the foundation of many towns in South Africa. Today Cape Town is South Africa's third-largest city, the provincial capital of the Western Cape and domicile of the South African parliament. Cape Town is known for its spectacular and beautiful natural setting. Its famous Table Mountain, a quartzitic sandstone and shale mass rising 1080 m above sea level, forms the head of a mountain chain which run southwards more than 50 km along the spine of the Peninsula to Cape Point. Between this chain and mountains some 45 km to the east lie the Cape Flats, a low plain of deep marine sand deposits with remnant dune fields underlain by an extensive aquifer and crossed by a few small rivers which flow northwards into Table Bay or southwards into False Bay. This world famous mountain scenery and the exposed high energy coastline and many more places of interests make Cape Town to one of the most popular travel destinations for tourists among the World as well as for South Africans. Tourism is the most important growth sector in Cape Town (Quick & Pistorius 1994:47; Wiese 1999:227; Wilkinson 2000:198).

5.1.1 Climate

Cape Town has generally a temperate Mediterranean- type climate with warm dry summers and cool wet winters, where approximately 80 per cent of rainfalls occur in winter between May and September. The rainfalls are concentrated in the mountain areas, where up to 3000 mm per annum may fall (Quick & Pistorius 1994:47; Wiese 1999:40). The total annual precipitation of Cape Town is about 500-600 mm, but 65 per cent of South Africa receives less than 500 mm annual precipitation. Therefore great parts of the country belong to the subtropical arid environments of the earth and most of South Africa is very dry. The United Nations (UN) classified South Africa as a 'water-scarce' country (Wiese 1999:56). Because of the high evaporation only 9 per cent of the rainfall are going into surface run off, world's average is 31 per cent, therefore water is a critical resource in South Africa and Cape Town (Wiese 1999:53). In the last years the demand for water increased extremely in city regions and economic core areas like Cape Town. Particularly during the long, hot and dry summers the City tends to experience periods of severe water shortages (Wiese 1999:58; City of Cape Town 2008a:43). Due to water restrictions and water demand management strategies the amounts of water used in Cape Town have decreased and the City of Cape Town (CCT) valuates the current situation of water usage as improving (City of Cape Town 2008a:43pp). The Portuguese gave the Peninsula the

name 'the Cape of Storms' due to the prevailing winds, south easterly in summer and north westerly in winter, which often reach gale force. The Cape Flats[9], on which the majority of the city's poorer residents live, is its least hospitable area, cold and wet in winter and prone to persistent flooding (Wilkinson 2000:198).

Figure 5.1: *Geographical Location of Cape Town*
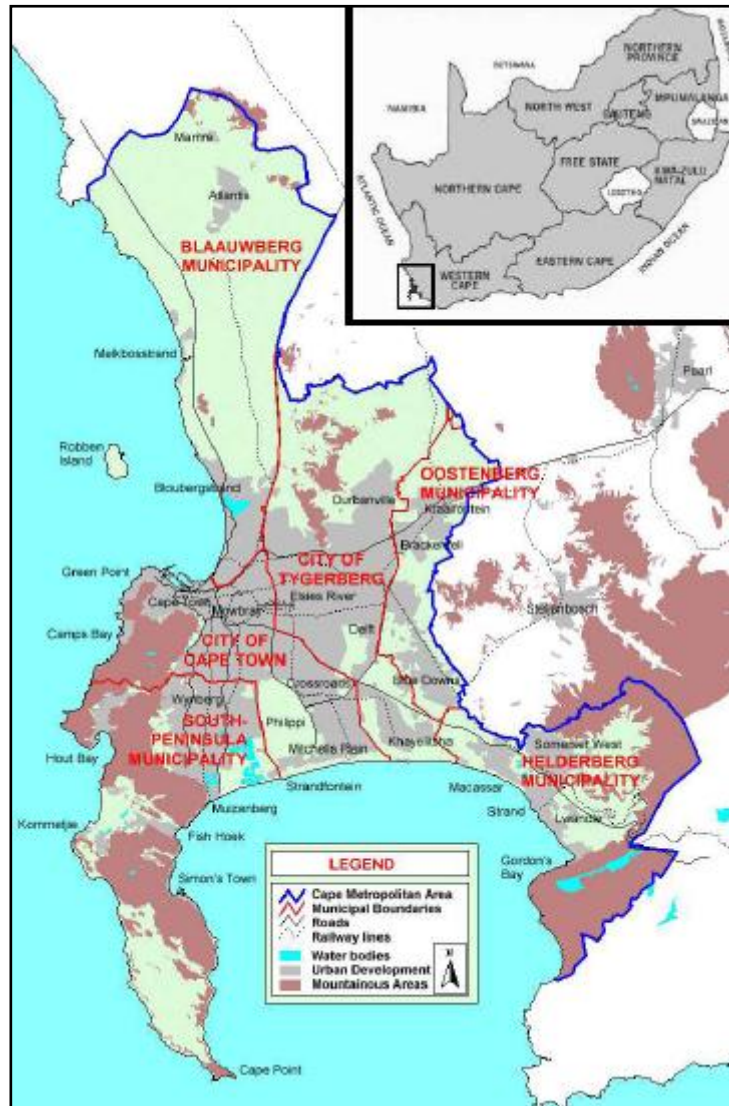
Source: (Cordaid 2008:8).

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[9] The Cape Flats area is situated to the southeast of the central business district of Cape Town. From the 1950s on the area became home to people the apartheid government designated as non-White. Some people describe the area as 'apartheid's dumping ground' (Williams 1996-2010).

5.1.2 Vegetation

Cape Town is located in the Cape Floristic Region, which is an area of high biodiversity and unique conservation value. It has one of the highest proportions of endemic species in the world, with over 70 per cent of its approximately 9600 species found nowhere else in the world. Identified as a 'global biodiversity hot spot', the Cape Floristic Region places and international responsibility on Cape Town to ensure its adequate conservation (City of Cape Town 2008a:15). Of particular note are the flora and fauna associated with the fynbos habitat, which comprise 6 per cent of the South African land area and is unique with regard to its biodiversity (Quick & Pistorius 1994:47; Wiese 1999:48). But the natural fynbos biodiversity is severely threatened by the invasion of large quantities of non-domestic plants, the so-called 'alien species', the ongoing organic pollution of Cape Town's freshwater systems and the destruction of indigenous vegetation by human development, including the construction of houses, commercial and industrial buildings. Nearly 60 per cent of the original extent of Cape Town's natural vegetation has so far been lost; therefore the CCT estimates the situation of the biodiversity as deteriorating (Wiese 1999:53; City of Cape Town 2008a:16pp).

5.2 Socioeconomic and demographic aspects

South Africa is called the rainbow nation, because it shows a unique, heterogeneous combination of population, with four population groups living in the country. This picture comprises all the 'colours' of the population (African, Coloured, White, and Indian/Asian) which stand next to each other with equal rights and form the rainbow (Wiese 1999:83). But in reality the picture does not look that bright and equal because Cape Town and many other cities in South Africa are facing a range of challenges relating to environment, economy, an increasing urbanised population, infrastructure, housing, crime and other issues. Cape Town is a starkly polarised city. Affluent suburbs and prosperous economic centres contrast with overcrowded, impoverished dormitory settlements on the periphery. This partly reflects the topography and environment: stunning mountains and coastal areas next to the wind-swept, flood-prone and sandy plains of the Cape Flats. Wide income inequalities sort people across Cape Town according to their ability to buy into different quality neighbourhoods and lifestyles through the housing market (Turok 2001:2349pp).

5.2.1 Population growth

Today Cape Town's population is estimated at 3.3 million people, which accounts for 66 per cent of the Western Cape's population (UN Habitat 2009:262). During the years 1996 and 2006 the City has grown fairly rapidly with an average growth rate of 3.07 per cent in 1996, decreasing to an average growth rate of 1.61 per cent in 2006. Population growth

projections from 2001 until 2021 indicate that over the next years the growth of the CCT will slow dramatically, with average annual growth rates ranging from 1.7 per cent (2005-2010) to 0.6 per cent (2005-2025) (see Figure 5.2) (Romanovsky 2006:9; Pieterse 2010:12pp). At the end of the projection period in 2025 the population growth rate will have fallen to 0.6 per cent per annum, compared to 2.5 per cent in 2001 (Romanovsky 2006:6). As the rate of population growth declines there will be an ageing of the population. This will result in an increase of those over the age of 65 and the needs of this group will have to be addressed (City of Cape Town 2008b).

Figure 5.2: *Population growth in Cape Town from 1995 – 2025*
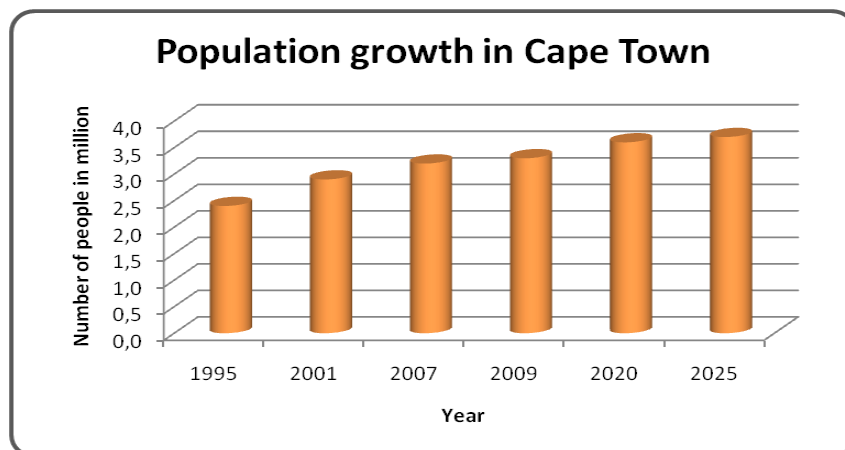
Source: (own illustration according to Wiese 1999:227; Small 2008:3; UN Habitat 2009:262; Pieterse 2010:12pp).

5.2.2 Urban sprawl

Cape Town is a good example of a low-density city. According to the tremendous development boom in Cape Town, the city is developing at an average rate of 1.232 ha per year. Apartheids urban policy and much of the recent growth have contributed to the urban sprawl and the relatively low-density suburban residential development (City of Cape Town 2009b:6). But urban sprawl is problematic for three reasons. First, it is highly resource inefficient as it increases the cost of services, such as electricity, water and waste removal, which must be supplied by increasingly outlying and peripheral areas. Second, it is destructive in terms of biodiversity and third it is a driver of social inequality (e.g. it increases travel costs for those residents who are least able to afford it) (City of Cape Town 2009b:49pp).

5.2.3 Poverty

Cape Town is a city of contrasts, and this is nowhere more evident than in the disparity between the richest and poorest members of society. In the context of rapid urban growth Cape Town is faced with the extremes of poverty and wealth. 40 per cent of the city's

population lives in conditions of poverty. Approximately 16 per cent of households in Cape Town are living in extreme poverty[10] (City of Cape Town 2007:59). Poor areas comprise 60 per cent of Cape Town's population and according to the 2008 State of Cape Town Report (2009b:46) there is a rising trend of poverty in the city. Figure 5.3 shows the increase in the percentage of households living below the poverty line[11] from 1996 until 2005. The unemployment rate in 2007 was 16.9 per cent and it declined 6.3 per cent compared to its peak in 2003 (23.2 per cent). That is a good development but in order to reduce poverty and improve the quality of life for those currently without jobs, it is necessary to further reduce the unemployment rate (City of Cape Town 2008c; Quick & Pistorius 1994:45; Pieterse 2010:19). Despite the dismantling of Apartheid and discriminatory laws South Africa still belongs to the disrupted societies (Wiese 1999:103). South African cities have extremely high levels of income inequality, which are significantly higher than in many Latin American cities. Cape Town's Gini coefficient[12] is 0.67 and therefore higher than the average Gini coefficient for urban areas in sub Saharan Africa (0.46). This means urban inequality in Cape Town is high and the benefits of economic growth have so far been unevenly distributed (UN Habitat 2009:37).

Figure 5.4: *Percentage of households living below the poverty line*
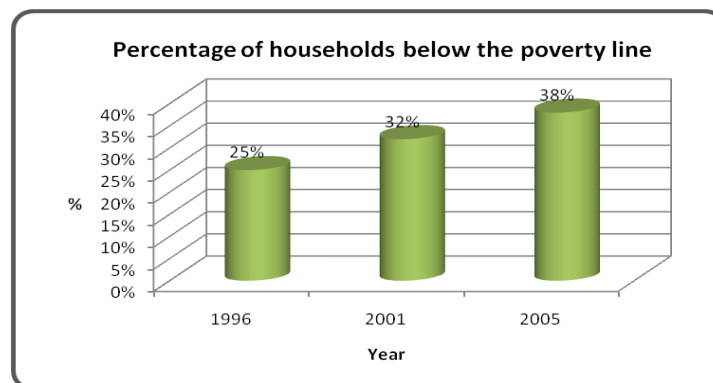
Source: (own illustration according to City of Cape Town 2007:50).

5.2.4 Economy

The main challenge for the city's economy is the creation of productive employment opportunities in the formal sector, in order to reduce poverty. Cape Town exists against the backdrop of a number of economic challenges, including high levels of inequality, a

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[10] Households earning less than 4.800 Rand a year and less than $1 a day (ca. 480 €).

[11] Percentage of households living below the household subsistence level (HSL) of 2.250 Rand per month (ca. 225 €), which is the minimum amount required by a household to maintain an adequate level of health and decency (City of Cape Town 2007:50).

[12] The Gini coefficient indicates the extent to which the distribution of income or assets among individuals or households within an economy deviates from a perfectly equal distribution. A Gini coefficient of 0 represents perfect equality, while an index of 1 implies absolute inequality (UN Habitat 2009:223).

mismatch of skill supply and demand, and low levels of industry competitiveness in relation to global players. The city has experienced significant economic growth over the past decade – with improvements in the provision of basic services, such as water, waste management and electricity, as well as rising tourist numbers, which have all contributed to a growing economy (City of Cape Town 2009b:7). In 2005 the GGP[13] of Cape Town was approximately 112.5 billion Rand and in 2007 even 130 billion. Regarding this increase the overall picture is a positive one. The value of the economy of Cape Town continues to grow at a steady rate, which means that there is more money circulating in the economy, creating better opportunities for business and employment (City of Cape Town 2007:49). The City has a well-diversified economy but recently there has been a shift towards the service sectors. However, the economic performance of the City over the past decade has been inadequate to address the challenge of unemployment and poverty (City of Cape Town 2008d). Due to the inability of the formal sector to provide sufficient employment resulting in high urban poverty rates, many people in South African cities seek out a living in the informal sector, the so called 'second economy' (de Swardt et al. 2005:101pp). For the growth of the City's economy there needs to be a creation of productive employment opportunities and a reduction in the extent of poverty.

5.2.5 Housing and Access to Services

Housing is considered a basic human need, as it is essential for both survival and shelter from the elements as well as for social needs such as comfort, security and a sense of ownership and permanence (City of Cape Town 2007:41). Post-apartheid subsidised housing can be characterised by poorly constructed single units on plots as dormitory settlements, increasing economic and social exclusion and urban sprawl. Those settlements are very unsustainable according to the resulting impact of high travel costs, infrastructure costs and land availability (Goven 2010:148). A large proportion of Capetonians are living in informal settlements due to increased immigration and population growth. Those settlements have inadequate services and infrastructure, that results in a wide range of social, economic and environmental problems. This environmental degradation aggravates the situation of poverty found in such settlements. The number of people living in informal settlements is still growing. This situation contributes to an increasing housing backlog[14] which has the potential to slow down economic expansion and social stability and even to deter future investments. In 2007, 15.6 per cent of all households were living in informal dwellings[15], for 2010 it is estimated that about 22.4 per cent are living in informal

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[13] The total value of goods and services produced in the Cape Town city area.

[14] The current housing backlog is estimated to be 260.000 (Goven 2010:150).

[15] An informal dwelling is defined as a wood and iron structure, which does not meet basic standards of safety in building.

dwellings (Goven 2010:148; City of Cape Town 2009b:7pp; Small 2008:6). By 2007 over 93 per cent of all households had access to electricity, to piped water, to adequate toilet facilities and had a weekly refuse removal (Small 2008:6). Cape Town is suffering from a combination of bulk infrastructure backlogs, and backlogs in the provision of basic services. Increased overcrowding and a decline in household sizes are contributing to an increasing housing backlog (City of Cape Town 2009b:7pp; Small 2008:6).

5.3 Cape Town's Historical Background

5.3.1 Apartheid (1948-1994)

In 1948 when the National Party gained victory over the United Party of General Jan Smuts a new form of government called 'Apartheid' emerged in South Africa. Its high era lasted from 1948 until the early 1970s. The victory of the National Party involved much more aggressive politics of privileges for Whites in general and Afrikaners[16] in particular. Apartheid was characterised by the promotion of Afrikaner culture, language, and economic interests, the emergence of a powerful structure of state power designed to defend the privileges of the White minority. The Afrikaner Nationalists believed that their unique nation was a creation of god, as was the separation of races. The people in South Africa have lived in a society in which the separation of communities and racial groups was the norm. Because the Nationalist Party feared the influx of Africans into White towns, they restricted the living areas for the Black people. Various bills were passed to ensure that the movement of Africans into their towns were kept at a minimum (see Table 5.1, p.57) (Harrison et al. 2008:25pp).

With the appointment of H.F. Verwoerd the so called 'grand architect of Apartheid', as prime minister in 1958 a more sophisticated version of a 'separate development' evolved, which included the creation of ethnic states, the so called Bantustans or homelands, where South Africans would exercise their political rights within their own local governments, but with very different capacities, resources and powers. After riots in 1960 due to influx control[17] the liberation movements were forced into exile and a period of relative stability and rapid economic growth followed which enabled the apartheid regime to implement many of its policies (Harrison et al. 2008:25pp).

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[16] Afrikaans speaking people.

[17] Influx control meant that all Africans had to carry their 'passes' (identity documents) with them, since 1952 even the African women. Those pass laws allowed blacks to be in cities or white areas only as 'migrant workers' who were officially employed (Terreblanche 2003:12pp).

Table 5.1: *Important Acts for the regulation of the Apartheid City*

The Regulation of the Apartheid City	
Native (Urban Areas) Act (1923)	This Act empowered municipalities to proclaim 'white-only' areas and to move black residents to segregated locations. This Act assigned the beginning of a greater state intervention in the regulation of the urbanization process.
Natives (Urban Areas) Consolidation Act (1945)	This Act governed the granting of permanent urban residence rights. In terms of this pass laws over 100.000 people were evicted every year from the early 1960s until 1985. Many of the 'offenders' were forcibly sent to the homelands.
Population Registration Act (1950)	Due to this Act people were identified and registered from birth on as members of one of the four main racial groups (White, Coloured, Asian/Indian and African). As a result, every individual was only allowed to find accommodation in an area designated for the use of the particular racial category.
The Group Areas Act (1950)	This Act compelled municipalities to enforce racial zoning and to provide areas for the declaration of the exclusive use of one particular racial group. Therefore it ensured that land use in cities was determined on a racial basis.
Reservation of Separate Amenities Act (1953)	This Act was also called 'Small Apartheid'. Public and private facilities and transport were segregated and reserved for particular racial groups.

Source: (Terreblanche 2003:334pp; Wiese 1999:16; Harrison et al. 2008:24pp, Simon 1992:37pp, Morris 1998:759pp).

The implementation of the Group Areas Act (1950) has had a devastating impact, which was leading to large-scale removals and the dislocation of well-established communities like the vibrant area of District Six in Cape Town. By the end of the 1960s hundreds of people were forced into newly developed townships. This massive township development at that time left an enduring imprint on South Africa's urban form. The Townships were surrounded by buffer zones which included natural features; industrial areas and vacant land to ensure a maximum of control (see Figure 5.5, p.58). It was estimated that more than two million people had been forcibly relocated to the so called independent ethnic homelands (Terreblanche 2003:334pp; Wiese 1999:16; Harrison et al. 2008:24pp, Simon 1992:37pp).

Townships in Cape Town which were built to accommodate the African labour force or the so called 'temporary urban sojourners', required by the city's growing economy included

Gugulethu and Nyanga (built for Africans in the 1950s and 1960s), followed by Mitchell's Plain, Blue Downs and Delft (built for the expanding Coloured population in the 1970s and 1980s) and Kayelitsha. They were built as dormitory suburbs with fairly rudimentary rental housing, infrastructure and facilities (Turok 2001:2351). The Apartheid system of racial ideology and planning that emphasised separate human, economic and spatial development inscribed deep divisions into the geography of the city through their population controls and forced removals (Turok 2001:2350).

5.3.1.1 The South African 'Apartheid City'

The Apartheid city emerged out of the colonial segregated city. Its simplified urban structure was designed to minimize interracial contact, this being restricted essentially to the workplace. For almost 40 years (1948-1986) the National Party was obsessed with the supposed dangers of urban and economic integration of Africans, therefore influx control was the core of the National Parties 'native policy'. They desperately tried to stop African urbanisation therefore the South African city had a racially based spatial structure which was enforced by the Apartheid state via a wide scope of urban regulations (see Table 5.1, p.57). Even future growth was to occur outwards from each segment to preserve the pattern of the city. White control was paramount in the urban structure and the conditions of other races were mirrored by their social-political positions (Terreblanche 2003:315; Simon 1992:37).

Figure 5.5: *The original Apartheid City model*
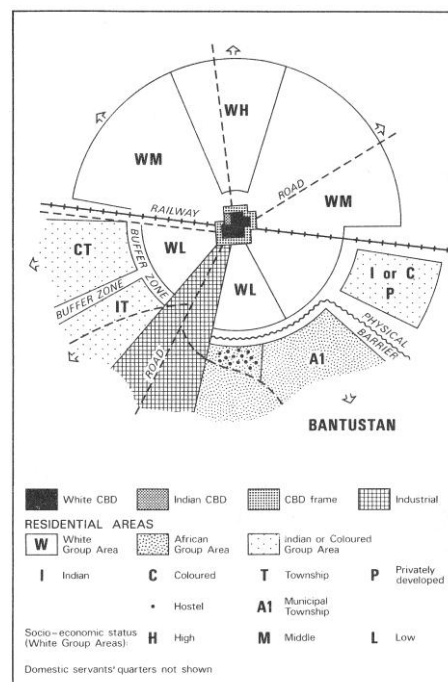
Source: (Simon 1992:38).

5.3.1.2 Apartheid and waste management

With citizenship tied to race, the Apartheid state severely stratified urban resident's access to basic infrastructure and services. During Apartheid many people did not have proper waste management services. While white suburbs enjoyed high standards for infrastructure and services like high quality curbside collection of waste, the black townships were deprived of even the most basic urban services and had to deal with their waste themselves. Most black townships either had no waste services at all or were limited to periodic pickups from communal skips, where residents had to collect and deposit their own garbage (ILO 2005:6; Miraftab 2004:875pp). Due to this system, the pressing issue in the townships was the accumulation of filth in the streets which became a serious health hazard (Hallowes & Munnik 2008:33).

5.3.1.3 Waste Picking during Apartheid

In the year 1987 Rachelle de Kock, a student at the University of Natal at that time, conducted research among what she called 'garbage pickers' on three garbage dumps in the greater Durban area. She wanted to examine their work and to get to know more about their characteristics and whether this informal activity is a viable survival strategy (de Kock 1987:52). At that time in South Africa many black people were unemployed and were therefore turning to what de Kock (1987:51) called 'unorthodox self-employment activities'. By making personal use of items and also by selling the materials directly to recycling companies or to middlemen the garbage pickers played an important role in the waste recycling process. Some middlemen even had a contract with the municipality to pick waste from these dumps and at two of the three dumps they had a contract to buy all the waste paper and plastics collected from the pickers. The pickers were placed in vulnerable economic positions because they were not employed by the recyclers. They faced hazardous working conditions at the dumps and were harassed by the police and municipal authorities (de Kock 1987:54pp).

5.3.2 Post Apartheid development

On February 2nd of 1990, the South African State President F.W. de Klerk unbanned the African National Congress (ANC) and disengaged many political prisoners. Finally in 1994 South Africa held its first democratic elections, with Nelson Mandela becoming the first democratically elected president and a new South African government led by the ANC. The goal now was to address the massive legacy of apartheid. Therefore attempts were made to transform society from being exclusive to being inclusive, in order to reflect democracy and the total demographic reality in South Africa. Deracilaizing and equalizing the cities of South Africa was one of the most difficult challenges faced by the new government (Harrison at al. 2008:36pp; Morris 1998:759).

The repeal of the urban segregation laws, including the Group Areas Act in 1991, opened up the possibilities for the spatial reintegration of the inhabitants of South African cities. Urban governments that had essentially been providing services only to white areas had now vastly expanded responsibilities due to the influx of black migrants from the homelands and the recognition of the black townships as full citizens of their municipalities. To overcome the injustice and the disparities that had been entrenched through segregation and urban stratification and to combine economic development and urban integration at a local level, the new South African government opted to restructure local governments and their municipal services (Miraftab 2004:876; Jaglin 2004:231). In 2000 there was a large reorganisation of the local governments in South Africa. In this reorganisation, the number of municipalities fell from 843 to 284. The new and bigger municipalities had to cover both richer and poorer areas (ILO 2005:5pp). To reduce the disparities of access to urban services, and to integrate segregated areas into Cape Town, administrative units were unified in the Unicity. In the year 2000, seven local governments were combined to form one municipal government for the entire Cape Town metropolitan area (Miraftab 2004:876). South African municipalities were now expected to ensure an equitable and sustainable provision of basic services like water, sanitation, energy and waste management and to engage residents in the decisions that are being made (McDonald & Smith 2004:1463). Today the overall level of service availability to formerly excluded areas has increased substantially since 1994 and there are more opportunities for low-income (especially Black) households and community organisations to have their voices heard than there were under Apartheid (Miraftab 2004:879; McDonald & Smith 2004:1461pp).

Despite improvements local governments have made so far in restructuring service delivery and dismantling the structures of Apartheid, new issues emerge on the agenda which have to be critically examined. McDonald and Smith (2004:1416) noticed that the country has witnessed a dramatic shift to neo-liberal policies of trade liberalisation, financial deregulation, export-oriented growth, privatisation, full cost recovery and a general rolling-back of the state. The overall trend since the mid 1990s has been towards a narrowing of public participation and growing role for private consultants and commercial interests. How deeply this new ideological structure has penetrated local government, how widespread it is and what it implies for urban governance is not sure yet (McDonald & Smith 2004:1461pp). Desegregation has been identified as a feature of the post-apartheid city but it appears to have revived some of the basic spatial features of the pre-apartheid South African city, with its continuum of suburbs from integrated to highly segregated areas and the lack of economic empowerment of the African population. Those factors are major impediments to the process of desegregation (Christopher 2001:463). Apartheid may

be nominally dead, but its legacy in the form of residential segregation is still very much alive in South African towns and cities (Christopher 2005:2318).

Résumé

As this chapter shows, even 16 years after the official end of Apartheid, local authorities still face enormous challenges regarding social inclusion and the empowerment of the poor, high unemployment rates, decreasing biodiversity and growing amounts of waste. Cape Town is under severe pressure, which will increase in the future. The city is suffering under many of the health and environmental problems which are typically associated with poverty and rapid urban growth in Third World Cities. Additional there are also the typical environmental problems which are recorded mainly in cities of industrialised countries, such as urban sprawl, accumulation of large volumes of solid waste, high water and energy use per capita, all caused by resource intensive lifestyles. Both patterns create environmental stresses and threaten the resource base and the sustainability of natural systems in the region (Quick & Pistorius 1994:45; City of Cape Town 2009b:6). Effective urban governance remains important in order to create a well functioning city that can effectively respond to the challenges, with which it is faced. The CCT has assessed, that there is a need for partnerships between all stakeholders in the city to enhance growth, employment, social inclusion and sustainability (City of Cape Town 2009b:9).

In the following chapters, I will take a closer look at issues concerning waste and recycling in Cape Town. I will examine various actors and their relations who deal with the growing amounts of waste in the CCT and I will present some projects regarding waste minimization and recycling, their influence on the environment and on the livelihoods of the urban poor.

6 Solid Waste Management and Recycling in Cape Town

6.1 The Challenge of Unsustainable Waste Generation

The City of Cape Town also named "consumption city" is an urban area, which is experiencing an extremely resource intensive population growth (Swilling 2005:4). Each day in Cape Town, 7.000 tons of waste are produced and the annual amount of waste generated is currently growing by 7 per cent, faster than the city's population growth rate of 1.7 per cent. Every year in the Western Cape, enough waste is thrown away to fill a row of trucks equalling the 1.200 kilometres from Cape Town to Gauteng (City of Cape Town 2009a:4; City of Cape Town 2009c:15). Regarding solid waste management, the City is facing many environmental, economic and social challenges (The Sustainability Institute & E-Systems 2007:79pp). The predominant mode of waste management is landfill disposal and, regarding the alarming rate of waste production, the landfill sites are under enormous pressure. There are only three left which are filling up rapidly. The City management is aware of these waste problems therefore one of its key objectives in the future is the reduction of waste which is send to landfill and it aims to reduce waste production by 25 per cent by the year 2012 (City of Cape Town 2009a:10). Sustainable waste management is one of the most pressing priorities for Cape Town. But fact is that the City has a very low level of recycling, with only 13.2 per cent of households recycling their waste (City of Cape Town 2009b:18). Recycling operations in Cape Town are both formal and informal. They seem to co-exist and recycling has been recognised at the formal level, but informal recycling activities are frowned upon and discouraged (The Sustainability Institute & E-Systems 2007:60). To become a sustainable city Cape Town has to overcome apartheid spatial relations, it has to implement new recycling-strategies which include the informal recycling sector and it has to create universal access to free basic services (Swilling 2005:5pp).

6.2 Local Legislation Concerning Waste

The Integrated Waste Management Policy (IWMP) of 2006 is a waste minimization policy that will become effective on promulgation of the new Bylaw. It fully supports the conservation of resources and is linked to the waste hierarchy. The aim of the policy is to minimize waste to landfill by avoiding and reducing waste generation, and reusing and recycling waste, while incorporating landfill as a final option (City of Cape Town 2008a:47; Sustainability Institute & E-Systems 2007:24). The IWMP (City of Cape Town n.d.:27) defines 'waste minimization' as:

> "[…] any activity that can prevent or reduce the volume, resource and environmental impact of waste, which is generated, treated, stored or disposed

of. It is not a 'business-as-usual' approach, as it requires proactive participation by all stakeholders."

The City's new Integrated Waste Management Bylaw is aimed at regulating waste recovery and recycling activities and setting minimum requirements for waste storage and infrastructure. Cape Town is the first municipality in South Africa which has developed a bylaw in line with the new NEMWA. The ultimate objective of the bylaw is to regulate and control waste management within the city and to ensure a uniform approach throughout the city. The broad obligation is to ensure that all residents, organizations, businesses, visitors, tourists and government departments receive services from a legitimate waste management service provider. The City's rights and obligations in respect of waste management services include the responsible disposal of non-recyclable waste, collection and recovery of recyclables and the processing and treatment of waste and recyclable materials (City of Cape Town 2009c:15).

6.3 Solid Waste Management in Cape Town

The City has a fairly effective waste management service. It is estimated that 99 per cent of all households in the City receive a weekly refuse collection service (Solid Waste Management Department 2010a:7). But the cities dominant mode of waste management, landfilling, is an expensive and inefficient manner of waste disposal that ignores the fact that waste can serve as productive input for recycling value chains.

6.3.1 Waste Collection

The CCT covers an extended area with a population of over 3.5 million, it has a fairly broad and effective waste management service and has embarked on some initiatives to reduce, recover and recycle waste. A combination of municipal and private or community-based waste collection services covers the various service points. The City's waste removal service collects waste in a 240 litre 'wheelie-bin', provided to formal households once a week. All informal settlements are serviced by means of the Integrated Refuse Collection and Area Cleaning Services, which differs from the service of formal settlements, because the compactor trucks which are used to lift the wheelie bins cannot access the unpaved streets in informal areas because they are often too narrow. Collection in informal settlements is carried out by collection workers of a contractor and entails issuing black refuse bags to every shack/informal dwelling and collecting the filled bags twice every week, as well as cleaning the area of all litter and dumping to an acceptable standard of cleanliness. After collection, the workers carry the black bags to a centralised collection point, which is either an open waste skip or a shipping container (City of Cape Town 2009a:8; Visser & Theron 2009:22pp)

The tariffs for waste collection from residential properties are structured on a rebate system based on the property value (see Table 6.1). If the property value is less than a certain amount people get free waste collection. The property value and service rates increase staggered, therefore the more affluent areas cross subsidize the poorer areas (Sustainability Institute & E-Systems 2007:36).

Table 6.1: *Rebate system for waste collection tariffs*

Property value 100 000 Rand or less	**Free service**
Property value 100 001 – 150 000 Rand	**75% rebate**
Property value 150 001 – 250 000 Rand	**50 % rebate**
Property value 250 001 – 300 000 Rand	**25 % rebate**

Source: (Sustainability Institute & E-Systems 2007:77).

6.4 Key indicators for sustainable waste management

In order to measure Cape Town's progress towards sustainability, it is necessary to have a set of common indicators that can be tracked over time. Those indicators represent issues that are relevant to the City of Cape Town and its residents. Regarding Solid Waste Management, the CCT (2007:29pp) identified two indicators which allow them to quantify, monitor and report on changes regarding the development of solid waste management:

- ✓ *Indicator1 Waste Disposal per year: "The amount of waste disposed annually." This indicator reports on the amount of waste sent to landfill each year in Cape Town.*

- ✓ *Indicator 2 Landfill Lifespan: "The remaining available space or 'lifespan' for both general and hazardous waste in Cape Town's landfill sites, in terms of the number of remaining months or years in which the landfill can be operational."*

6.4.1 Annual Waste Disposal in Cape Town

In a sustainable society, annual waste disposal and waste disposal per capita should remain at constant levels over time, or show a slow decrease. Waste disposal per capita has grown over the past years, reaching a high of 751.3 kg per capita annually in 2005/06 (City of Cape Town 2007:30). As seen in Figure 6.1 (p.65), annual waste disposal has reached its peak in 2006/07 with 2.8 million tons which were sent to landfill. Since then the amounts of waste going to landfill were declining with 2.1 mill tons in 2007/08 and 1.7 mill tones in 2008/09. The City explains this drop in waste quantities with the economic downturn in 2009 and with the introduction of various landfill diversion mechanisms which include the

composting of garden greens, the crushing and reuse of builders rubble as well as the 'Think Twice' pilot recycling project, which includes waste separation at source (see Chapter 7) (City of Cape Town 2008a:46; Solid Waste Management Department 2010a:6).

Figure 6.1: *Annual waste disposal in Cape Town (2003-2009)*
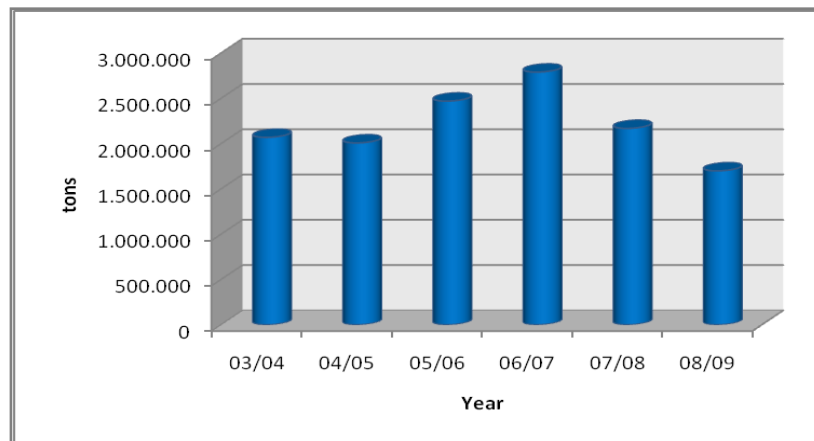
Source: (own illustration according to City of Cape Town 2009b:46; Solid Waste Management Department 2010a:6).

6.4.2 Waste Stream in the City of Cape Town

Waste generation rates in Cape Town are comparative with both economically developed and economically developing countries. In economically developed countries large amounts of packaging waste are generated while economically developing countries generate large amounts of organic waste. That means the CCT has to deal with large amounts of packaging waste and organic waste (Sustainability Institute & E-Systems 2007:34). In Cape Town waste produced in lower income households has a higher percentage of organic material as opposed to various packaging type materials like plastics, glass and paper which are found more often in middle to higher income households (The Sustainability Institute & E-Systems n.d.:19pp).

According to Figure 6.2, the waste stream in the CCT consists mainly of household waste with 38 per cent, followed by commercial waste (26 per cent), industrial waste (16 per cent), builders' rubble which consists of materials from demolished buildings and civil infrastructure including rocks and soil arising from earthworks, civil works and general foundations (15 per cent) and Green/Garden Waste with a share of 5 per cent. Unfortunately these figures are from the year 2003, but according to Crane et.al. (2010:85), in the year 2009/10 households represent the largest source of solid waste as well. That stands in contrast to city officials who state that household waste makes up just a small proportion of the waste stream in Cape Town, whereas builder's rubble and green/garden waste present the biggest shares in the waste stream. That is why the city mainly focuses

on the recycling of builder's rubble and green/garden waste to get them of the landfill sites. Recycling of household waste takes up rather a small position in the City's priority list for recycling (see Appendix II, Interviewee 4 and Interviewee 3).

Figure 6.2: *Waste Stream in the City of Cape Town (2003)*
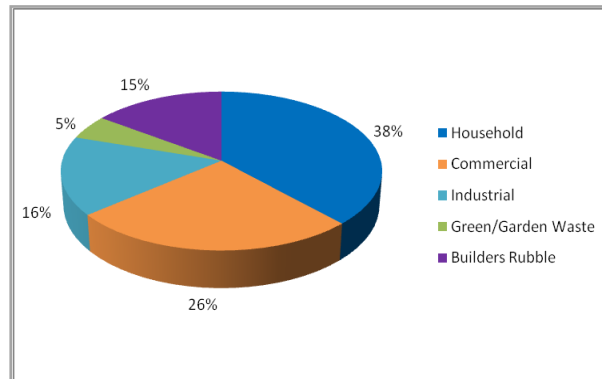
Source: (The Sustainability Institute & E-Systems 2007:34).

6.5   Existing Waste Management Facilities

Solid waste in Cape Town can be dumped somewhere into the nature, regularly collected or separated, recycled or re-used and then either be sold to recycling companies for reintegration into the production process or it will be dumped and buried at a landfill site. A brief overview about some of the management facilities in Cape Town which waste can pass on its way to the landfill site or to the recycling industry is presented in Figure 6.3 (p.67).

6.5.1   Drop off facilities

If households in Cape Town are not served by the Cities recycling program or by a private company which collects the recyclables for a small fee, then the households can take up one of currently 20 City Drop off sites. The management of these facilities is outsourced to private waste management contractors. Additionally there are also some private companies, schools, community initiatives and businesses operating recycling drop off facilities in Cape Town. These sites are used by residents and small garden services to offload garden waste, recyclables and other household waste. The need for Drop off facilities was identified as part of a key strategy to minimize the amount of green waste going to landfill and to make better use of green waste as a resource material for the production of compost (The Sustainability Institute & E-Systems n.d.:27).

Figure 6.3: *Waste Management Facilities in Cape Town*
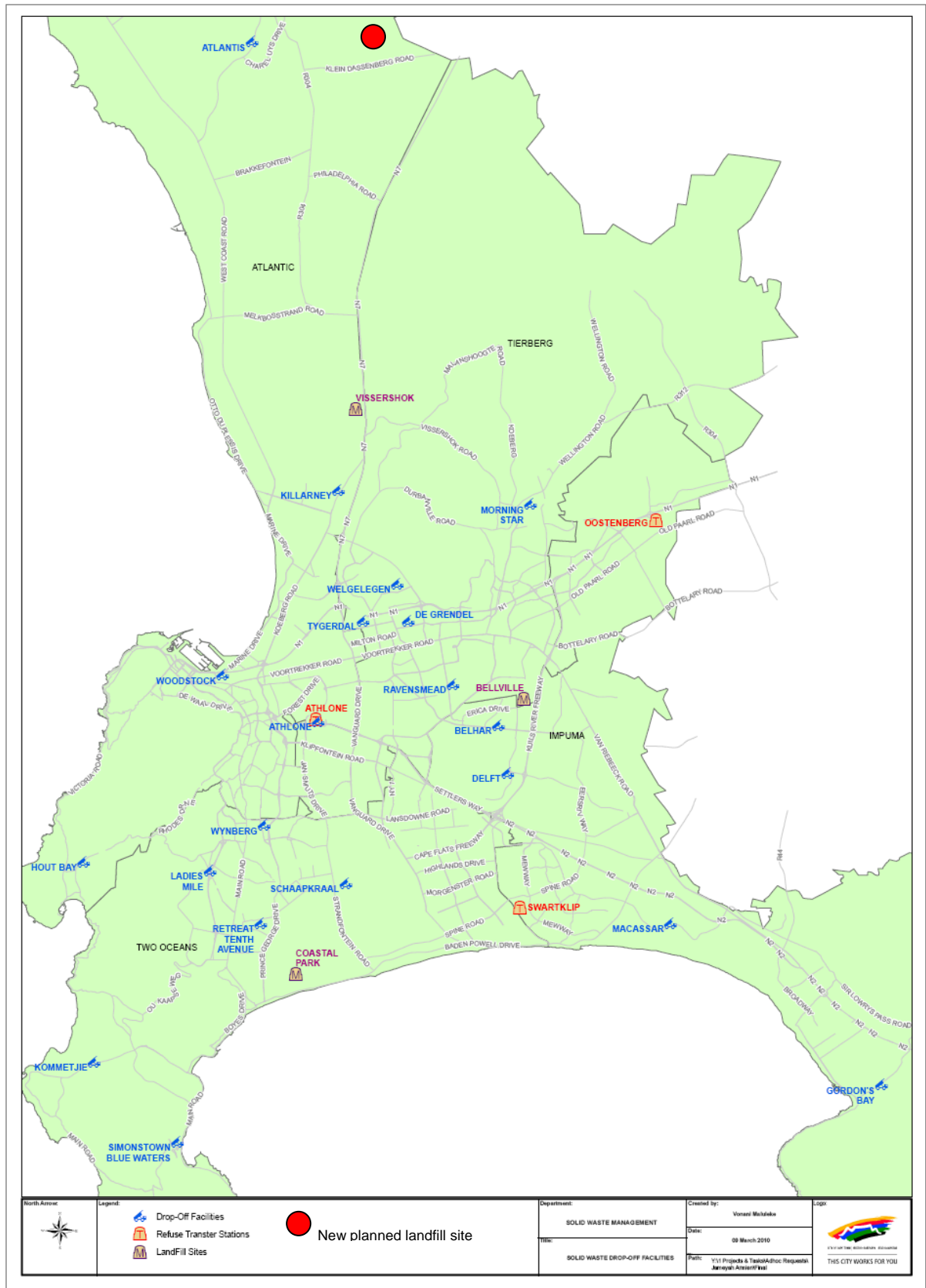
Source: (City of Cape Town 2010).

Community driven Drop off sites often started in a response of a certain community/NGO financial need. Waste received is typically donated from surrounding households, offices and factories and the money earned from selling the collected and sorted recyclable materials are used to cover all costs, like infrastructure and labor. Profits from community driven Drop off sites are typically used to fundraise the community group's/NGO's core business such as caring for the disabled (see Box 6.1, p.69), supporting school funds, saving groups or just to sustain the livelihoods of the community group members. Those Drop off sites are either directly serviced by recycling firms or recyclables are sold to a local collector unless the materials are not delivered straight to the recycling end-user to cut out the middleman and get the best price for the recyclables (Mega-Tech 2004:8-7). One of that community-driven Drop off sites is Oasis (see Figure 6.4).

Figure 6.4: *Oasis Recycling Workshop in Claremont*

Source: (Tischler 15.04.10).

Box 6.1: *Oasis Association and Recycling*

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Oasis – Recycling

In 1952, parents started a school for their intellectual disabled children in Cape Town. But after a few years the question came up, what are the children going to do after school? Where do they work then? So the parents started a small recycling business 17 years ago, as an income opportunity for the Oasis Association and as a job provider for the intellectual challenged grownups.

Today the Oasis Association operates an extensive recyclable recovery operation with two recycling workshops to support the main functions of the Association. The organizations core objective is the provision of essential services for people with intellectual disability, like employment opportunities, skills development training, day care centres and residential homes. They collect paper and cardboard, books, glass and cans from 250 commercial businesses (but not from domestic households) all around Cape Town, for free and on a weekly basis. They also do the local governments recycling. But the Association does not buy the recyclables from people and businesses, sometimes they get requests but then they refer them to people who do pay for recyclables like the various buy-back centers in Cape Town.

The workshops employ people with intellectual disability who are involved in tasks varying from sorting the recyclables to dismantling books (see Figure 6.4, p.68). They bag the sorted recyclables with a big compressor and then deliver it to the big recycling companies or sometimes the recycling companies also collect the materials directly from the workshops. They generate 42 per cent of their annual income with the recycling activities. With its recycling workshops and the three Books & Bric-a-Brac shops, where used excellent-quality-books and goods are sold, the association addresses two of the international 'three R' approaches towards waste minimisation, namely re-using and recycling. They make approx. 5000 Rand (ca. 500 €) a day with the Book shops.

The Oasis Association's Recycling and Waste Management Project takes an integrated approach to waste management and deals with waste in several different ways with the aim of reducing the amount of waste that ends up in landfills. Collectively the depots recycle about 260 tons of waste a month, from more than 200 businesses. Over 2200 households visit Oasis monthly to drop off their recyclable waste. They save the CCT approximately 21.000 cubic metres of landfill each year. They believe that

"Rubbish" is the only commodity that is recession proof"

Due to the increasing growth of the recyclables they receive every month, the Association gets a bit concerned when they think about the future because the storage and sorting facilities take so much space and land is a scarce commodity and difficult to obtain in the City of Cape Town.

> *"We are looking to find land that we can use, it is more a wish than a long term strategy plan, but we are growing out of our present environment."*

(see Appendix II, Interviewee 5).

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6.5.2 Refuse Transfer Stations and Material Recovery Facilities

There are currently two operating Refuse Transfer Stations (RTS) in Cape Town: one at Athlone and the other at Swartklip. The transfer stations receive waste from municipal and private contractors if the service point is far from the landfill site. The waste is offloaded onto an apron area and then pushed by a front end loader onto conveyor belts which then feed the waste in containers where it is compacted. The containers are then transported either by rail or road to the City owned Vissershok landfill site (The Sustainability Institute & E-Systems n.d.:27).

6.5.2.1 Athlone Refuse Transfer Station and Material Recovery Facility

The activities at the Athlone Refuse Transfer Station (ARTS) include a partially functional 'dirty' Material Recovery Facility (MRF). The infrastructure and equipment at the MRF is owned by the city, but a contractor manages the recovering of recyclables. Domestic waste collected from Cape Town's homes is taken to the ARTS, where the waste is put onto a conveyer belt and all recyclables are removed from the general waste stream. Non-recyclables get compacted into containers and transported to the Vissershok waste disposal site by rail. Rates of recovery were very low in 2006 – the highest rate was 0.5 per cent per month of the total waste stream coming to site. But at that time the MRF was still in the start up phase of the project and not working at full capacity which may explain the low recovery rates. The target of the awarded contract is to recover 15 per cent of 850 tons of waste per day. Unfortunately there are no current recovery rates available (The Sustainability Institute & E-Systems 2007:56; Visser & Theron 2009:28).

6.5.2.2 Swartklip Refuse Transfer Station

The Swartklip Refuse Transfer Station (SRTS) has been in operation since 2003. Waste is brought to SRTS where it is currently compacted into containers and also transported to the Vissershok regional waste disposal site in sealed containers (see Figure 6.5, p.71) (Mega-Tech 2004:7-23). SRTS currently handles 800 tons of waste per day (Site visit, 24.04.2010).

Figure 6.5: *Swartklip Refuse Transfer Station*

A: *Apron area of Swartklip RTS*

B: *Conveyor for waste at Swartklip RTS*

C: *Waste compacted into containers at Swartklip RTS*

D: *Vissershok Landfill Site*
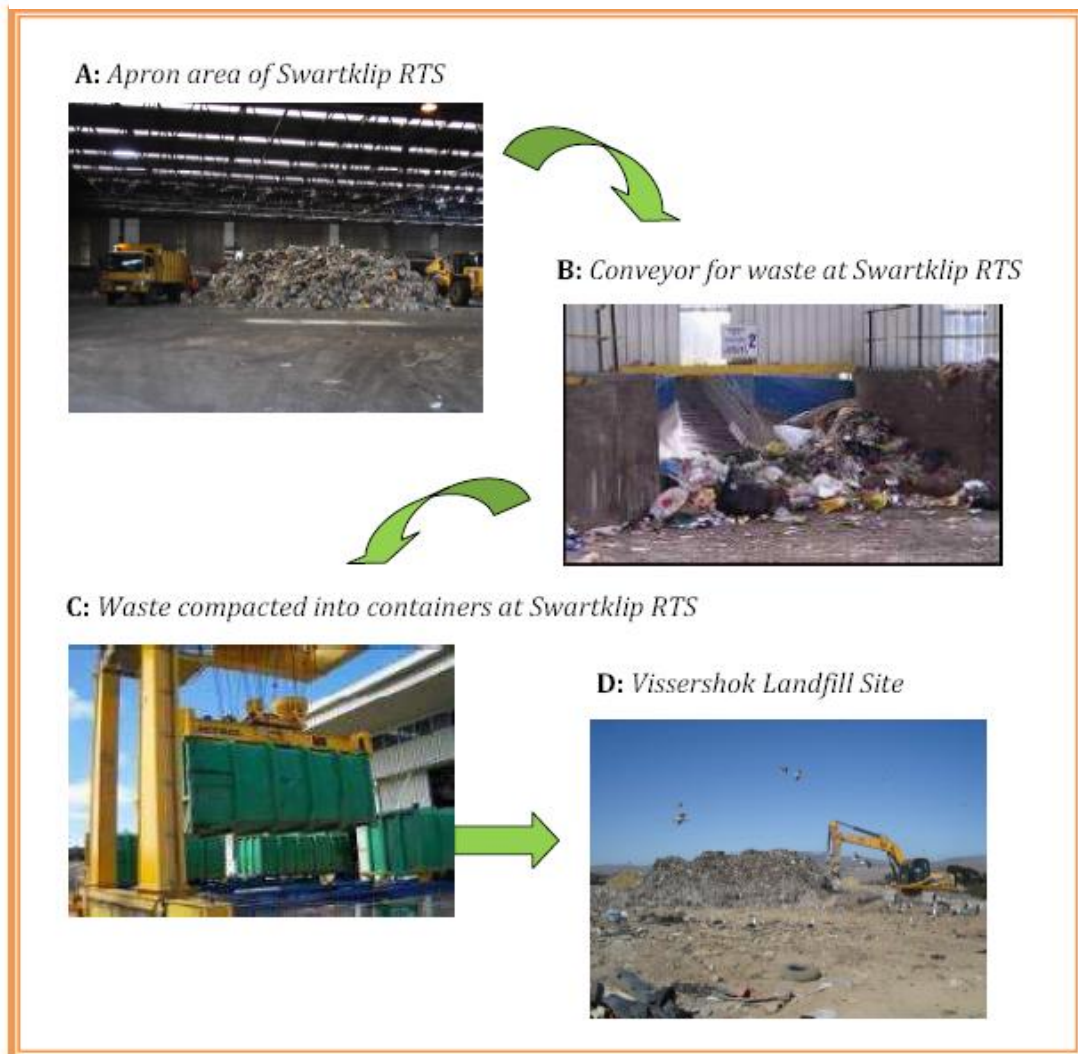
Source Fig. 6.7 A and D: (Tischler 24.04.2010; Tischler 30.04.2010).

Source Fig. 6.7 B and C: (Sustainability Institute & E-Systems 2007:56).

6.5.2.3 Planned Refuse Transfer Stations

The City's Waste Department wants to establish a Refuse Transfer Station in the Oostenberg Administration area as the Brackenfell Landfill Site, which served the area, was closed in 2007. The project started in 2007/2008 and commissioning date will be in October 2010. The establishment of the Tygerberg Refuse Transfer Station commences in 2009/2010 and has three years until commissioning, the Helderberg Refuse Transfer Station project will be rephrased in excess of 5 years from now (Solid Waste Management Department 2010a:10).

6.5.3 Landfill Sites in Cape Town

Currently, Cape Town's active landfills cover almost 300 ha of land. The landfill sites in the CCT are rapidly running out of space for the substantial amounts of waste generated by the City, although construction of new cells in those landfills is underway. From six former landfill sites there are now only three left, namely Coastal Park, Bellville South and Vissershok. The others have been closed over the years because they reached their capacities. The closed landfill sites can eventually be rehabilitated and used for limited human activities or nature conservation purposes; however, this is a lengthy and expensive process (City of Cape Town 2008a:46). It is also becoming increasingly difficult to find geologically suitable and acceptable sites for new landfills in Cape Town, especially in more populated areas. There is a new landfill site in planning (see Figure 6.3, p. 67) but due to a change in local government and increasing opposition of the local population, the planned location of the site got relocated; now there is also much opposition against the new location (see Appendix II, Interviewee 3 and Interviewee 4). This new site should serve Cape Town and its surrounding areas, for example Stellenbosch, for ca. 20 years. What is quite important because Stellenbosch landfill is still running but has reached its airspace capacity (Site visit, 24.04.2010). This will also have an impact on the remaining airspace at Cape Town's landfill sites. Prognosis for the future is, that even with the construction of new cells, Cape Town's existing landfills are expected to be full by 2025. Forecasts are fluctuating due to the changes in waste generation (see Table 6.2).This timeframe is based on current rates of waste disposal, which are declining at the moment but major events like the Soccer World Cup in 2010 will see a major contribution to waste during June and July 2010 and also growing population and a increasing middle class amongst the population will arrange for constant if not increasing volumes in waste generation. Although 2025 may seem far away to many citizens of Cape Town, in terms of long-term city planning, this is a problem that needs to be urgently addressed (City of Cape Town 2009a:4; City of Cape Town 2009b:18; City of Cape Town 2007:29; Crane et.al. 2010:85).

Table 6.2: *Projected lifespan of landfill sites in Cape Town*

Municipal Landfill Sites	Permit Status	Expected remaining lifespan in years (Minimum – Maximum)
Vissershok	Permitted 1998	6-8
Coastal Park	Permitted 2000	6
Bellville	Permitted 2003	1-2

Source: (see Appendix II, Interviewee 3 and Interviewee 4).

Another problem is that the new landfill site will probably be set in Kalbaskraal near Atlantis, what is at some distance from the city, which means increased transport costs, road traffic and congestion. Therefore, the City urgently needs to increase its recycling capacity to divert more waste from the landfill sites and to increase their airspace capacity.

6.5.4 Costs and Funding

The city also faces a major funding crisis as the cost of waste management far exceeds cost recovery through the tariff structure, which in itself does nothing to encourage taxpayers to become less wasteful. The costs of waste management activities are increasing due to increasing volumes of waste, but the finances that are available for waste management are not increasing in proportion to the rate at which waste is being generated As the city struggles to find affordable land and money for new landfill development, it is becoming increasingly clear that a radical mind shift is required. The predominance of end-of-pipe waste management systems are outdated and offer no viable solutions even in the short term (Crane et.al. 2010:85; The Sustainability Institute & E-Systems n.d.:22).

The planned establishment of the new regional landfill site and new transfer stations and the closure and rehabilitation of old landfill sites is putting a lot of pressure on the waste management budget (The Sustainability Institute & E-Systems 2007:75).

Figure 6.6: *Operating costs of current waste management facilities*
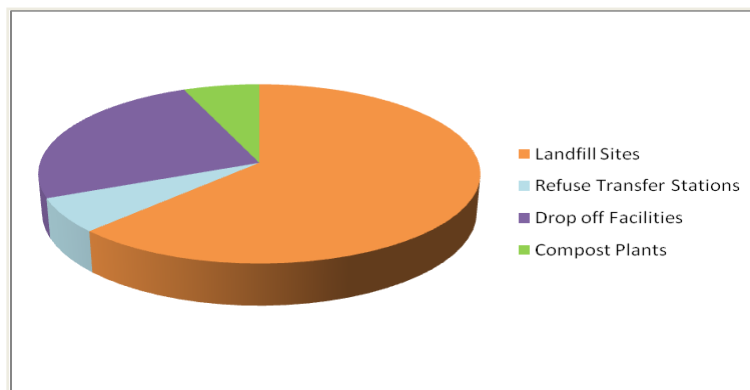
Source: (The Sustainability Institute & E-Systems 2007:76).

As Figure 6.6 illustrates, in terms of operational costs, landfill sites are the most expensive to manage followed by drop-off facilities. In summary, finances available and provided cannot increase in proportion to the rate at which waste is being generated. The lion's share of the capital budget is still spent on landfill infrastructure and associated services, less on waste minimization, that's a typical attribute of a traditional waste management strategy (The Sustainability Institute & E-Systems 2007:81; Visser & Theron 2009:25pp).

6.6   Recycling in Cape Town

As seen earlier due to efforts by the CCT to introduce recycling and other advanced solid waste management systems, solid waste per capita has been reduced. Households represent the largest source of solid waste, and waste minimising initiatives need to be concentrated at the domestic level and especially among affluent socio-economic groups, who generate an average five to ten times as much waste as low-income households. According to Crane et al. (2010:85):

> *"There is an enormous scope for increased recycling, with significant economic multipliers and job creation potential within a second economy."*

Recycling has been recognized at both the national and local level of government as an important strategy to divert valuable resources sent to landfill as waste. Although recycling has been recognised at the formal level, informal recycling activities are frowned upon and discouraged. Current stakeholders and alliances in recycling are presented in Chapter 7.

6.7   Privatization and externalisation of waste minimisation activities

The CCT has a legal responsibility to collect and manage municipal solid waste. But the City is increasingly following a strategy of contracting with 'for profit' enterprises to provide waste collection and minimization services (Visser & Theron 2009:5). By contracting services out, the City can increase its capacity without having to carry the costs of vehicle fleet maintenance or staff employment. But the substitution of those private entrepreneurs engaged in waste minimization constitutes a big problem. The City legitimates this practice with the argument that it is not possible to make enough money from selling recyclables. Another problem of outsourcing is that the conditions of contract workers are much worse than those employed by the city. At the moment the CCT entirely externalizes its waste minimization responsibilities. The only role that the Solid Waste Management Department (SWMD) seems to play in the minimization of waste is to manage its contractors (Visser & Theron 2009:26pp).

After conducting various interviews with City officials from Cape Town, which are involved in waste management, Visser & Theron (2009:33pp) presented three main reasons and arguments of the SWMD for engaging external service providers in waste minimization and the three corresponding counter-arguments (see Table 6.3, p.75):

Table 6.3: *Main reasons for privatization in waste minimization and counter-arguments*

Argument for privatization	Counter-Argument
The Department does not have the equipment to become directly involved in minimization: The officials argued that expensive recycling equipment would be needed to recycle garden waste and builders' rubble. Another reason is that their compactor trucks are not suitable for collecting recyclables. Therefore instead of purchasing the equipment needed it would make more sense to contract out recycling to the private sector.	***The sorting of the bulk of recyclable material does not appear to require specialized machinery and equipment:*** As in other developing world countries in some cases informal recyclers have been able to achieve much higher recycling rates than the formal private sector even without high-tech and expensive technology.
The City does not have the expertise to find buyers for recyclables and to negotiate with them: Officials argued that this job is better left to private companies who are experienced in marketing and bargaining.	***The different recycling sectors in Cape Town are mainly dominated by a few large buyers:*** For Glass there is the Glass Recycling Company and Consol Glass, Paper and cardboard is recycled by Mondi, Nampak and Sappi, plastics by the South African Plastics Federation and PETCO and food and beverage cans by Nampak's 'Collect-a-can'. If the SWMD would take direct responsibility for the collection and sorting of all recyclable material from households it would have very strong negotiating power with the big recyclers.
Recycling is not a 'core business' of the SWMD	***The recently promulgated NEMWA holds local government responsible for waste minimization:*** Therefore it is surprising that recycling is not regarded as a 'core business' at the SWMD.

Résumé

This chapter has outlined the current approaches of waste management in the CCT and the crisis which looms in the face of increasing waste volumes. It is clear that waste generation is slightly increasing with decreasing landfill airspace to manage the bigger volumes. To address this problem a shift in terms of waste management methods is required. The paradigm shift has begun nationally in terms of legislation which includes the revised waste hierarchy. One of the municipality's key objectives is to reduce the amounts of waste and especially of recyclables going to landfill. To achieve these objectives the City has to approach waste management from an integrated waste management perspective where it engages with all the stakeholders involved in recycling activities and not just the private sector. This is even more important as the current argument of the City is that selling recyclables isn't a viable business. If the private sector can't recover all its costs out of selling the recyclables, other alternatives have to be found. The City could also contract with cooperatives or informal associations, representing those who already make a livelihood from the collection and recycling of waste. But according to Visser & Theron (2009:5) this possibility does not appear to have been actively explored by either national or local government. There is a need to add further momentum and implement new strategies to make recycling effective from environmental and economic perspectives.

With the current waste management situation and the recent challenges in mind the next Chapter will present an overview of the existing recycling alliances and partnerships in Cape Town. The Integrated Waste Management Framework, presented in Chapter 2, will form the framework of the analysis. The alliances will be examined according to social and ecological indicators (see Chapter 3).

7   Recycling Alliances and Partnerships in Cape Town

The following chapter examines the contribution of the existing alliances and partnerships towards three sustainability goals and the interrelations between the actors involved in Cape Town's waste recycling economy.

7.1   Alliance 1: SWMD – Private enterprises – Households

Figure 7.1: *Recycling Alliance No. 1*

Subsidies | Collection service

| City of Cape Town (SWMD) | → | Private Enterprises (Wasteplan) | → | Households in Cape Town |
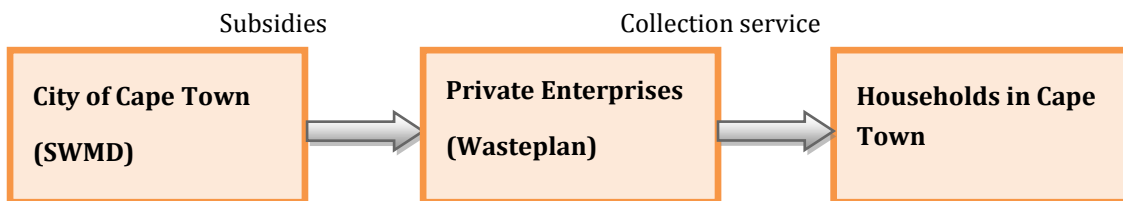
As Figure 7.1 shows, the first alliance for the Think Twice recycling project consists of the SWMD, private enterprises and formal households in Cape Town. The SWMD contracts the private enterprises (e.g. Wasteplan) and subsidises them for their service, therefore households receive free recycling services by private enterprises.

7.1.1   The Think Twice recycling project

In 2002 the City introduced its first 'separation at source' recycling pilot project. But the project failed due to the fact that contractors hired by the City to roll out the program were not able to run profitable, based on the sale of recyclable materials to recycling companies. Therefore most contractors reneged on their contracts (Visser & Theron 2009:27).

Then again in 2007 the City started another attempt to set up a second 'separation at source' program. The Think Twice (before you throw it away) pilot project was launched, which involved in the beginning 82.800 affluent and 90.600 poorer households that should separate organic from all solid wastes. Currently 25 per cent of Cape Town's inhabitants are serviced by this project (see Appendix II, Interviewee 4). It operates along the same principle as the first pilot but the difference is that the contractors are now subsidised to collect and sort the recyclable material (Visser & Theron 2009:27; Crane et.al. 2010:85).

There are five pilot contracts with various private companies including Wasteplan, which will be discussed in more detail. These contracts include marketing, awareness raising, collection and the sale of recyclables to the appropriate recycling companies. Wasteplan provides the households with clear bags for the mixed recyclables and with the necessary information about the project. They collect the clear bags once a week with a truck and

take it to one of their sorting facilities. After the sorting they sell the materials to the recycling companies. The City then pays Wasteplan a set price for each kilogram of recyclables sold to the recycling company. Hence the contractor is paid twice: firstly by the recycling company and secondly by the City. To ensure that the recyclable materials are in fact sold to recyclers and not illegally dumped the City introduced a documented traceability system (Visser & Theron 2009:27pp).

✓ *The Think Twice project in poorer areas*

Under a subcontract awarded to the company Wasteplan, the district of Philippi[18] also took part in the recycling project which served 60.000 households for a period of 8 months from August 2007 to March 2008. The system was adapted to suit the spatial conditions in the mostly informal settlements (e.g. narrow streets) .A network of tricycles with trailers was used to collect waste from 14 municipal wards in the wider Philippi area. The tricycles brought the recycled waste to a shipping container where the waste was sorted and prepared for collection by the subcontractor. Two people were employed for each ward, one to collect the waste and one to manage the shipping container at the collection point. Intention of the project was to run profitable after 6 months of investment (Cordaid 2008:13).

After this six month the system fell apart due to insufficient volumes of waste collected to make the project viable without external investment and support. After eight month the system was totally abandoned. An average of 0.26 kg of recycled waste was collected from the households weekly, of which only 0.05 kg (20.56 per cent) were actually recycled. The remaining collected waste was either non recyclable or contaminated by food produce. For comparison, the same project was running in a more affluent district, the Atlantic suburb in Cape Town, where an average of 11.04 kg of recycled waste was collected weekly with a 89.15 per cent recycling rate, due to higher values of recyclable waste generated from wealthier homes (Cordaid 2008:14).

✓ *One size doesn't fit all*

One result of the pilot project was that affluent communities and less affluent communities have different needs that require different services. It is estimated that high-income households are responsible for the majority of waste, which means approximately 2 kg and more per person each day, with low-income homes only generating a maximum of 1,5 kg of waste per person each day (City of Cape Town 2009a:4). In Cape Town waste produced

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[18] The district of Philippi is centrally located within the City of Cape Town and contains some of the poorest homes in the city. Philippi is an informal settlement inhabited by approximately 250.000 people, and is a mix of formally permitted and informal housing, industry and urban agriculture (Cordaid 2008:11).

in lower income households has a higher percentage of organic material as opposed to various packaging type materials like plastics, glass and paper which are found more often in middle to higher income households (see Figure 7.2) (The Sustainability Institute & E-Systems n.d.:19pp; see Appendix II, Interviewee 4).

Figure 7.2: *Waste composition in high, middle and low-income households*
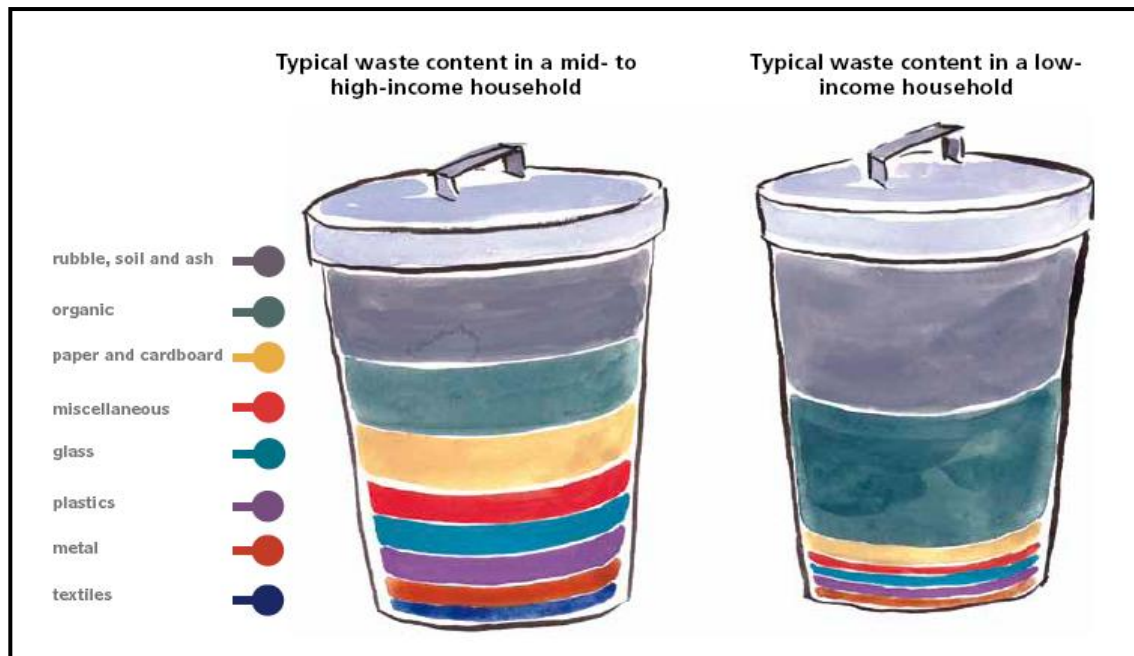
Source: (City of Cape Town 2009a:14).

Wasteplan also had problems with participation in the less affluent areas. People were not willing to participate according to Interviewee 4 (see Appendix II):

> *"The residents didn't really buy into the whole thing, they were not really keen on giving the employees material that other people would make money out of it while they stay poor. The way to go in those areas would be to have buy-back centres to encourage recycling."*

The consequence is that today poor or less affluent areas are not involved in the project anymore.

7.1.2 Contribution to sustainability goals

✓ *Goal 1: Maximization of recycling and re-use*

Policy/regulatory level: Relevant legislation in the case of recycling is provided by the new National Environmental Management: Waste Act, which declares waste minimization to be a municipal responsibility and a core function of municipal solid waste management, including collection, cleaning and disposal. The City has accounted for the Waste Act in introducing a new Bylaw (see Appendix II, Interviewee 4). The Bylaw also dictates that

the waste has to be separated at source. To ensure this, the City has to put the right mechanisms in place (see Appendix II, Interviewee 3).

A barrier for the introduction of recycling practices is that legislation prescribes a whole process including risk assessment, application and council approval for the introduction of for example PPPs in recycling. After the PPP went through that process it eventually goes out for tender and then it can come to a service delivery agreement (see Appendix II, Interviewee 3). The tender process is quite strict and bureaucratic; therefore it constitutes already a quite high entrance threshold for many smaller companies and organisations.

Organisational level: Regarding the length of the trading chain, the private contractors take a good position; they can collect the materials directly from the households and also sell them directly to the recycling companies. So no middleman is involved and they can obtain high prices for the recyclables.

Technical level: Source separation takes place at the level of the waste generators. The recyclables are diverted from all organic and wet waste; therefore the contractor gets high value recyclables.

Performance level: Regarding the performance of the alliance between the three stakeholders, recovery rates are quite high. Wasteplan collects about 830 tons a month from their adjudicated areas (Helderberg to Atlantic suburbs to Hout Bay) and it is representing the City amongst 50.000 households (see Appendix II, Interviewee 2). This gives an indication that operationally the door to door recycling concept can work. The latest numbers say that 8.4 per cent of the total amount of waste going to landfills (142.000 tons out of 1.7 Million) has been diverted by the Think Twice project (see Appendix II, Interviewee 3).

✓ ***Goal 2: Financial viability***

Regulatory, organisational and performance level: With the subsidies from the City the contractors have a second source of income additionally to the sale of recyclables. They can operate quite sustainable. The Solid Waste Management Department (2010b) justifies the subsidies with the following words:

> *"Contrary to popular understanding, the costs of collection, sorting and sale of recyclables are more than the income obtained from selling those recyclables."*

In their current format, these pilot contracts cannot be extended to the whole City because of the additional costs due to the subsidies. The project costs the City approximately 30 Rand (ca. 3 €) per household, while 25 per cent of the formal households in Cape Town are participating. Covering the whole City would increase the total costs by 60 per cent. The City itself says that it currently cannot afford these additional expenses. This implies that an additional source of money has to be found (see Appendix II, Interviewee 4).

The option of raising an additional recycling-tariff is commented by the Solid Waste Management Department (2010b) with the following:

> *"The process of raising an additional recycling-tariff is a complex one, and would likely meet with resistance from a large portion of the public, as is the case with any increase in rates or tariffs."*

The City is aware of the need for alternative business models which have to be evaluated. Such an evaluation is currently being carried out, with reference to the Municipal Systems Act (MSA), Section 78.3. (see Box 7.1).

Fees for landfilling are presently incredibly low and the current structure of rates and tariffs in the CCT does not reflect the true cost of the waste management services. The cost of recycling is significantly higher than the cheap option of dumping waste at landfill sites. The system of rates and tariffs needs to be restructured to support a viable recycling market (Cordaid 2008:7). A recent full cost analysis carried out by the University of Stellenbosch Sustainability Institute on waste minimisation options for the City indicates that separate collection of recyclables from households is one of the less cost effective options to achieve waste minimisation. As a result, it is currently not possible to roll out these types of programmes throughout the City, due to their high economic impact and expense to the City (Tatler 2009).

Box 7.1: *Section 78(3) assessment in terms of the local government MSA*

Section 78(3) assessment in terms of the local government MSA

The City of Cape Town is undertaking an assessment of the waste management services to develop an improved system, which meets legal requirements and reduces the amount of waste being disposed of to landfill. This assessment was agreed to by Council on recommendation that the status quo of current municipal services is inadequate and does not meet the changes brought about by the new waste legislation (Solid Waste management Department 2010b).

The new Waste Act that came into affect basically says that municipalities now have to implement or ensure implementation of waste minimization. This project basically deals with that. Also part of the assessment is to see whether public private partnerships with community based organizations and NGOs, working in the recycling sector can work (see Appendix II, Interviewee 3). This will be done in the form of investigations, assessments and public participation and will lead to recommendations to the City Council.

According to interviewee 4 (see Appendix II) there is a very distinct policy towards privatisation in the recycling market in the CCT:

> *"We thought and we still believe that recycling is an entrepreneurial activity and it is not something that the City [...] should compete with the likes of the*

private sector. We should not take jobs and opportunities out of their hands and mouth so what we said we are just responsible to regulate it."

As seen in Chapter 6, at the moment the CCT entirely externalizes its waste minimization responsibilities. So currently the alliance is quite profitable for the contractors who got the tender and for the households, which do not have to pay for the collection of the recyclables. But coming to the City which subsidises the contractors the alliance is not affordable at the moment.

✓ *Goal 3: Legitimacy*

Policy/regulatory and performance Level: The private contractors are seen as legitimate stakeholders participating in waste management in Cape Town, they even get financial assistance by the City Council to provide the recycling service. The project and the contractors are well accepted by the people and households participating. The majority of households are willing to participate in recycling (see Appendix II, Interviewee 2). Participation rates range from 50 to 60 per cent in the initial phase and can increase up to 92 per cent after 12 (Farley 2009).

7.1.3 Problems and opportunities

In case of rising awareness for the importance of recycling amongst the formal residents, the rolled out contracts have proven very valuable. The people involved realize the importance of recycling for protecting the environment.

According to a City official (see Appendix II, Interviewee 4) the amount of packaging waste generated in Cape Town is too less (6-8 per cent) and not important enough to make a visible difference in the total amount of waste going to the landfill sites:

"We remove more paper from this big City building than we remove from a complete suburb, there is a need to concentrate on the bigger things like builder's rubble and garden / green waste, [...] we believe that the benefit of dealing with the residential people is much less than dealing with businesses and drop off sites, therefore the initial purpose is not to extend the 25 per cent."

Therefore the project does not seem to be very important to the City and at the moment it is definitely not affordable for the City to roll it out in other areas of Cape Town. They need to consider new and alternative solutions and the project has shown that the private sector is not the best solution so far. This would now be the opportunity for community based organisations regarding the MSA S.78 (3) to become a legitimate stakeholder in MSWM.

7.2 Street picking in Cape Town

Before introducing and analyzing the alliance between the private enterprise Wasteplan and street pickers in Cape Town I would like to give a general overview of street picking and reclaiming in the CCT in reference to a previously conducted study by the International Labour Research & Information Group (ILRIG). The main purpose of this project was to gain insight into the informal and formal ways in that reclaimers working in the streets of Cape Town are currently organised. The study examined three areas in Cape Town, Salt River-Woodstock, Khayelitsha, and Philippi-Gugulethu where interviews with street reclaimers have been conducted. In all those three areas reclaimers identified the following issues as very important with respect to their living conditions: shelter, winter rains, theft, health and harassment from the police, private security and residents (Benson & Vanqa-Mgijima 2010:34).

According to Benson & Vanqa-Mgijima (2010:1) the people reclaiming waste in the street call their activity by various names - recycling, collecting, mining, minza, ukuzizamela (trying for yourself), grab-grab, and work. But the most common term used is the Afrikaans[19] slang word 'skarrelling' which means 'always on the look-out for something', 'scrounging around' or 'struggling but doing something about it'. This Afrikaans word is unique to Cape Town.

Waste pickers in Cape Town face many challenges. The typical waste picker lives on the street, because he can't afford housing. He is often sick, since he is subjected to all weather conditions and therefore cannot work and earn money to make a living. Fighting with other waste pickers due to different ethnicity belongs to his daily life. As articulated by some of the waste-pickers themselves, the key to overcome those challenges is through organisation and their own collective strength. Most of the reclaimers collect waste not out of a passion for recycling, or prospects for profit, but out of desperation. Given any other working opportunity most collectors in the area would do something else (Benson & Vanqa-Mgijima 2010:33pp). Most of the reclaimers had formal jobs before and only after losing them they started reclaiming out of a desperate need for money. Some do not call reclaiming as a job; they just call it a collecting for a living. Whereas some others see themselves as workers who do an honest living and they regard reclaiming as something that feeds their families (Benson & Vanqa-Mgijima 2010:21pp).

Most of the reclaimers are working as individuals, some work in pairs or in groups of 4 to 10 or more people. They work as friends or as family members, as spouses and also sometimes children are involved. Some pool their reclaimed materials together to make up

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[19] Afrikaans is one of the eleven acknowledged national languages in South Africa.

the kilograms required for the buyback centres and share the money (Benson & Vanqa-Mgijima 2010:24).

Only a small percentage of the reclaimers are women. They mainly focus on reclaiming plastic, paper, cardboard and glass bottles, while men tend to focus on the collection of solid waste like iron ore, steel, copper and other metals. Men have higher incomes than women as they collect heavy material, compared to women who tend to collect light waste which only pays minimal amounts (Benson & Vanqa-Mgijima 2010:17). Especially the male reclaimers either push supermarket trolleys (that's why people refer to them as 'trolley people'), self made carts, horse carts and black refuse wheeled bins. In most cases women carry their collection by hand or on their heads with babies on their backs.

Most importantly Benson & Vanqa-Mgijima (2010:16) found out that reclaimers were disillusioned work seekers, who perform reclaiming as an alternative way of sustaining their livelihoods. Many of them came from other parts of the country or other African countries to Cape Town with the hope for a decent life in the urban cities. That implies employment, access to health, education for their children and a home for living (Benson & Vanqa-Mgijima 2010:17).

Reclaimers often get harassed by the police, what mostly is linked to being homeless and their bad reputation in society. Sometimes the police take their papers and ID's or just throws them away what is very devastating for the reclaimers because the buyback centre owners often demand that reclaimers need ID documents to sell their stuff. This is a huge impediment for them. This harassment even worsened due to the upcoming Soccer World Cup 2010 (see Box 7.2, p.85) (Benson & Vanqa-Mgijima 2010:21). Supermarkets often confiscate the trolleys used for collection and violence amongst the reclaimers is common as some of them stated that people are greedy and steal from each other (Benson & Vanqa-Mgijima 2010:34pp). If the reclaimers pick recyclables from bins on collection days in residential areas or bins located on streets they are often considered a nuisance and are associated with the occurrence of increased crime and an increase in litter in the area. A complaint often heard from residents is that reclaimers rummage through the bins and do not put all the displaced waste back, therefore creating a litter problem (The Sustainability Institute & E-Systems 2007:59).

Box 7.2: *The Soccer World Cup and Reclaiming in Cape Town*

The Soccer World Cup and Reclaiming in Cape Town

Due to the upcoming soccer World Cup, street pickers and NGOs reported about declaimers getting removed from the inner city as part of the 2010 World Cup clean-up from the authorities as one NGO staff member (Interviewee 8, Appendix II) stated:

> *"a lot of them have been picked up in the city and have been dumped outside of the city and they have actually lost their livelihood now, [...] I know of about 16 street pickers that we have supported last six month or the last year that have been dumped out in one of the dormitory informal settlements [...] how can they generate some money where they are because it is costing them now like 20 Rand to get to the city and it is a big problem."*

Benson & Vanqa-Mgijima (2010:27pp) report that things have gotten harder in the Salt River-Woodstock area recently and not just because of the economic crisis, but also because of the upcoming World Cup. The area is being gentrified as part of new investment flows in Cape Town and because of World Cup preparations. Reclaimers said that with the upcoming World Cup police are arresting and harassing vagrants and want people off the streets.

Buyback centres sometimes tend to exploit the reclaimers. As all of the interviewed reclaimers complained about the poor prices the buyback centres offer to them. They feel that the buyback centres are earning huge profits at their expense. There was a clear and consistent awareness of the contrast between the long hours and hard work they did, the potential of high volumes of waste/goods they produced for the owners of buyback centres, and the little money they get. The interviewed reclaimers earned from 10 Rand up to 80 Rand a day (ca. 1-8 €). Those in the lower and middle range of earnings seemed to be working on a hand-to-mouth basis (Benson & Vanqa-Mgijima 2010:25pp). Most of the reclaimers said that they spend their money on food and on clothes and some also on alcohol. One reclaimer mentioned that his goal was to be able to open a bank account and save some money. The highest and most consistent earners were those who focused on scrap metal, all of whom were male. On average the metal reclaimers selling scrap metal earned more than R100 (ca. 10 €) a day (Benson & Vanqa-Mgijima 2010:25pp).

There are many challenges to organise reclaimers. Apart from the spaces immediately outside the buyback centres there are no common meeting places for collectors and therefore it is quite difficult to get in contact with them. Another challenge is that there is suspicion and competition between the collectors. As seen, most reclaimers do not earn much and so time is precious for them because it is money. Another problem is that there is a high level of alcoholism (Benson & Vanqa-Mgijima 2010:27pp). Most of the organisations the researchers spoke to are involved in setting up income-support projects

which are aimed at helping waste-pickers to increase their earnings. The study found that there is a lack of organisations that deal with the reclaiming itself, who try to solve the problem of exploitation. According to Benson & Vanqa-Mgijima (2010:31):

> *"Reclaiming is seen as an individual effort which must be supplemented by other activities to sustain livelihoods."*

However there are instances in which groups of reclaimers come together to collectively organise their work. These are self-initiatives driven by their own interests to obtain reasonable payments at the end of the day. Most of the reclaimer organisations were largely launched by women. Their motivation to organise themselves comes from a sense of injustice and exploitation.

The main focus of these self-initiated groups' is waste-reclaiming and they are directly involved in the collection and selling. According to the conducted interviews these groups have not tried to change the power relations between themselves and the buyback centres so far. Their concern is just to ensure that they collect enough to get a least a decent payout. Most of the interviewed reclaimers expressed their needs for being part of an organisation or a union (Benson & Vanqa-Mgijima 2010:31pp).

7.3   Alliance 2: Wasteplan – Street Pickers

As the study of Benson & Vanqa-Mgijima (2010) showed, street reclaimers have many challenges to face and they belong to one of the most vulnerable parts of society in Cape Town. The next part presents a partnership between street reclaimers working in Cape Town and the Think Twice contractor Wasteplan (see Figure 7.3). They set up an 'upliftment' program to work with the reclaimers in their collection areas.

Figure 7.3: *Recycling Alliance No. 2*

7.3.1   Wasteplans upliftment program

As Wasteplan started the Think Twice program some initial problems were experienced when the local street reclaimers raided the wheelie bins before they were collected. As Interviewee 2 (see Appendix II) described the situation:

> *"When we started, we started seeing people going through our bags and then they would just take what they want and just leave the bag open and the wind*

would blow everything and the residents would phone us very unhappy saying that they are not going to do recycling because these people are messing up the whole system."

So Wasteplan decided to incorporate these informal collectors in the programme rather than forcibly removing them from the area. Wasteplan started a trade relationship with the street pickers that were willing to participate. They issued them trolleys, green bags and branded vests so they could work through the bins of the houses that do not partake in the Think Twice program. The plan was that Wasteplan would collect their material at the end of the day and pay them per kg for their harvest subjected that they didn't go through the clear bags (see Appendix II, Interviewee 2).

7.3.2 Contribution to sustainability goals

✓ *Goal 1: Maximization of recycling and re-use*

Policy/regulatory level: In the beginning of the Think Twice project, Wasteplan tried to apply legal barriers against the informal recycling activities of the street reclaimers. They printed a disclaimer on their bag that said "This is the property of Waste Plan you cannot take it". As Interviewee 2 (see Appendix II) stated:

> *"So we've tried to enforce the law on to these people but it's not really possible. First of all when that guy steals your bag and he puts it in his trolley you don't have a guarantee that that guy is actually literate and that he can read the disclaimer so when you end up in court with that guy they just throw you out of court because you can't prove that that guy understood what he was taking or what was standing on the bag. So it's very difficult to enforce by law and living in South Africa there is much worse crimes out there then someone steeling a bag full of recyclables."*

Organisational level: So Wasteplan established a partnership with the street reclaimers. They could sell the recyclables to Wasteplan instead of bringing them to a buyback centre. The length of the trading chain didn't alter for the street reclaimers. For the contractor Wasteplan the partnership constituted another source for recyclable material. Unfortunately there is no information available on the prices which the street reclaimers got from Wasteplan and if they were higher compared to the prices of the buyback centres.

Performance level: The last aspect concerns the performance level of the partnership. In theory the partnership should have actually increased the recycling rate of the contractor by getting additional material from the households which do not participate in the project. But the problem was that the reclaimers did go through the clear bags instead of the wheelie bins. So according to Wasteplan the reclaimers still opened the bags and messed on the loans of residents (see Appendix II, Interviewee 2). Therefore the performance level didn't

increase it rather went down because the reclaimers took materials from the clear bags and sold them to other buyers (see Appendix II, Interviewee 4).

✓ *Goal 2: Financial viability*

Regulatory, organisational and performance level: On a regulatory level Wasteplan gets subsidised by the City of Cape Town for the service and the street reclaimers get paid by Wasteplan for the recyclables per kg. That fact that the reclaimers did not stick to the agreement with Wasteplan and took away the valuable materials out of the clear bags had the consequence that Wasteplan did not make profits out of that partnership (see Appendix II, Interviewee 4).

For the reclaimers it is quite profitable to get all the valuable items already separated in one bag. An indicator for unstable prices is the fact that the reclaimers sold the materials to other buyers which probably paid them more for the materials than Wasteplan did.

✓ *Goal 3: Legitimacy*

Policy/regulatory and performance level: In theory the changed regulatory environment due to the arrangement between Wasteplan and the street reclaimers increased their legality and the legality of the activities carried out by them. They got vests which declared that they work on behalf of Wasteplan therefore households were less inclined to consider them as thieves and hazards and allowed them to access their wheelie bins.

But after a year residents started complaining that they see reclaimers with clear bags in their trolleys and because of the ongoing problems with 'bagscratchers' tearing open the bags or removing them the police decided to arrest people who steal bags of recyclable goods from residents' refuse (Tatler 2009).

7.3.3 Problems and opportunities

Problems of the project reported by a City official (see Appendix II, Interviewee 3) are that the work of the reclaimers is very seasonal and unreliable:

> *"So in winter people don't work because it rains and all kinds of things and then in summer towards the end of the year it is Christmas time…hmm…I am on holiday. Even though I haven't got a job I am on holiday, right. But so you cannot provide stable employment, the contractor cannot rely; his service that he provides then is unreliable."*

Despite all the problems, including reclaimers scratching the bags and taking the valuable items, Wasteplan still thinks that it would be ideal if a way could be found to integrate the reclaimers formally into the new recycling collection system. But it is not easy to call a meeting with them and to accomplish mutually accepted solutions as Interviewee 2 (see Appendix II) stated about the project:

"There is a lot of risk involved as well when it comes to those people [street reclaimers] but we don't really have a choice why our policy is to help these people. We still need to risk manage as well. But, yes, it is part of our upliftment program."

Another problem which comes up is that the idea of incorporating the street reclaimers into the recycling program might be omitted completely because the contract for the Think Twice project in that area ends this year in October. It will be put out for tender again and then maybe another contractor will get the project and force the street reclaimers out of the areas (see Appendix II, Interviewee 2). A City official (see Appendix II, Interviewee 4) stated that:

"There could be a conflict of interest if the 'bergie'[20] enters and they tear the bag then whatever methodology that we have introduced is goanna be of no value then we will certainly have the bergies removed, because it is not easy to organize, people that are informal and the informal collectors and the bergies are bergies because in most instances they want to be I am not saying you can't rehabilitate someone but mostly they want to be, they don't want to be attached."

At this stage the SWMD of the CCT and the contractor Wasteplan do not have a plan for the partnership with the street reclaimers, as Interviewee 2 (see Appendix II) said:

"It remains a problem and it's not something you can wish away. It's something that you have to manage. We haven't really come up with a solution that's workable it is quite a big problem, it is very difficult."

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[20] Bergies is a term referring, loosely, to people who, it is claimed, lived in caves along Cape Town's mountains ("berg" is Afrikaans for mountain). Today it is a derogatory term for a homeless person, a beggar and/or any vagrant (Benson & Vanqa-Mgijima 2010:21).

7.4 Alliance 3: NGO – Hout Bay Recycling – City of Cape Town

Figure 7.4: *Recycling Alliance No. 3*
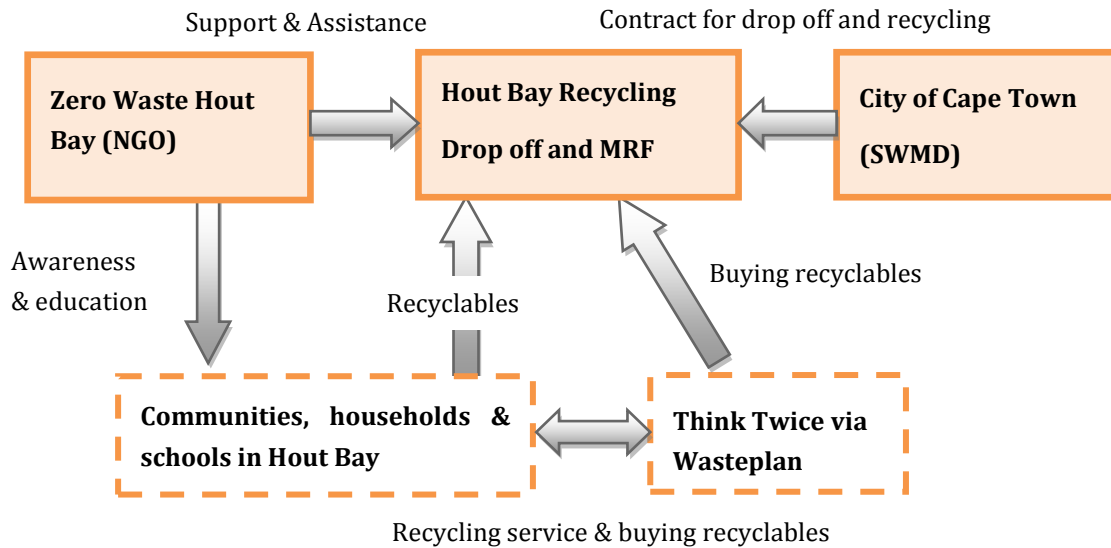
The main alliance (see Figure 7.4) comprises of the NGO 'Zero Waste Hout Bay', the community Recycling Cooperative 'Hout Bay Recycling' which operates the Drop off and Material Recovery Facility (MRF) in Hout Bay and the SWMD which provides the contract from the Drop of facility. Besides these main stakeholders there are two other stakeholders which are also involved in recycling in Hout Bay. The contractor Wasteplan offers the Think Twice recycling service amongst households in Hout Bay and schools are also collecting recyclables to increase their funds. Below I will give a more detailed description of the connections between the different stakeholders and how they relate to each other.

7.4.1 Think Twice in Hout Bay

There is a door-to-door collection of dry recyclables in the context of the Think Twice pilot project carried out by the City's contractor, Wasteplan. However this service is not available to regular housing in Imizamo Yethu or the Hangberg[21]. The two thirds of the households who are not serviced by the recycling project can take their recyclables to the Drop off site at Imizamo Yethu or can bring it to one of the schools. All Hout Bay Schools have been linked by the Zero Waste team to the Think Twice pilot project. Schools have recyclables collected and then they get paid by Wasteplan to raise funds for their school (Zero Waste Hout Bay 2010).

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[21] Imizamo Yethu and the Hangberg are informal settlements in the greater Hout Bay Valley area.

7.4.2 Zero Waste Hout Bay (ZWHB)

Hout Bay has a strong history of recycling. During the period from 1997 to 2007, Hout Bay was encouraged to recycle via a 'free pick-up' of dry recycling by community-based Kronendal Recycling, this service was self funded. In the ten years of existence the Kronendal Recycling team raised hundreds of thousands of Rand for the Kronendal School and saved the City huge amounts of landfilling costs. Unfortunately the activities stopped due to various reasons, like a stolen collection car, poor recycling depot management and a lack of interest of the City of Cape Town in the created structure (see Appendix II, Interviewee 6). Therefore in 2007 a volunteer group of environmental activists decided to resurrect the vision of recycling in Hout Bay. They implemented a mentor program for each school, to educate school children on environmental issues concerning waste and on the three Rs, reduce, reuse and recycle. But they also realized that they couldn't do that without a place where people could take the waste, so they resurrected the Recycling Depot in Hout Bay. The focus of Zero Waste Hout Bay lies on encouraging waste reduction and wise waste management. Their vision is to move from reduce, reuse, recycle to refuse, rethink and 'pre-cycle'. The big goal is to not throw recyclable waste to landfill but to recycle it instead. They have set a goal that they want achieve zero recyclable waste going from Hout Bay to landfill until 2010 (Zero Waste Hout Bay 2010).

ZWHB is very creative and committed; they created some important projects over the last years (see Box 7.3, p. 92). For example in 2008 they introduced 220 recycling bins to every classroom in Hout Bay, so that every prim school could collect their recyclables and take them to the Recycling Depot. These bins were sponsored by a beverage company (Appletiser). They also had a 'Leave your waste behind' campaign in 2009 with four supermarkets where they promoted that people unpack and leave their waste behind in the supermarket. The purpose of this campaign was besides educating people about the need to recycle their waste to educate both shoppers and suppliers how non-recyclable packaging is having a serious and detrimental impact on the environment. Shoppers should think ahead and 'pre-cycle', what means that people start thinking about waste before buying things.

Recently ZWHB initiated a school recycling competition for the 2010 Soccer World Cup kick off on 11 of June. The school, the class and the individual that collected the most recyclable waste until that point of time would be awarded. They also had a "kick your waste" soccer tournament where seven schools got together to play soccer. Activities like this encourage the learners and the school children in Hout Bay brought in 3 tons of recyclables in March through this competition (see Appendix II, Interviewee 6).

✓ *Education for Recycling*

Education for learners is carried out via the 3Rs 'mentorship and champion' system, which means that each school in Hout Bay has a 3Rs mentor and an environmental champion in the school (generally a teacher) who ensures that recycling is introduced to and kept in practice at their school (Zero Waste Hout Bay 2010).

As the Think Twice project of the City started Zero Waste Hout Bay criticised the community divide which is reflected in the city's approach to waste management and recycling. According to Zero Waste Hout Bay:

> *"The poor are left with no option, but to dump, whilst wealthy receive door to door waste and recycling collection."*

This divide also means that the informal areas will not benefit from the recycling education which has to be done by the Think Twice contractors. Therefore the mentorship programme from ZWHB will be extended to the residents of informal and formal housing in Imizamo Yethu and the Hangberg (Zero Waste Hout Bay 2010).

Box 7.3: *Hout Bay Zero Beach Waste - dog pooh to compost project*

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Hout Bay Zero Beach Waste - dog pooh to compost project

One very famous project ZWHB introduced in 2009 was the 'Zero Waste Beach project' (see picture below). There is a beautiful beach in Hout Bay but also many dogs that walk on the beach and therefore a lot of dog-pooh. According to Interviewee 6 (see Appendix II) approximately 80 per cent of the dog owners carry a plastic bag with them to pick up that dog- pooh and to put in into the green litter bins. The problem is that people don't think about what happens to this plastic bag with the dog-pooh inside after they have thrown it away. So either the beach was full with dog-pooh or the people packed it and threw it away. ZWHB recognised the problem and stated:

> *"If we want a zero waste Hout Bay then to put bio degradable stuff into plastic it makes no sense because you immediately make a little sarcophagus and then you throw it to landfill and it can leachate so let's work on this and through a number of conversations and meetings we came up with that flag system."*

At the moment there are two beach cleaners and if people come down with their dogs they take one little green flag and offer a donation to the beach cleaner. So they have to put the flag next to the dog-pooh and the cleaner will pick it up and bring it to a composting project. Six jobs have been generated with that project and according to Interviewee 6 (see Appendix II) each person takes home at least 2000 Rand (ca. 200 €) a month and they also get a basic salary of 900 Rand (ca 90 €) a month from local businesses who have seen the results of the project and have seen a clean beach for the first time since the project started. Another good spin-off of the project is that the beach cleaners also pick up other waste as well, so there is a constant seven to seven cleaning of the beach, both of dog-pooh and waste (see Appendix II, Interviewee 6).

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7.4.3 Hout Bay Recycling Cooperative (3 Rs)

The Hout Bay Recycling Cooperative is a community based recycling organization with currently ten people from the nearby community Imizamo Yethu. They operate the Hout Bay Drop off and material recovery facility. Before 2009 there was the private company 'Interwaste' contracted by the CCT to manage the Drop off facility. In 2007 as Zero Waste Hout Bay initiated the Recycling Cooperative they worked for Interwaste at the Drop off facility. Everything went well for quite a while until problems came up with Interwaste. There were problems with the finances and the salaries for the members of the Cooperative and a lot of recyclable waste was going to landfill instead of being recycled. As the people of ZWHB recognized that Interwaste was not managing the Drop off site properly, they alarmed the City but nothing happened. Only a change in the City management for the Drop off depots initiated, that a new tender was put out for the Drop off facility in Hout Bay (see Appendix II, Interviewee 6). So now the Cooperative is working through a proper tender directly for the City and not as a sub-contractor for a private company. They also got land behind the police station to set up their facility. In order to apply for the tender, the cooperative was supported by the volunteers of ZWHB. As Interviewee 6 (see Appendix II) stated:

> *"So they get free land, that piece of land and they've got the tender but it has been a hang of a lot of paper work to get the tender, you know these long tender documents and all ah you know it is actually not worth it if you look at it you know the amount of time we've volunteered to put in to have that continue without our volunteer input volunteer that wouldn't be there you know, but without the input of the workers of course it wouldn't be there either."*

In addition to sorting the recyclables at the Drop off facility, Hout Bay Recycling manages the beach cleaners and provides a recycling service at events. Residents from Imizamo Yethu and the Hangberg now have the possibility to collect clear bags at the Drop off facility and to separate their recyclables which they then can take to the Recycling Depot (Zero Waste Hout Bay 2010). Through the various recycling possibilities created by ZWHB and Hout Bay Recycling they have given everyone in Hout Bay the opportunity to recycle and come closer to their goal of having zero recyclable waste to landfill by 2010.

7.4.4 Contribution to sustainability goals

✓ *Goal 1: Maximization of recycling and re-use*

Policy/regulatory level: Hout Bay Recycling got the tender from the City of Cape Town for managing the Drop off facility in Hout Bay. This formal agreement with the City

means that all the recyclable waste is their property as soon as it arrives at the facility (see Appendix II, Interviewee 4). They are the legal owners of the recyclable waste.

Organisational level: In having the tender they cut out the private company from the trading chain and are able to sell the recyclables directly to the recycling companies. They are doing their own business and are no longer dependent on an employee. There are no buyback centres in Hout Bay and its surroundings, therefore basic recyclables like glass, tins, paper or plastics do not have a value for the people to sell and so all the recyclable waste can either go to the Drop off site, the schools or to the Think Twice project. There is no danger that someone might steal or scratch the bags.

Technical level: In most cases source separation of the recyclable waste takes place at the household level. People collect their recyclable waste at home and then bring it to the Drop off facility. Therefore they receive high value waste which is mostly not contaminated by the wet waste fraction. Still they have to sort the waste at the Drop off facility again.

Performance level: In October 2009 Hout Bay took 6 times as many truckloads to landfill than to the recycling depot (see Figure 7.5), what equals 675 tons of waste to the Coastal Park landfill site. Hout Bay recycled 104 tons back into the manufacturing stream and 176 tons of compost. According to ZWHB this is not a good ratio, considering that most things could be recycled. They are not satisfied with their performance levels. Up to now they achieved 1/6 of the way to their 2010 goal of zero recyclable waste going to landfill (Zero Waste Hout Bay 2010).

Figure 7.5: *Tons to landfill vs. tons to recycling in Hout Bay*
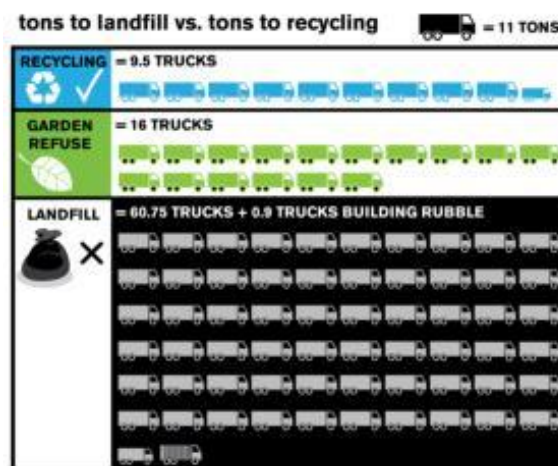
Source: (Zero Waste Hout Bay 2010).

Last statistics of the recycling depot show that they get in between 20 and 30 tons of recyclables a month. The Recycling Cooperation, Zero Waste Hout Bay and Wasteplan have a good relation but recycling numbers for the Recycling Depot decreased since the implementation of the Think Twice recycling project.

✓ *Goal 2: Financial Viability*

Regulatory, organisational and performance level: In contrast to Wasteplan, the Recycling Cooperative in Hout Bay gets no financial support from the City for their service; except the free land and the tender for the Drop off and Recycling Facility, which is the only source of income for the 10 members of the Cooperative. If the cooperative gathers a hundred tons of recyclables, they are able to sell to the big recycling companies. With amounts less than 100 tons they have to sell their recyclables to Wasteplan and get less money. There is no information about the stability of prices for recyclables in this case.

✓ *Goal 3: Legitimacy*

Policy/regulatory and performance level: Due to the creative, hard and time consuming work of the volunteers from ZWHB and the workers of Hout Bay Recycling, waste and recycling are big issues in Hout Bay. ZWHB is well known amongst the people. They have involved all schools in Hout Bay in their education and mentorship projects and they are very active in planning events around the issues of zero waste and recycling. Participation rates of the Think Twice project were higher than in other participating communities. Hout Bay has probably the most strongly educated community in whole Cape Town and they also have a monthly column in the local newspaper 'The Sentinel' on waste and recycling where they get the community informed about the projects and their outcomes but also on the struggles they face (see Appendix II, Interviewee 6).

Despite problems with private contractors in the beginning now all the actors involved in recycling activities in Hout Bay are widely accepted by the public. Due to the tender the Hout Bay Recycling Cooperative is formally recognized by the CCT.

7.4.5 Problems and opportunities

As seen there are many actors involved in recycling in Hout Bay, the City initiated the Think Twice recycling campaign with Wasteplan as the formal contractor, schools collecting the recyclables to get additional funds and the Drop off and Material Recycling Facility near Imizamo Yethu. This generates the problem that a good coordination of recycling services in Hout Bay is very difficult. The amount of waste which goes to the recycling facility of the cooperative has decreased since the implementation of the Think Twice project. To operate sustainable Wasteplan has to increase its amounts of recyclables so they buy from the depot and the schools. There is competition for the recyclable materials amongst the various actors and they all depend on each other in some way.

ZWHB has many plans and visions for the future, including a two bin system for public bins and improvements in the areas of Imizamo Yethu and the Hangberg which should be included into the recycling scheme since the opportunities there are not fully utilised yet,

especially concerning the huge amounts of wet waste and the potential for composting. According to Interviewee 6 (see Appendix II), part of the bigger vision is the creation of an all-inclusive recycle park. As a positive example there is an organisation called Ilithalomso, which regularly comes to the Recycling Depot to buy all kind of plastics, that they re-use for creating colourful pieces of art (see Box 7.4, p.97).

The most important opportunity for the Recycling Cooperative and for ZWHB would be to get the contract for the Think Twice recycling project as Interviewee 6 (see Appendix II) stated:

> *"So you know what we see is that the City by doing this tender process has actually shot themselves and households in the foot because it is too expensive, we could have done it through what we had and they just supported that system by maybe creating a place where we can recycle, you know that little place now is a bit small, we need a bigger recycling depot, where we can recycle all of Hout Bays waste so instead of going all the way to make that with Wasteplan let's get jobs here in Hout Bay and you know increase it from 100 to a 200 tons a month and that would be at a zero cost to the City because the whole operation will take the cost into account [...], so that's what our plan is in the next two years to get something, a proposal on the card saying we can take over from Wasteplan."*

At the moment the City is not really encouraging and supporting the community efforts for recycling but maybe this new kind of partnership between the City and the Recycling Cooperative would be a useful alternative for the current financial unsustainable contracts with private companies. Hout Bay has perceived the value of waste and the many possibilities which waste and recycling include.

Box 7.4: *Ilithalomso - Craft from waste*

Ilithalomso – Craft from waste

A few years ago the Non-Profit Organization 'Kommetjie Environmental Awareness Group' also called KEAG ran a number of litter clean-up projects on the Cape Peninsula. They collected hundred of bags of litter, especially plastics, each month and therefore decided to explore the concept of making crafts from plastic waste and so the Ilithalomso project was born. Ilithalomso is a Xhosa (one of the eleven national languages) word which means 'new dawn' according to the new life brought to the crafters and the collected waste through the project.

Since January 2010 Ilithalomso is a self-sustaining business which now runs independently from KEAG. The project consists of 8 women and four guys who help out part time. The women meet every day at the house of the project managerin Yandiswa Mazwana in Masiphumelele (see Figure 7.6) (a township, 40 km south of Cape Town, with about 25.000 residents, many very poor and most living in shacks). There they talk about new ideas and work together on the different products. Yandiswa said that in the beginning of working independently from KEAG it was quite difficult for them because no one knew how to run a business. But due to the many and strong relationships with shops and people all over the world (Australia, Paris) the group currently manages quite well.

They create many colorful products like Elephant Heads, Birds, Curtains, and Mirrors out of various disposed plastic items. For example fabric softener bottles are used for Elephants, toilet cleaner bottles used for Ducks and the lids of bottles are used for curtains. In the beginning they got the plastics primarily from the neighborhood in Masiphumelele but now they also go once every two weeks to the Oasis (see Chapter 6), the Lekkerwater Drop off recycling centers and the Hout Bay Drop off facility to buy the plastics for their products. They pay 10 Rand (ca. 1 €) for a kilo of plastics and sometimes the center has already separate the plastics for them. To the question, if all women in the project can sustain a living out of the selling's Yandiswa said:

> *"At the moment the business is running quite well due to many work orders for the Soccer World Cup 2010. But it is on and off like all businesses and I think to be sustainable we will need lots of overseas outlets"*

(Conversation with Yandiswa Mazwana in Masiphumelele, see Appendix I, Annex 3).

Figure 7.6: *Yandiswa Mazwana, project managerin of Ilithalomso*

Source: (Tischler 23.04.2010).

7.5   Alliance 4: City of Cape Town – Middleman – Reclaimers

Figure 7.7: *Recycling Alliance No. 4*
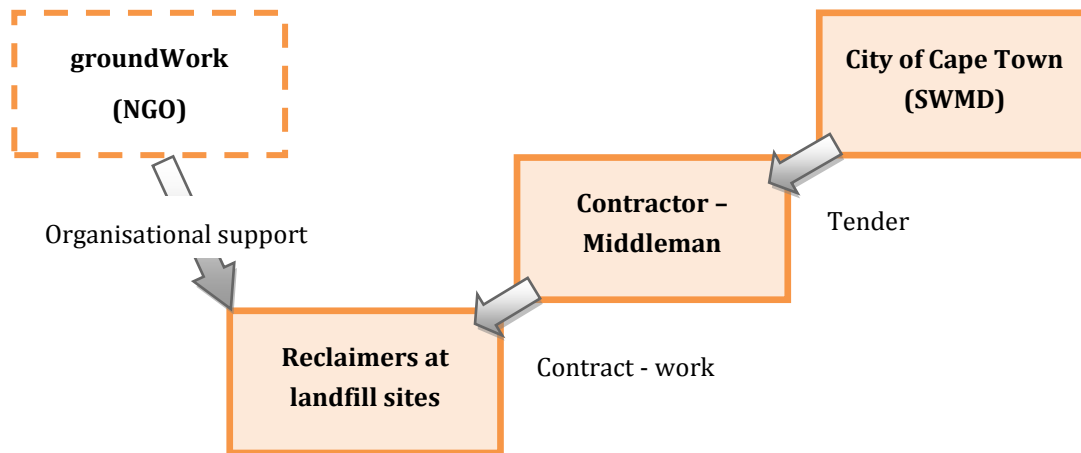
This alliance in Figure 7.7 consists of three main stakeholders including the SWMD which contracted a middleman to reclaim recyclables at the landfill sites in Cape Town. This middleman was working with informal reclaimers which were already working at the landfill sites. The NGO groundWork is currently involved in supporting the reclaimers in Cape Town.

7.5.1   Contribution to sustainability goals

✓ *Goal 1: Maximization of recycling and re-use*

Policy/regulatory level: There is no specific legislation which allows or prohibits waste picking at landfill sites; normally it lies in the responsibility of the landfill manager since he is the one who deals with the day to day operations at the landfill site. The new Waste Act says that reclaiming of waste may be allowed, but there is no legislation in South Africa that requires municipalities to engage with the reclaimers and to respect their rights. It depends on each municipality whether they involve them or not. Once the new Waste Act has been included into local legislation, municipalities will be enforced to engage with waste pickers (see Appendix II, Interviewee 9).

Currently Cape Town doesn't allow reclaiming at landfill sites on behalf of safety and health reasons, and there is no legal chance for the reclaimers to get into the landfill sites. Still they find their ways of getting into the landfill sites, what is very dangerous for them because they may get beaten by securities. Sometimes the landfill management calls the police to come and to remove them from the landfill (see Appendix II, Interviewee 7). As a City official stated (see Appendix II, Interviewee 4):

"We used to have picking at landfill sites but it is not this type of thing that we from the City would sustain or support we don't think it is a human interaction, yes it is happening but it is not happening formally if it is happening it is due to control issues but not due to permit issues, we had salvagers on board and they were allowed to bring in as many as 42 people to the site but then we said no we are not goanna allow that anymore because people got hurt and people were killed and because the conditions at the workface are very difficult and you can't expect people to make a living out of a landfill site."

Organisational and performance level: Before the reclaimers got removed from the landfill site they were working under a contract with a middleman who got the tender from the municipality to extract recyclables from the landfill site. According to the City the contractor on the site was supposed to harvest plastic, paper, glass and all kinds of recyclables, but they only harvested metal, because it pays most. In consequence the City did not renew the contract, since the impact on lessening the volume of the landfill was negligible (see Appendix II, Interviewee 4).

  ✓ **Goal 2: Financial Viability**

Regulatory, organisational and performance level: According to Interviewee 7 (see Appendix II) the reclaimers used to make about 190 Rand (ca. 19 €) a day, which is a lot more than now. Since a middleman was involved as a contractor at the landfill site the money generated out of the recyclables could have been more for the reclaimers without the middleman as intermediary. There is no information, if the contractor got paid by the City for its service. The only sources of revenue for the reclaimers were the recyclables they picked at the landfill site. There is no information on the contractor and if the tender was profitable for him.

  ✓ **Goal 3: Legitimacy**

Policy/regulatory level and performance level: The biggest problem for the reclaimers now is that the CCT doesn't accept them at the landfill sites anymore. Also there is no law which they can refer to. The reclaimers were formally recognized as they were allowed to pick at the landfill site due to the contract the City had with the middleman. Now that the contract ended and trespassing the landfill site is formally illegal for unauthorized persons entering the landfill makes the reclaimers criminals.

7.5.2 Problems and opportunities

From the reclaimers point of view the biggest problem is that they are not accepted by the City government and therefore are no more allowed to pick on the landfill sites. The local government is turning everything into governments business; they tendered waste picking

at the landfill sites out to a private company (see Appendix II, Interviewee 7). This is especially hard for the reclaimers who are living in Vrygrond[22], most of them were picking for as long as 14 years and sustaining their lives with that income. Now since the NGO groundWork is active in getting reclaimers organised all over South Africa, the ones from Coastal Park landfill site immediately began with organising and appointing a secretary, a treasurer, a chairperson and a landfill coordinator as well. There is also a provincial coordinator and a coordinator on the national level. As Interviewee 7 (see Appendix II) said:

> "Here in Cape Town we actually started organising and it is quite organised now and everybody has got a space and we look at each other as equals, but unfortunately we were not allowed to go back on the landfill so it is pointless now, we've got this group but we don't have a place to recycle. So as soon they allow us to go back there, we are ready but at the moment it is pointless."

So the reclaimers already started to organise themselves and to become a formal registered cooperation but as Interviewee 7 (see Appendix II) said, as long as they have no access to the landfill site it is pointless for them. They are aware of the safety and health risks of individuals picking unorganised at a landfill with no control, but they also know if people are working as a cooperation then this danger can be decreased because they will have their own designated space within the landfill site, meaning that they know where the trucks are going. They have strict rules which prohibit eating on landfill sites, as Interviewee 7 (see Appendix II) explains:

> "The reason why we want coops is that, if there is a coop obviously there will be rules [...]. If people organize there will be rules you are not allowed to go in a landfill without safety clothes, as we saw in Stellenbosch, but as we have seen this people were not even wearing shoes, some were wearing flip flops, they were digging with their hands, they don't have gloves, they don't have face masks. I mean if we work as a group as we have seen in other places where we have worked with other waste pickers they have got gloves they have covers they have clothes that shows that is a waste picker even that person who is working with this machine can see that there is a waste picker there, that person is on duty then the person will work on the other side give each other space so ja I think if people organize it is quite safe."

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[22] Vrygrond is a socially and economically deprived community of some 10,000 men, women and children, situated near Muizenberg, on the False Bay coast about 20 kilometres from central Cape Town (Vrygrond Community Development Trust).

The reclaimers in Cape Town already tried to get in contact with City officials to explain their plans and needs and they have spoken to some people from the Solid Waste Management Department and to landfill managers. Unfortunately people were not open for their concerns and no one felt responsible for them. As one City official (see Appendix II, Interviewee 3) stated:

> "But Cape Town is saying no we just got rid of it because there have been mortalities on the landfill site, it means the council is responsible and the legislation that deals with health and safety is quite strict and Cape Town has just said no."

Some City officials do not see the environmental and social value that lies in waste picking at landfill sites. Their argument is that instead of harvesting recyclables they were harvesting food (see Appendix II, Interviewee 4). Others in turn see that there is a potential for some recovery to happen at the landfill sites, but there are no plans to change the present regulations. Instead they offered the reclaimers to work with them, if they can find a company as contractor with the City, as Interviewee 7 (see Appendix II) stated:

> "They want us to come and work under a company and not as a co-op or as a group [...] but we don't want a middleman. We want to cut them off and we [...] want to be on our own and we know we can save a lot of lives out there."

The core of the argument is the availability of capital. If Cape Town had a PPP with an investor, this would mean that at least half of the required capital would come into the project from outside. GroundWork on the other side disapproves privatisation because it has the potential to oppress the waste pickers. Normally they get paid peanuts from the private companies, since they again rely on their profits. As Interviewee 9 (see Appendix II) mentioned:

> "We do not think that the privatisation of waste is a good way to go, we really do not benefit that because it is oppressive and the pickers are oppressed already, those who are financially oppressed are getting even more oppressed, so the declaration that the reclaimers developed in their first National Meeting as waste pickers in Jo'burg, they said that they will fight with all means to make sure that they get rid of privatisation."

7.6 Alliance 5: NGO – savings groups – City of Cape Town

Figure 7.8: *Recycling Alliance No. 5*
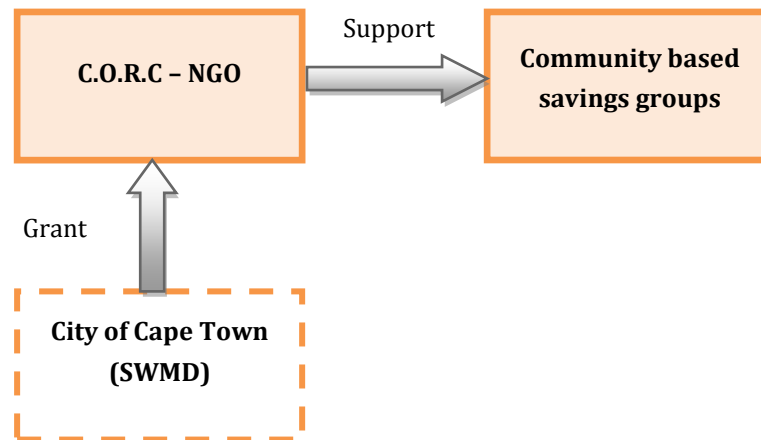
Alliance number 5 (see Figure 7.8) connects two main stakeholders, the NGO Community Organisation Resource Centre (CORC) and community based savings groups. Together they form a Solid Waste Network.

7.6.1 Community Organisation Resource Centre (CORC)

The NGO, CORC is the local affiliate of Slum Dwellers International (SDI) for South Africa. Here CORC is the administrative arm and the support organisation of different social movements and networks. SDI is currently a network of community-based organisations and slum dweller organisations in more than 30 countries, which promote 'horizontal learning', transnational communication and alliance building between marginalised urban people. SDI pursues the strategy that participants in a savings network learn best from each other. Therefore it enables groups to come together and learn from their achievements. This exchange process takes place not only on a street level but also between towns, regions, provinces and different countries. They have a special focus on supporting the role of women in society therefore they encourage the formation of savings groups by women and local communities to develop financial management skills, to help build solidarity and to generate funds. The initial focus of SDI is on the provision of housing, whereby CORC identified the need to address the problems of the urban poor in other areas of service delivery including waste management. Waste management emerges as a key issue and CORC realised that the collection and the sale of recyclables is a strategy to increase money available for savings (CORC 2010).

CORC in South Africa provides support to networks of urban and rural poor communities who mobilize themselves around their own resources and capacities. Interventions of CORC are designed accordingly to the SDI approach, to enable these communities to learn

from one another and to create solidarity and unity in order to be able to arrange deals with formal institutions. CORC provides support to women's collectives that are mobilized through savings. CORC's primary grassroots partner is the Federation of the Urban Poor (FEDUP) which is a national network of women's savings collectives that has mobilized extensively in informal settlements in all nine provinces of South Africa. FEDUP has a loose alliance with another savings network known as the Poor People's Movement (PPM) (CORC 2010).

7.6.1.1 The Solid Waste Network

After undertaking various research trips to Cairo to visit the *zabbaleen* which have developed a particularly advanced informal recycling system and to Nairobi, CORC and the Coalition of the Urban Poor (CUP) partnered with the FEDUP and the PPM to create a sustainable resource management program focused on environmental awareness, community clean-ups, and solid waste recycling. As Interviewee 8 (see Appendix II) reported on the City learning program:

> *"I went to Cairo and when I went there I was so blown away by what they were doing, because they have a whole value chain and if I look at what the Egyptians are doing I think we are still not that big and I know we are at the very first step on the value chain of solid waste management and I think [...] maybe this year we will move to step two and once increasing the value chain you start adding value to the raw materials that you are recycling."*

The Solid Waste Management program in Cape Town works with about 30 community savings groups which are located less affluent areas. They collect recyclables in their communities, from streets, from neighbours from open parks etc. These groups which mainly consist of women manage the entire process, they negotiate contracts with local businesses to collect, sort, and bulk the waste. The recyclables are then collected and transported by CORC to the recycling companies. Every two weeks, the savings groups are paid and the income is divided amongst their members (see Appendix II, Interviewee 8).

The program has been triggered by CORC but it basically functions independently. CORC provides certain solid waste management services to the community pickers including transport, collections, markets, selling and they organise interactions with the government. When CORC started their target groups were mainly slum dwellers in informal settlements that were already organised in savings collectives. As Interviewee 8 (see Appendix II) states:

> *"...so basically we say savings is the glue that keeps communities together."*

But CORC also works with groups who are not saving groups as long as they are poor. They also collect recyclables from the street pickers in Cape Town. Every month CORC

has a meeting with all the representatives of the groups where they discuss issues regarding the network. With the project CORC generates new income streams and contributes to the environmental debate at a community level. The people in the network do the picking mainly for income purposes (see Appendix II, Interviewee 8).

Although CORC doesn't exclude men, the savings groups are just organised by women. Which Interviewee 8 (see Appendix II) explains with an organisational point of view:

> *"men are more individualistic [...] women build trust amongst them so, where men would always work around issues of power and those kind of things and savings for us is the tool that builds trust between women, where women come together on a daily and a weekly basis, put small amounts of money on the table, and basically just talk about their families their children, their livelihoods, their needs, they share amongst each other so that is basically the reason for it."*

The project is home based, which means that people do collect and store the recyclables at their homes, because space is very tight in informal settlements. CORC does not have a storage facility. They deal with six or seven companies on a regular basis dependent on the tonnage what they have. They are a mobile service so they pick up materials until the truck is full. The only time that they put the recyclables off at certain other unit is when they need sorting, what is also done by some people of the savings groups. Besides collecting the recyclables from the savings groups, CORC also collects from different institutions (e.g. University of Cape Town) their mixed waste normally involves a lot of paper which CORC brings to a group for sorting and they get paid for (see Appendix II, Interviewee 8).

As the first Think Twice pilot project collapsed, the City approached CORC to assist them with the collection and the sorting of the recyclables. So CORC set up a Recycling Depot in Philippi to sort all the waste. This created 6 new jobs for the women and the project was working quite well but then the City put it out for tender again. They asked CORC to apply but as Interviewee 8 (See Appendix II) said:

> *"We as a community organization, we think it is incorrect for us to compete with the private sector solid waste management for public tender, so we did not do the tender so they probably gave it to some other private sector company, the other reason for it is, our core business is to support community groups and not necessarily to do a waste segregation in a middle class community, we would rather set up a waste segregation program in a poor community."*

A few months after Think Twice the Recycling Depot was forced to close due to continued vandalism and theft. So CORC now just provides a mobile service with two trucks on the road (see Appendix II, Interviewee 8).

Waste audits are an additional opportunity for income creation. CORC works with one or two organizations to audit how much waste they produce and what their waste and carbon footprint is. The organisations can request that service. This is a big opportunity for the savings groups because it creates jobs (see Appendix II, Interviewee 8).

80 per cent of the people in the network spend the earned money on their households. There are some groups where money goes to social programs like food kitchens. Members of the Solid Waste Network started up a soup kitchen in a shipping container funded by money from recycled glass bottles that the people bring, in return for hot soup (Cordaid 2008:23).

Effective solid waste management not only supports the community through employment opportunities, but it has the potential to build social capital, safety nets and community support systems. As Interviewee 8 (see Appendix II) mentioned:

> " For us to support groups is not necessarily only about recycling and waste it is also about to build critical mass and critical voice amongst poor people, once they have organization anything is possible, so building organization amongst women is crucial, it is absolutely crucial."

7.6.2   Contribution to sustainability goals

✓ *Goal 1: Maximization of recycling and re-use*

Organisational level: The members of the network are able to cut out the middlemen. They can hand their collected waste to CORC and they will collect as long as they have sufficient amounts to sell the recyclables to the recycling companies. In this case CORC acts as the middleman but they can pay higher prices to the collectors because they are not operating for profit.

Technical level: There is source separation taking place at the level of the households of the network. Additionally the saving groups sort all the materials they collect or receive from institutions.

Performance level: In March 2010 CORC measured that the groups took out 18 tons of waste glass. Unfortunately there are no detailed figures available. But according to Interviewee 8 (see Appendix II) the two available trucks of CORC are collecting non-stop.

✓ *Goal 2: Financial Viability*

Regulatory and organisational level: When the project started off CORC got a one year grant of 100.000 Rand (ca. 10.000 €) from the CCT. They used it to buy shipping containers as storage facilities for the community groups. Since then they don't have any financial assistance or support. As Interviewee 8 (see Appendix II) said:

> *"At the moment we have no fund we basically live of our income and a few subsidies and that is fine, I think it breaks the dependency. So we do as we are pleased."*

CORC opened up new sources for income with value adding from collected papers of institutions. The groups produce notepads out of it and have made some good income. They try to move up the value chain from collecting to manufacturing and re-using the waste like members of the Solid Waste Network who produce wine glasses and vases from recycled glass bottles (see Appendix II, Interviewee 8).

Performance level: In the beginning the project had zero cost recovery it was totally subsidized by CORC. Now their cost recovery ranges between 80 and 100 per cent. The money comes from selling the recyclables. The network is a viable business (see Appendix II, Interviewee 8).

The network is profitable for the members of the savings groups because generate an income in their dormitory towns. Therefore they can save the additional transport costs which many people from informal settlements have to pay because jobs are mostly located in the City and not in the informal settlements (see Appendix II, Interviewee 8).

✓ *Goal 3: Legitimacy*

Policy/regulatory level: In May 2010 the network invited the City to meet the groups. The City is aware of the project and also wants CORC to tender for a Drop off facility or for the Think Twice project.

Performance level: The actors are quite proud with the work they are doing. They also get support from their communities and neighbourhoods. Some of them are doing very specific collections (e.g. they just collect glass). They see it as a job and the interesting thing about it is as Interviewee 8 (see Appendix II) said:

> *"There is quite a variation of people involved, you will have people and groups in the build-up areas they were living in the informal settlements but now they live in a built up area but they are continuing doing it [...] than you have people in informal settlements doing it [...]."*

The collection of recyclables is a good way to generate income and the people do not associate with the natural waste pickers, like the street pickers. They see it as a valuable business to create an income.

7.6.3 Problems and opportunities

The Solid Waste Management Programme is fully reproducible throughout urban areas in South Africa, which means that also other poor communities could benefit from their

experience. With additional funding, CORC could facilitate learning exchanges between interested savings groups.

Plans for the future are to open up a book making plant because CORC identified a market for it. CORC wants to scale up on the recycling so that it can present figures of the saved tons of airspace to the City because CORC needs additional funding to set up a factory and a workshop for glass cutting, glass manipulation and for book making. These activities can create additional incomes for the savings groups (see Appendix II, Interviewee 8). The reuse of waste has a lot of potential. There is much what can be reused especially in household waste. CORC would take valuable items (e.g. toasters, ovens etc.) out of the waste stream and repair and sell them. According to Interviewee 8 (se Appendix II) there is a market for items like that.

The problem that CORC faces at the moment is that they have ideas but they don't have the storage and the financial capacity at the moment.

8 Results and Discussion

Chapter 7 has given an overview of the basic formal and informal stakeholders involved in recycling and of the existing connections and alliances between them. In Cape Town, as in many other cities around the world, two waste management and recycling systems exist side by side. Sometimes their activities cross and they can get into conflict whit each other, as seen with the alliance between the private Think Twice waste collector and the informal street pickers and sometimes they work with and next to each other as seen in Hout Bay. Figure 8.1, presents an overview of the identified stakeholders and alliances in Cape Town.

Figure 8.1: *Alliances and partnerships in recycling in Cape Town*
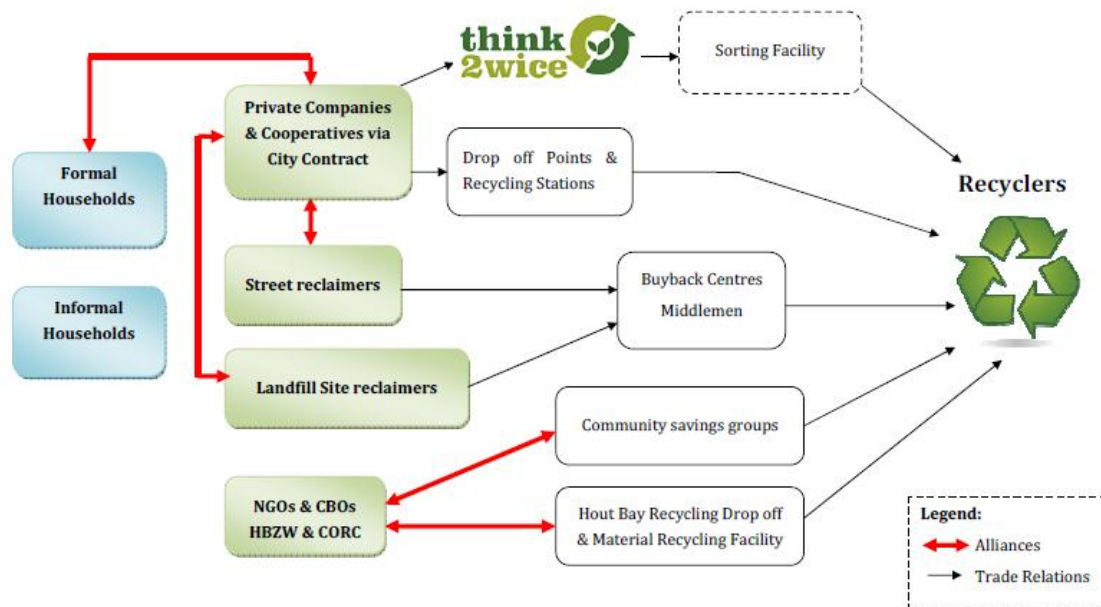
Main stakeholders are formal private enterprises e.g. Wasteplan, NGOs like CORC and CBOs like the recycling and savings groups, middlemen, street reclaimers and waste pickers at landfill sites. The buyback centres play an important role in the informal recycling economy, because unorganised street and landfill pickers are in most cases not able to collect the needed amounts of recyclables to sell directly to the big recycling companies. In terms of numbers of buyback centres Cape Town is much better situated as compared to other provinces in South Africa, which indicates that there is a market for recyclables (see Appendix II, Interviewee 9). The CCT is not included in Figure 8.1 because it only acts as the contracting entity. As Visser and Theron (2009:56) assessed, the Solid Waste Management Department of Cape Town is increasingly externalising its responsibility for waste collection and minimisation and in doing so the City is contracting

mainly with big commercial waste collection companies. The Think Twice at source recycling project is a good example.

There are only a few examples where the City has formed direct partnerships with community-based organisations or individuals involved in waste recycling. Due to the fact that waste collection by the City and its contractors is quite efficient, it is difficult for community based organisations and informal waste pickers to get access to the 'affluent' waste stream of the City, as Visser and Theron (2009:51) say. But access to livelihoods assets is essential for people living from waste. As seen in Chapter 2, it is about the access to 'natural capital', which refers to the natural resource stocks that generate value and productivity in people's lives (DFID 1999b:11). Waste as a source for income generation is an important issue for livelihood security. Some communities in Cape Town refer to waste as 'Black Gold' (see Appendix II, Interviewee 8). Therefore the most important natural asset in the context of this study is solid waste and the access to it. According to the Sustainable Livelihoods Framework the access to assets and its application is considerably influenced by policies, institutions and relationships between individuals and organizations on the external side, as demonstrated in the previous chapters (Rakodi 2002:9).

In the case of Cape Town, NGOs and CBOs depend on donations of waste from households, businesses and institutions to get access to the affluent waste streams. Like in the case of the NGO Oasis (see Chapter 6). Their access to the affluent waste streams is secured by people who bring their collected recyclables to them and donate things they do not want anymore. Informal street collectors get access to the more affluent waste streams at collection days of the wheelie bins in formal neighbourhoods. Another possibility to make a living from the City's waste stream opens up when the local authority or its contractor has created a service delivery vacuum (Visser & Theron 2009:52). That happened in the case of the Community Organisation Resource Centre as one of the Think Twice contractors during the first phase of the pilot project quitted his contract because it was not profitable enough for him. Therefore the City asked CORC and its savings group to overtake the separation of the recyclables because the project was already running and households were willing to recycle. At that time the networks sole income was derived from the sale of the recyclables to the recyclers without any subsidies from the City. The case of the Drop off centre in Hout Bay (see Chapter 7) brings out another example of how a community initiative can gain access to the City's waste stream as a result of a service vacuum left by a contractor.

Access to landfill sites is the most important requirement for informal reclaimers in Cape Town to perform their jobs and to earn a living. The access in most cases depends on the attitude of the City officials and the landfill managers towards reclaiming on landfill sites. As seen in Cape Town access to landfill sites is restricted for waste pickers due to health

and safety reasons, which has devastating impacts on the pickers and their livelihoods. Some of them were doing this work since 14 years (see Appendix II, Interviewee 7).

On examining the different alliances it has become evident that those actors which are organised in networks or directly supported by an NGO are better off than those who are unorganised and do not have external support. Relationships and networks are very important in the informal recycling sector they can help to improve the livelihoods of their members. This social and political capital is a source of power, influence and security as well as a source of information and knowledge for those who lack ownership and access to other forms of capital (Meikle 2002:41). Social and political capital is important for informal waste pickers because in most cases they operate and live at the lowest level of society. The CCT generally does not recognize the waste pickers and the value of their work. As Interviewee 10 (see Appendix II) said:

> "There is no recognition of the legitimacy of the work and there is no recognition of the human rights justification of the work."

In the case of waste pickers in South Africa the NGO groundWork is trying to address those problems and to get recognition of the waste pickers at all levels of government and they want to justify the work that they do in a context of unemployment, of rights of work and rights of access to be able to work. They hold the view that (after Interviewee 10, see Appendix II):

> "The begin to work towards waste minimisation in South Africa is through working with that group of people called waste pickers because they are the only people who work cleverly with waste, everywhere else people just throw away waste for them it is just something to be thrown away [...] for us it is very much a livelihood thing from a waste picker point of view but from a better broader [...] solid waste management point of view we view it as you know the key intersection to address waste as a global issue."

GroundWork is helping the waste pickers to organise themselves at a local, provincial and national level because waste pickers are better able to speak to governments as formally registered cooperatives. Waste pickers have already begun to organise themselves on a national level and there are about 50 recycling cooperatives of waste pickers in South Africa but just 5 of them are formally registered so far. Funding is a challenge for them but groundWork encourages them to work collectively so that they put aside some of the money for registration, groundWork wants to see commitment on their side (see Appendix II, Interviewee 9).

Most municipalities in South Africa and just as Cape Town do not recognise the waste pickers as legitimate stakeholders. In Cape Town the SWMD only wants to work with them via a formal private company. The biggest problem for the reclaimers in Cape Town

is that the City is not looking at waste as something that can create a livelihood; they are not looking at waste as a resource for some other people (see Appendix II, Interviewee 9). Therefore it is important for the reclaimers to have someone who informs them about their rights and the advantages of organising. As Interviewee 9 (see Appendix I, Annex 2) wrote:

> *"GroundWork is not fighting for people to be on landfills but we are fighting for people to have a livelihood through recycling. We do not say that waste pickers should be on landfill sites but we want government to recognise them and make sure that they incorporate them in their waste management activities. The National Waste Pickers Association is fighting for acceptance by government to work in the recycling sector what could be on landfills, on the streets or from households. The association endorse waste separation at source but they demand that all those recyclables should come to them. Because the organising of the pickers on landfills was easier than in any other setting it has started there but we do not want it to end there. Waste pickers want to move upstream."*

The NGO CORC plays an important role for the community savings groups which generate an income by the collection of recyclables. CORC provides the infrastructure like trucks and services like collection and marketing and they explore new income opportunities for the network. Being a network has many advantages; they collect from many groups until they have enough amounts to sell directly to the big recycling companies. Therefore they can cut out the middlemen and obtain higher prices for the materials. CORC takes the function of the middlemen in this case but they are able to pay more than the buyback centres. They also started lobbying the City for the pickers as an organized community of workers. They want to build a critical mass and a critical voice amongst poor people (see Appendix II, Interviewee 8).

In Hout Bay the NGO Hout Bay Zero Waste is very engaged in recycling and job creation. Without their support and their voluntary work the community based recycling group Hout Bay Recycling would have not been able to get the tender for the Drop off and Material Recovery facility in Hout Bay. ZWHB works with the community organisation, they help them to get into contact with the officials and they give them a voice.

Organising street pickers in Cape Town is quite difficult. GroundWork is also involved in working with street pickers as Cape Town is dominated by them rather than by landfill pickers. They recently had a meeting with street reclaimers and there the waste pickers in Khayelisha, Gugulethu and Woodstock agreed to work and to organise together (Interviewee 9, see Appendix I, Annex 2). By getting organised the street pickers can collectively fight against the challenges they recently face in Cape Town.

After identifying various stakeholders in recycling in Cape Town, five types of alliances between them were found. The following challenge was to assess their sustainability in relation to different ecological and socio-economic goals. The sustainability assessment was conducted by means of an Integrated Sustainable Waste Management analysis. Thereby the contribution of the specific alliance to the given sustainability goals was assessed by the means of different indicators (see Chapter 3.7). Figure 8.2 shows the results of this analysis.

Figure 8.2: *Assessment of the sustainability of alliances between stakeholders in recycling in Cape Town*

Alliances and partnerships	Ecological and socio-economic Sustainability Goals								
	Goal 1: Maximisation of recycling & reuse				Goal 2: Financial Viability & affordability			Goal 3: Legitimacy	
	P/R	OL	TL	PL	RL	OL	PL	P/R	PL
1. CCT – PE - H	+	+	+	+	X	0	X	+	+
2. CCT – PE – SP	+	+	+	X	+	+	X	+	X
3. NGO – CBO - CCT	+	X	+	+	0	0	0	+	+
4. CCT – MM - WP	+	0	0	X	?	X	0	+	X
5. CCT – NGO - CBOs	?	+	+	+	0	+	+	+	+

Source: (own illustration adapted from van de Klundert & Anschütz 2000:17).

Legend & Symbols:

CCT = City of Cape Town, Solid Waste Management Department	**NGO =** Non Governmental Organisation	**+** = Contribution to the goal
PE = Private Enterprise	**CBO =** Community Based Organisation	**X** = no contribution to the goal
H = Households in Cape Town	**MM =** Middleman	**0** = Neutral contribution
SP = Street Pickers	**WP =** Waste Pickers at landfill sites	**?** = Lack of data

Regarding the first alliance between the Solid Waste Management Department of Cape Town, private enterprises and formal households in Cape Town, it is clear that this alliance has a significant contribution to ecological benefits. It contributes to the maximisation of recycling on all levels. In terms of legitimacy the goal is achieved through the municipal partnership and the wide social acceptance of the service and the actors involved. The weakest point of the alliance is the financial viability and affordability of the service. Subsidies aren't a sustainable way of cost recovery but for the contractors the City is a lucrative source of income. The City recognized that the current situation is not affordable for them and therefore the Solid Waste Management Department is looking for new ways of service provision and possible alliances which can contribute to job creation and local economic development and help to alleviate poverty (Solid Waste Management Department 2010a:7pp).

Looking at Figure 8.2 the requirements for alliance number 2 to provide a sustainable service are given. In theory the alliance between the private enterprise Wasteplan and the street pickers is a good thing. The requirements on a policy/regulatory, organizational and technical level are given but the weakest point of the alliance is that the service does not contribute to the maximization of recycling due to a low performance level. Also the financial viability of the service is not given due to a low performance level. The problem is that the street pickers get the recyclables out of the clear bags instead of the wheelie bins and sell them to other buyers. This causes increasing costs for the private enterprise. According to the legitimacy of the service, there are public objections to the inclusion of the street reclaimers. Therefore in practice the current alliance is not sustainable.

Based on the assessment above, the third alliance consisting of three stakeholders makes a positive contribution to the maximisation of recycling and reuse. Just at an organisational level it does not contribute to the goal due to the current situation in Hout Bay where too many actors are involved in recycling activities. This leads to competition because they all need big amounts of recyclables to operate viable. Hout Bay Recycling is not able to generate over 100 tons of recyclables a month therefore it can't sell directly to the big recycling company what increases the length of the trading chain because now they have to sell their recyclables to Wasteplan. On all levels the service has a neutral contribution to the goal of financial viability. The alliance has some source of income but because of the competition in Hout Bay the service is not profitable enough for the entrepreneurs. Full legitimacy of the service is given due to the partnership with the NGO ZWHB and their support.

Alliance number 4 provided the service of reclaiming recyclables from the landfill sites in Cape Town. The alliance had no contribution to the ecological performance of the service also it was not financial viable due to the formation of the alliance. Data on the regulatory level is lacking, it is not clear if the middleman got paid by the SWMD for the service. Legitimacy of the service was given on a policy/regulatory level but not on a performance level. Maybe if the SWMD would have worked in direct partnership with the waste pickers the service could have been more ecological and socio-economic sustainable.

Although the last alliance assessed in Cape Town was not initiated to contribute to the Green Agenda, it has widely positive ecological impacts, making an important contribution to the ecological sustainability goal of recycling. The alliance also contributes to the socio-economic aspects. Although the alliance gets no funds or subsidies the service is financial viable and affordable for all the actors involved. The legitimacy of the service is achieved because the actors are formally recognised by the SWMD and the people of the network are proud of their work, there are no public objections or even harassment against the stakeholders of the alliance.

The analysed alliances are all still exist except for the alliance between the SWMD, the middleman and the waste pickers on landfill sites. Here the problems between the stakeholders were too large and the sustainability performance of the service was too low. Those alliances all live from their income due to the sales of recyclables. Only the Think Twice alliance forms an exception because the private companies additionally get subsidized from the SWMD.

This assessment shows, despite the current argument of the SWMD, that it is possible to make enough money from the collection and sorting of recyclables and to provide an ecological and socio-economic sustainable service. But there is a lack of coordination between the various alliances in the recycling sector as seen in Hout Bay. If there would be a better coordination and regulation it would be easier for the stakeholders to plan because now there is competition between the different formal and informal service providers in recycling.

With the tendering process the SWMD wants to provide a fair and equitable opportunity for everyone like Interviewee 4 (see Appendix II) said:

> *"If we go through a proper process than at least it is a fair process where everyone can opt for that even the informal person or their organisation."*

With the tendering process the SWMD wants to ensure that the contractor is able to operate a financial viable business because recycling is an expensive business which involves transport. As Interviewee 3 stated (see Appendix II):

> *"The municipality will not expose itself to the risk of tacking on a contract, [...] where it only takes about 6 months for a contract like that to fail before people actually realize they have bitten of more than they can chew. So it is, that argument cuts two ways, you've got to provide the opportunity, the opportunity is there but then it is like any contract, you want that contract now you've got to provide the service, so it is up to them to structure themselves in such a way [...]."*

But as seen in the case of Hout Bay Recycling it needs a lot of work input and knowledge to apply for a tender. If community groups or organised reclaimers want to apply, they need an organisation or institution like the NGO Hout Bay Zero Waste and people which provide sufficient support. Unorganised or informal persons and groups have no chance to get into the waste management system as formally recognised stakeholders and even for the organised ones it seems difficult. But even with applying a financial viable contractor (e.g. Interwaste) there is no guarantee that the service will be conducted in a proper manner (see Chapter 7.4.3). Another problem of contracting with private companies is that the City has to subsidise them for the recycling service because otherwise they wouldn't apply for the tender or they would stop the contracts of the service is not viable enough as seen at the

first Think Twice pilot project. The SWMD currently faces an impasse: it cannot afford the recycling service but it has to continue with it due to public demands. Additional recycling fees are beyond all questions so the City has to find new ways and alternatives to reduce the financial costs of the service. The current assessment of the waste management services in terms of the local government MSA (see Chapter 7.1.2.) proves the various alternatives to ensure the implementation of waste minimisation in a sustainable way. According to Interviewee 2 (see Appendix II):

> *"The City is busy with putting infrastructure in place where sorting can take place so that the companies who tender for a contract do not have to include the costs of renting a building for sorting. They are also mechanizing the whole sorting process so it will cut out a lot of manual labour. From the City side they are trying to make it cheaper for the recycling companies to tender. They have spent quite a large amount of money in infrastructure."*

This would mean that the City is investing in expensive infrastructure to support the recycling companies. Even though manual labour in Cape Town is abundant and not expensive the City is looking for technical solutions despite the alternative for the City to engage with community-based associations like cooperatives where those involved are responsible for the creation of their own livelihood. Hout Bay Zero Waste is willing to take responsibility for their own waste; they would like to apply for the tender as soon as the one with Wasteplan ends. All they need is land to sort the recyclables, as Interviewee 6 (see Appendix II) stated:

> *"The rest we could generate out of the business. And there are enough people who got the interest and got the money in Hout Bay to finance the trucks and the rest [...], because I mean Wasteplan drives a truck and [...] you could buy a truck just like Wasteplan instead of it going to Maitland it just goes locally or you could still get in a system that's [...] more sustainable like even a bicycle system you know trailers I mean there is a whole lot of ways, you've got so many people who need businesses. But we do need the cities bind to do that."*

With establishing alliances and partnerships with community organizations and NGOs like the Solid Waste Network savings groups or ZWHB the City of Cape Town could improve the ecological and socio-economic sustainability of their recycling services and the outcomes and livelihoods of the actors involved. As the sustainability assessment has shown most of the alliances work financial viable and could even increase their services with formal support and inclusion into the formal solid waste management system. Even if those alliances are not-for-profit organizations they keep the business idea in their minds.

9 Conclusion and Future Prospects

The main intention of the study was to present an analysis of the current structure and functionality of the recycling sector in Cape Town. The previous Chapters have identified the different stakeholders in recycling in Cape Town and the existing alliances between them. Reclaimers are so far not formally integrated into the urban recycling system. There are attempts as we have seen in alliance number 2, where the private contractor Wasteplan was working with street reclaimers but the city is not directly involved with them. There are many people in Cape Town for whom waste allegorizes a valuable resource, the street and landfill reclaimers but also various NGOs and CBOs, as seen in Hout Bay for example.

Though, access to the 'affluent' waste streams is very limited to the public and the private sector. The city's approach is to contract with mainly big private enterprises due to economic arguments but as we have seen this does not always emerge as the best and the most sustainable solution. The failure of the current formal recycling project in Cape Town could be an opportunity for stakeholders and organisations who are already involved in recycling, like CORC which has shown that they can operate sustainable without any support from the City. Their recycling levels could be increased due to the formal integration into the solid waste management system and a coordination of the current services.

As it is the case in Hout Bay at the moment. The NGO Hout Bay Zero Waste would be willing to overtake the recycling service from Wasteplan, than they and the Recycling Cooperative from Hout Bay would be the coordinators of the recycling service and therefore they would be able to increase their recovery and income rates.

But as CORC said, tendering is not an NGO business. With the current assessment running the city should not only consider technical solutions, which decrease manual labour and make it cheaper for the private companies to tender for the contracts. There is huge potential in the examined recycling alliances and the city should consider working closer with the different stakeholders but not via tenders and contracts. I think the integration of the 'non-formal' operators into the formal urban recycling system can lead to a more efficient urban recycling system and therefore to the minimisation of the waste problem and in return to the mobilisation of socio-economic development potentials for the various stakeholders involved in recycling.

Cape Town is right at the beginning on its way towards a sustainable city regarding waste minimisation. In a South African context the city might be one of the best performing ones but its full potential is not yet achieved. To do so the city has to engage with all the stakeholders active in the urban recycling system maybe than a future with zero waste going to landfill sites will be realistic.

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Appendix I

Annex 1: *Final Declaration from the First National Waste Pickers Meeting*

Final Declaration from the First National Waste Pickers Meeting, Ogilvys Conference Centre, Midrand, Gauteng, 2nd - 3rd July 2009

Meeting declaration:

We, the people from throughout South Africa, who work on waste landfill sites recovering material as a livelihood strategy, recognise that according to our Constitution and our laws, we have a right to earn a livelihood from this work.

We have met over the days of the 2nd to the 3rd of July, at Ogilvy's, in the Midrand, Johannesburg to share our experience and to develop joint strategies to organise so that we and our work are recognised by our democratically elected government.

Furthermore, we recognise that government is committed to creating 500 000 new jobs per year, and we believe our endeavours and work give meaning to this commitment.

After debate and conversation, we confirm that our main challenges are:

1.   Getting our government to hear our struggles and issues and to act on these.
2.   Organising ourselves as collectives to resist privatisation of our resources, both at the landfill site and upstream, and to ensure our right to work and to resist exclusion from the landfill sites where we derive our livelihoods.
3.   Building awareness within our ranks and our people about our work and livelihood strategy.
4.   To organise skills development in order that we can better manage our livelihood opportunities.
5.   To develop mechanisms of registering and working as collectives.
6.   Ensuring that 'middlemen' do not exploit us and make excessive profits from our endeavours and that we have the opportunity to deal directly with government and companies who buy recyclables, thereby doing away with the need of middlemen.
7.   To work with government to make our work places safer.
8.   To stop child labour on waste sites and on the streets.
9.   Lobbying for a separation at source strategy that involves waste pickers working both on the street and landfill sites.
10.   That many landfill sites are operated poorly and thereby are a danger to both our and the community health and well-being;
11.   To get government, people and other institutions such as the South African Human Rights Commission, the Unions and other stakeholders to be aware and respond to our concerns.
12.   For us to organise ourselves on our landfills, in our cities, nationally and provincially.

13.   Resist municipal waste incineration as a wasteful activity that destroys resources.

14.   The dumping of medical and toxic waste on landfill sites presents hazards to waste pickers

Noting the above, we therefore commit to:

1.   Work on strategies to ensure that all levels of government hear our concerns and respond to these concerns;

2.   Pressure government and work with government to make our working conditions safer and to ensure that child labour is abolished;

3.   Organise with our fellow workers and form organisations in order to attain collective benefit and to organise for our rights;

4.   Develop skills to improve our work, and to make the broader community aware of the importance of our work;

5.   Work with other community organisations to take forward our collective struggles.

6.   Develop strategies to ensure that the exploitative practice of middlemen is permanently destroyed;

7.   Working with our elected working group to ensure that the outcomes of this meeting is delivered upon and lives in our struggles.

Source:

http://www.groundwork.org.za/Press%20Releases/Declaration%20Final%20030709.doc [accessed 12.06.2010].

Annex 2: *E-Mail conversation with Interviewee 9, 03.06.2010*

I: Do you know how many recycling cooperatives are already established in South Africa?

M: groundWork is not the only NGO organizing pickers in SA, but I would say more than 50 even though most of them are still at a registration stage meaning they are not yet properly registered quite a few 5 that I know of are registered.

I: Regarding the current situation in Cape Town, of government not wanting reclaimers on the landfill sites due to safety and health reasons. Is groundWork somehow active in supporting the already organized reclaimers?

M: Yes indeed we are assisting the organized reclaimers and we always talk to them about wearing a protective gear when working on site. Cape is dominated by street waste pickers rather than landfill pickers, we recently had a meeting with street reclaimers and the

meeting was organized by ILRIG and waste pickers in CT Khayelisha, Gugulethu and Woodstock agreed to work together or should I say organizing together.

I: Interviewee7 also told me that they didn't have the fees to pay to become formally organized, would groundWork pay the fees for them if it would be possible for them to pick again?

Funding is a challenge but we always encourage them to work collectively so that they put aside some of the money for registration, we also want to see commitment on their side. We do not give funds to them because we are not a funder we only assist in organizing meetings pay for transport and accommodation.

I: How do you assess the current situation in Cape Town? Do you think the municipality will be open for talks with you about organized reclaiming at the landfill sites in CT? Or do you think there will be no chance at all to get the people back on landfill sites?

as a democratic country we hope that the city of Cape Town will one day listen to waste pickers regarding recycling and livelihoods but not only recycling at landfills could be on streets or homes. If that fails, waste pickers will force Cape Town authorities through mass action as they do on service delivery.

I must make this clear to you, we are not fighting for people to be on landfills but we are fighting for people to have a livelihood through recycling. We do not condone that waste pickers should be on landfill sites but we want government to recognize them and make sure that they incorporate them in their waste management activities. The Association is fighting for acceptance by government to work in recycling sector could be on landfills, on the streets or from households. The association endorses waste separation at source but they demand that all those recyclables should come to them. You must not be confused, the organizing of the pickers was easy on landfills than in any other setting, as a result it has started there but we do not want it to end there. Waste pickers want to move upstream.

Annex 3: *Conversation manual with Yandiswa Mazwana from Ilithalomso, 24.04.2010*

I: Do you and the other 7 or 8? Women meet every day?

Y: Yes we meet every day

I: Do you always work at your house?

Y: Yes

I: How often do you go to the recycling centres to buy plastics?

Y: Once every two weeks

I: Which recycling centres do you go to?

Y: Oasis and Lekkerwater

I: Do they already separate the plastics for you?

Y: Sometimes they do, but not always

I: Who separates the plastics in useful and not useful for your project?

Y: It is me and Tandy

I: How much do you have to pay for a kg of plastics?

Y: We have to pay 10 Rand per kg (ca. 1€)

I: What bottles are the Elephants and ducks made of?

Y: Elephants are made from Stasoft bottles for clothes, ducks out of Domestos and Harpic to clean bathrooms

I: What else do you use for making your crafts?

Y: We also use wire, foam, fishing line, wood and mirrors

I: Can all women in the project sustain a living out of the selling's?

Y: It is on and off like all businesses think to be sustainable we need lots of overseas outlets

I: Since when exactly are you independent from KEAG?

Y: We are independent since January this year (2010)

I: What is your position at Ilithalomso?

Y: I am the project manager at Ilithalomso