

**EXPLORING TRI-SECTOR PARTNERSHIPS AS A SOLUTION TO WASTE
MANAGEMENT IN MARIKANA, SOUTH AFRICA.**

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Abstract

Poverty is the single greatest burden of the South African nation, with estimates that at least seventeen million of the population survives below the minimum basic income level. The socio-economic and environmental impacts of these alarming poverty levels are worsened by ineffective service delivery in South Africa, which has been fraught by administrative, legislative and financial incapacities. Despite clear commitments outlined in the South African constitution, legislation, mandates and policies to provide environmentally sustainable services to all South Africans; the first chapters of this dissertation argues that the situation in terms of service delivery is reaching a crisis point and reinforces claims that government alone cannot address this calamity.

The residents of the Marikana Township are no strangers to the hardship of poverty and futile attempts at service provision by the Rustenburg municipality. The on-going lack of service delivery has resulted in increasing levels of diseases, environmental pollution and degradation. The effects of these traditional environmental hazards are exacerbated by modern environmental hazards emanating from mining activities in close proximity to the community, by one of the largest platinum producers in South Africa. The consequences of these combined forces necessitates that urgent action is taken and that the problem of service delivery is addressed effectively and efficiently. The waste management services to the communities of Marikana, supplied by Rustenburg Municipality, typify service delivery.

In recent years, the South African government has sought alternative service delivery mechanisms as solutions to inadequate and ineffective service provision to communities. This is a clear imperative in the broader context of a post-apartheid society. One organisational arrangement for service provision, which is becoming increasingly popular on a worldwide scale, is tri-sector partnerships. In tri-sector partnerships, a relationship is established to the point where corporations 'pool' complementary resources, knowledge and skills from across the three sectors of society namely business, government and civil society to jointly address complex social impacts. Although there have been instances where tri-sector partnerships have been initiated, there is limited evidence and experience of tri-sector partnerships being actively managed and sustained over time. In developing countries, in particular South Africa, the concept of these partnership formations is relatively novel and is an option worthy of future exploration.

The waste management tri-sector partnership in the Moses Kotane municipal district is an example of an unconventional 'successful' tri-sector partnership in the North West province of South Africa. The communities within the Moses Kotane municipal district illustrate characteristics of poverty in the same magnitude of the communities within the Rustenburg Municipality, both entities within the Bojanala Platinum District. To date, the partnership has achieved all strategic objectives of the partnership in terms of improving waste collection, the realisation of employment for local community members and establishing selected community members as business owners. Despite these objectives being achieved by all sectors, aspects of implementation can be enhanced to further the success of the approach.

This dissertation attempts to provide solutions to the waste management concerns of the Marikana community by assessing and adapting the tri-sector partnership approach as it was implemented in the Moses Kotane district. Strategies are also recommended to solve the concerns plaguing the Moses-Kotane waste management tri-sector partnership. The recommendations are primarily aimed at improving the success and sustainability (financial and environmentally) of the tri-sector partnership with the aim of improving the replication feasibility of this approach. This dissertation concludes that the model based on tri-sector partnership arrangements has a definite potential to not only improve on service delivery, but be more effective in tackling problems related to the degradation of water, soil and land resources and therefore minimise health impacts on nearby communities.

Chapter 1: Introduction

Introduction

South Africa's Constitution, promulgated in 1996 is the supreme law of the country (Constitutional Assembly, 1996). The Constitutional Bill of Rights, chapter two indicates a clear commitment to sustainable development by stating that "everyone has the right to an environment that is not harmful to their health or well-being" and that through laws and other measures, the environment should be protected from ecological degradation for both this and future generations (Urquhart, 2003:50). Throughout literature, these statements have become the principles that underscore the concept of sustainable development. Government, and in particular local government, is a key role player in the realisation of this constitutional right through their responsibilities for service provision. Numerous legislation, policies and mandates endorse this commitment, including the Municipal Systems Act (Act 32 of 2000), which outlines the objectives of local governments to provide services to their areas of responsibility that are both financially and environmentally sustainable (Urquhart, 2003). The Act continues to define environmentally sustainable services as "those where the risk of harm to the environment and to human health and safety is minimised..." (Urquhart, 2003:63).

Despite these clear commitments, service provision to the people of South Africa is characterized by inadequacy and fraught by administrative, financial and legislative incapacities. Frustrated by these archaic characteristics, typical of the post-apartheid state, local authorities across South Africa have sought alternative service delivery models for meeting constitutional responsibilities. Furthermore, it is also recognized that sound environmental sustainable service delivery is not only a concern for local authorities but should also be addressed in the broader context of the post apartheid society. Notwithstanding the clear constitutional and human right of each South African to an environment that is not harmful to their health or well-being, a large percentage of the population live in sub-standard housing with inadequate water supply, electricity, sanitation provision and refuse disposal as recognised by the results of the South African census undertaken in 2001 by Statistics South Africa¹.

¹ Although it is acknowledged that there are discrepancies around the 2001 data provided by Statistics South Africa, it is deemed that for the purpose of this dissertation, the reliability of the data suffices.

Inclusive of constitutional responsibilities in terms of service delivery by local authorities is the provision of effective and legally complying waste management services to communities of South Africa. Waste management in South Africa is characterized by environmentally and socially unacceptable practices, particularly in rural areas where waste management services are often non-existent (Department of Environmental Affairs and Tourism, 2003). Only sixty percent of all households within South Africa dispose of their waste in a legally compliant manner whilst approximately nine percent of households do not make use of any method of waste disposal (Statistics South Africa, 2001).

A lack of access to basic services can have a derogative effect on the environment and a deleterious health effect upon the poor, who can least afford to bear these costs. The lack of basic services impacts on the physical health, emotional well-being and productivity of resident communities in addition to impacting negatively on surface and ground water quality, air pollution and soil degradation. All the impacts emanating from a lack of basic services are closely linked, cumulatively perpetuating the effects associated with each individual consequence.

The history of poor service provision is rooted within the apartheid ideology of the South African government which was in power prior to democracy in 1994. The results of the poor service provision are evident by the environmental and health consequences of poverty and inequity (Mathee *et al*, 2001). Despite concerted efforts by the post apartheid government to address service and infrastructure backlogs, it is clear that many South Africans perceive little change in the quality of service provision. To date, the year of 2005 has been marked by unrest and violence in protest of ineffective service delivery, this highlighting the increasing anger of South African communities towards local government in terms of the unfulfilled service provision promise (*personal observation*). The communities of the North West Province of South Africa are no exception to directing unrest, violence and anger towards local government.

The landscape of the North West Province has historically and is currently characterised by large mining operations, in particular platinum mining. Platinum mining has an obvious detrimental effect on the physical environment in which these mines operate, including impacts to surface and ground water resources, air quality and the sterilisation of land. Platinum mining in the Rustenburg municipal district has attracted large populations, often housed in informal settlements to the mining

operations, in the anticipation of employment opportunities. In addition to this rapid movement of people to the vicinity and the historical environmental degradation in the region, rudimentary levels of service delivery by the Rustenburg local government is a further source of environmental pollution. These circumstances expose communities not only to traditional environmental hazards but also to modern environmental hazards (Mathee *et al*, 2001). Traditional environmental hazards are hazards associated with the natural environment and are independent of human intervention, whilst modern environmental health hazards on the other hand result from modern day or secondary human activities.

In line with national statistics, fifty six percent of the population within the Rustenburg municipal area did not receive a waste collection service in 2001, rendering waste management illegal and contrary to the principles of the South African constitution (Statistics South Africa, 2001). Marikana is a town situated within the Rustenburg Municipal district to the east of Rustenburg in the North West Province of South Africa. In accordance to these statistics, waste management within Marikana in particular is rudimentary and ineffective with a mere nineteen percent of household waste management practices in alignment with legislative requirements. Additionally, approximately fifteen percent of households do not dispose of their refuse in any manner, whilst sixty four percent of households dispose of their refuse on their own waste dumps (Statistics South Africa, 2001). These circumstances provide evidence of the incapacity of government to reach their constitutional responsibilities and to provide solutions to the crisis surrounding service delivery.

The town of Marikana was established during the early 1900s as a result of mining activities in the eastern limb of South Africa's Bushveld Complex in the Marikana district. The establishment of the town of Marikana has in particular been linked to the platinum mining initiated by Lonhro, a publicly listed company (Plc) in 1909. The recent expansion of the town has been largely attributed to expanding mining activities by Lonmin Platinum (formally Lonhro Plc), the world's third largest primary producer of platinum group metals (Lonmin Plc, 2002). Problematic in this regard is estimates made in the *Urban Renewal Report*, predicting that mining is expected to continue to grow, which will undoubtedly result in a continued influx of people to the area resulting in further strains on service delivery and infrastructure (*Urban Renewal Report*, 2003 cited in Jarrod Ball and Associates, 2004).

The academic problem

Marikana generates approximately six hundred and sixty tons of waste per annum (Jarrod Ball and Associates, 2004). A mere nineteen percent of household waste management practices are compliant with legislative requirements (Statistics South Africa, 2001) – the waste is infrequently removed from households within Marikana and illegally disposed of in an area adjacent to the settlements by the Rustenburg Municipality (Jarrod Ball and Associates, 2004). The provision of waste removal and disposal services by the Municipality is not only in contradiction to the Constitution and to the Municipal Systems Act (Act 32 of 2000) but to the principle of sustainable development. The population living in close proximity to Lonmin Platinum, largely consisting of the corporation's employees, are turning to Lonmin Platinum for assistance with regards to waste management. Long-term responsibility to community welfare is enforced upon mining industries in terms of the Constitution of the Republic of South Africa; in inter alia section 9 to redress historical and social inequalities but also by Section 100 (2) (a) of the Mineral and Petroleum Resources Development Act 28 of 2004 (Department of Minerals and Energy, 2004). The Act states that industries are to expand opportunities for historically disadvantaged persons to enter into the mining industry or to benefit from the exploitation of mineral resources. In addition to these legal obligations, Lonmin Platinum, driven by corporate social and environmental responsibility towards the welfare of communities and the environment within which they operate, have social obligations to assist these communities in terms of service provision (Lonmin Plc, 2003).

The development of partnerships between local communities, the public and the private sector can be a foundation to sustainable development. Tri-sector partnerships, one of the alternative and increasingly popular models for service provision strives for greater longevity and self-perpetuation of development practices and impacts, leading to increased independence and self-sufficiency of communities (Acutt, *et al*, 2001a). In tri-sector partnerships, a relationship is established to the point where corporations 'pool' complementary resources, knowledge and skills from across the three sectors of society, namely business, government and civil society to jointly address complex social impacts, thus signalling a commitment to go beyond consultation and dialogue and to practically achieve local development (Natural Resources Cluster Business Partners for Development, 2005a). Although there have been instances where tri-sector partnerships have been initiated, there is limited evidence and experience of tri-sector partnerships being internationally brokered and actively managed and sustained over time (Warner, date unknown). In developing

countries, particularly in South Africa the concept of pro-active tri-sector partnership formation is relatively novel and innovative. Tri-sector partnerships, although relatively new in South Africa are proving to be a capable service delivery model, to potentially alleviate the predicament of service provision in South African townships. The effectiveness of these partnerships is evident in the waste management strategy of the Moses Kotane Municipality².

The Moses Kotane waste management service presents a case study entailing a tri-sector partnership between government authorities, represented by the Moses Kotane Municipality, the community residing within the Moses Kotane Municipal District representing civil society and Tedcor Pty Ltd representing the business sector. The principle objective of this partnership, which was initiated in October 2003 by local government, has been the provision of a waste management collection service for the formal and informal households within the Moses Kotane municipal district in the North West Province of South Africa. Prior to the establishment of the tri-sector partnership in October 2003, only eight percent of households received a waste collection services on a weekly or less frequent basis (Statistics South Africa, 2001). Of the remaining households, eighty one percent disposed of their waste on their own household refuse site, one and a half percent of households utilised an unpermitted and illegal communal waste disposal site and nine percent did not utilise any disposal facilities (Statistics South Africa, 2001). In areas not serviced, waste was often disposed of through burning, burying or illegal dumping activities. Waste management in the municipal district was unmistakably rudimentary and inefficient. The inefficiencies of the waste management service in the Moses Kotane district are mirrored by elementary service provision in other spheres of socio-economic development, namely sanitation, water and electricity, this continuously increasing pressure on local government to deliver basic needs to resident communities. It is an unambiguous fact that in the case of Moses Kotane Local Municipality, as is so typical of South African municipalities, that urgent assistance was required to transform the circumstances surrounding poor service delivery. This situation spurred the local government of Moses Kotane to explore innovative partnership options for waste management service provision through contractual agreements with business sectors and civil society. The success of the partnership was perceived by representatives of the public, private and civil sectors as paramount.

² Personal communication with Mr Stephen Piek, consultant to the Moses Kotane Municipality, May 2005

Given the dire situation in Marikana, and the proclaimed 'success' of a tri-sector partnership in the case of the Moses Kotane Municipality, the replication value of a tri-sector partnership in the case of Marikana inadvertently comes into question. By focusing on the diverse experiences of waste management in Marikana and Moses Kotane, this dissertation aims to determine to what extent are tri-sector partnerships a feasible and replicable solution for effective waste management in the South African context?

Research aims and objectives

The aim of the research is to assess the feasibility and replicability of tri-sector partnerships in the South African waste management context, with the following objectives formalized:

1. To outline the history of service delivery in South Africa and analyse how the past experience in South Africa has impacted upon the current status of service provision. Current service provision's constraints are also listed. In this regard, globally recognized service provision models are outlined and the associated advantages and disadvantages of each is highlighted.
2. To outline the socio-economic conditions prevalent in Marikana township, focusing predominantly on the current status of waste collection and waste disposal, highlighting legal non-compliances.
3. To investigate the effectiveness and sustainability of the Moses Kotane Municipality's waste management system, an operational tri-sector partnership model for service provision.
4. To examine the feasibility of a tri-sector partnership model to effectively curtail the waste management crisis in Marikana taking into account lessons learnt from the Moses Kotane waste management partnership for replication in waste management service models within the South African context.

Research methodology

The following methodology was utilised in the compilation of the dissertation:

1. A comprehensive literature review was conducted on service delivery in South Africa, waste management and private-public partnerships.
2. Consultation with experts in the waste management sector and experts on tri-sector partnerships.
3. Discussions were held with the Rustenburg Municipality, as the current service provider of waste management to Marikana. In order to obtain information

pertaining to service delivery and the non-compliances associated with the service.

4. The socio-economic conditions of Marikana were determined through review of the South African Census of 2001, from the Integrated Development Plan for Rustenburg Municipality and from recent literature on Marikana.
5. The methodology compiled by Mitchell *et al* in 2001 was utilised to determine the outcomes of the partnership. The information utilised in the methodology was obtained from various sources. Through a participatory approach, 41 structured interviews were conducted with the sub contractors and workers involved in, and employed by the partnership to determine the perceived effectiveness of the waste management service in the Moses Kotane district. Open- ended informal interviews were held with 57 community members of Moses Kotane to obtain perceptions regarding the practices of waste management. These community members were approached and interviewed at existing community meetings and forums. An attempt was made to ensure a representative sample by approaching men and women of all ages and from diverse socio-economic backgrounds. Informal discussions and meetings were held with the principle consultants to obtain their perceptions on the effectiveness of the service provision arrangement and discussions were held with representatives of the Moses Kotane Municipality, as the current service provider of waste management to Moses Kotane, the objective being to determine the functionality of the partnership.
6. The waste management status within the township of Marikana and the municipal area of Moses Kotane have been comparatively analysed and weaknesses and strengths highlighted.
7. Characteristics, functions and working plans of the proposed waste management tri-sector partnership for Marikana were studied.
8. Proposed model conceptualised for waste management in South Africa, based on the tri-sector partnership arrangement was determined

Definition of terms

Service provision

Service provision pertains to the delivery of goods and services, which are legislatively the responsibility of government to the South African nation. These services relate predominantly to public goods and include potable water, electricity, sanitation facilities, housing infrastructure and waste disposal (Batley, 1996). In general, these services are the preserve of the state by default based on the stance

that in society, everybody should have access to certain goods and services, irrespective of their ability and willingness to pay the market price for the entity (Batley, 1996). The provision of these services, the majority of which are human and constitutional rights, are directly related to the quality of lives of South Africans.

Tri-sector partnerships

Tri-sector partnerships are “voluntary collaborations to promote sustainable development based on an efficient allocation of complementary resources across business, civil society and government” (Acutt *et al*, 2001b:3). Business Partners for Development (Warner, date unknown:2) emphasize that tri-sector partnerships are a “...new type of product – a unique set of relationships that if properly maintained can increase rates of investment return, create social capital and produce a continuous flow of benefits”. Partnerships take advantage of the knowledge and the practical contributions obtainable from each party within the partnerships, thus optimizing the potential for success and community empowerment. Community upliftment enables communities to care for their own environments (Warner, date unknown).

Waste management

Within the legislative context of the Environmental Conservation Act (Act No 73 of 1989), waste is defined as any material or substance that is discarded or spilt by any person; or is accumulated and stored by any person with the purpose of eventually discarding it with or without prior treatment connected with the discarding thereof; or is stored by any person with the purpose of recycling, re-using or extracting a usable product from such matter. Hazardous waste is material or substance that, if handled improperly, has the potential to harm people, property or the environment (Department of Environmental Affairs and Tourism, 1989). Within the scope of this dissertation and in accordance with the legislative context, waste management refers to the collection, transfer, recycling and disposal of municipal solid wastes and the management of landfilling operations. Municipal solid wastes include refuse from residential households, non-hazardous solid (not sludge or semisolid) wastes from industrial and commercial establishments, market and yard wastes and street sweepings.

Structure of dissertation report

The dissertation report contains the following chapters:

Chapter one: Introduction

Chapter one provides the milieu to the dissertation and the study area, the research question, aims, objectives and the methodology of the research. The envisaged outcomes of the dissertation are also detailed.

Chapter two: Service provision in South Africa

Key legislation, policy and programmes affecting service provision are outlined describing responsibilities pertaining to service delivery. Chapter two contrasts service provision during the apartheid era of South Africa and the post apartheid years and summarizes current constraints relating to service provision affecting the people of South Africa. The Chapter concludes with an outline of alternate service provision models based on public-private partnership organizational arrangements.

Chapter three: Socio-economic realities and waste management practices of Marikana Township

Chapter three provides an overview of the socio-economic conditions of the community inhabiting the town of Marikana. The strategy and characteristics of waste management provided to the township is reviewed and analysed in terms of effectiveness and legal compliance. This chapter sketches the town of Marikana in the light of mining activities undertaken predominantly by Lonmin in the immediate vicinity and the relationship between the community and the mining operations. The social responsibilities of mining houses towards community development are briefly contextualised.

Chapter four: Tri-sector partnerships

Chapter four reviews and investigates the concept of tri-sector partnerships as a viable alternative arrangement to service provision. The establishment, implementation and maintenance of tri-sector partnerships are outlined and the benefits and constraints of various case studies are highlighted.

Chapter five: Waste management by Moses Kotane Municipality – a case study of tri-sector partnerships

Chapter five investigates the effectiveness and sustainability of the tri-sector partnership pertaining to waste management in the Moses Kotane municipal district. The investigation is based on a comparative analysis of the waste management strategy prior to the formation of the partnership and the strategy rendered through the tri-sector partnership approach.

Chapter six: Waste management strategy for Marikana township based on the tri-sector partnership arrangement

In the light of the research question, this chapter concludes with an assessment of the effectiveness and feasibility of the Moses Kotane tri-sector partnership and proposes a strategic model for efficient waste management in the Marikana township. The model outlines recommendations based on the results of investigations into the case study, to enhance effectiveness and sustainability of partnerships for replication in the broader context of waste management within South Africa.

Chapter 2: Service provision in South Africa

Introduction

Poverty is the single greatest burden upon the South African nation, given estimates that at least seventeen million of the population survive below the minimum living level (African National Congress, 1994). Effective provision of services and goods, such as potable water, electricity, sanitation and waste management to South Africans has the potential to significantly contribute to poverty alleviation and to improve the quality of lives. The responsibilities surrounding service delivery are enforced by the constitution of South Africa and throughout legislation, policies and programmes, re-enforcing the fact that the South African government has a clear responsibility of effective service provision to all South Africans.

Legislation and policy governing service provision

Constitutional human rights

The Universal Declaration of Human Rights states that “everyone has the right to a standard of living adequate for the health and well-being of himself and his family...”(United Nations, 1948: Article 25(1)). Endorsing this declaration is the overarching law of the country, the South African Constitution, which entrenches a commitment to wide reaching health and environmental rights (Constitutional Assembly, 1996: Section 24). The Bill of Rights within the Constitution states that “everyone has the right (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures” (Constitutional Assembly, 1996: Section 24). Under the Constitution of South Africa, local government in conjunction with other tiers of government on a provincial and national level, encompasses a vital role in terms of leading, managing and planning development, particularly in terms of giving effect to government objectives, which include local economic development, poverty eradication, service provision and environmental protection (Constitutional Assembly, 1996: Section 24). Numerous pieces of legislation have been promulgated to enable and to guide government to achieve the progressive realization of these socio-economic rights.

Key legislation on service provision

The acknowledgement of service delivery responsibilities endowed on government for service provision resulted in the promulgation of the Municipal Structures Act (Act 117 of 1998) and the Municipal Systems Act (Act 32 of 2000). The Municipals

Structures Act outlines in chapter five, the functions and powers of municipalities, which clearly commit them to achieving an “integrated, sustainable and equitable social and economic development of its area as a whole by...

- a) ensuring integrated development planning for the district as a whole;
- b) promoting bulk infrastructural development and services for the district as a whole;
- c) building the capacity of local municipalities in its area to perform their functions and exercise their powers where such capacity is lacking; and
- d) promoting the equitable distribution of resources between the local municipalities in its area to ensure appropriate levels of municipal services within the area” (Republic of South Africa, 1998, Section, 83 (3)).

The Municipal Systems Act (Act 32 of 2000) outlines the objectives of local governments, one of these objectives being to provide services to their areas of responsibility that are both financially and environmentally sustainable. The Act defines environmentally sustainable services as “those where the risk of harm to the environment and to human health and safety is minimized...” (Urquhart, 2003:63). In terms of the Municipal Systems Act, each local authority is required to compile on an annual basis, an *Integrated Development Plan (IDP)*, which is to be in accordance with, and complement, the development strategies of the other tiers of government (Mathee *et al*, 2001).

The purpose of the plan is to integrate and co-ordinate plans for the development of the municipality in line with national and provincial objectives, including those national objectives outlined in the *Rural Development Programme (RDP)*, *Growth, Employment and Redistribution (GEAR)* and similar mandates. Another objective of the plan is to align the capacity and resources of local government for implementation of this plan (Mathee *et al*, 2001). The *IDP* has the potential to directly improve, if implemented successfully, the service provision levels and associated quality of life of individuals. Local government, represented by municipalities are largely responsible and constitutionally bound to provide socio-economic rights in addition to general municipal “developmental duties” (Constitutional Assembly, 1996, Section 153). The municipality must “give priority to the basic needs of the community, and to promote the social and economic development of the community, and to participate in national and provincial development programmes” (Constitutional Assembly, 1996, Section 153).

Programmes and policies supporting effective service provision

The constitutional obligations of the government parallel the political promises made by the African National Congress in 1994 (Bond, 1998). According to Bond (1998) these promises were assembled in the *Reconstruction and Development Plan (RDP)*. This programme became a policy platform to ensure the development of an environment that enables social, economic and physical development aiming to ultimately achieve constitutional rights for all South Africans (Bond, 1998). The *RDP* clearly highlights the need for basic service provision to the previously disadvantaged as outlined in one of the problem statements within the *RDP*, which aims to 'set South Africa firmly on the road to eliminating hunger, providing land and housing to all our people, providing access to safe water and sanitation for all, ...protecting the environment, and improving our health services and making them accessible to all' (African National Congress, 1994). Reinforcing these claims, the *RDP* commits to the constitutional rights of all citizens, through prioritizing the commitment to 'meet the basic needs of people - jobs, land, housing, water, electricity, telecommunications, transport, a clean and healthy environment, nutrition, health care and social welfare' (African National Congress, 1994, Section 1.4.2).

Subsequent to the formulation of the *RDP*, a range of policies, guided by the principles of the programme was developed in post apartheid South Africa (Mathee *et al*, 2001). These policies include approaches and methodologies for the provision of services to communities and local government restructuring (Mathee *et al*, 2001). One of the important macro economic strategies formulated was the *GEAR* strategy. *GEAR*, formulated in 1996 clearly defines the key economic plans for achieving the goals, which underlie the *RDP* (Mathee *et al*, 2001). This economic strategy strives to achieve a fast growing and competitive economy, redistribution of wealth to the previously disadvantaged South Africans and a society in which basic needs are delivered (Mathee *et al*, 2001).

The vision of *GEAR* and the commitment within the *medium term strategy*, to implement an expansionary public infrastructure investment programme to provide for more adequate and efficient economic infrastructure services and to address major backlogs in the provision of municipal and rural services, clearly indicates the intention of the government to address the concerns pertaining to service and infrastructure provision (Department of Finance, 1996). *GEAR* predominantly consists of two core strategies, the first strategy concentrates on promoting growth through investment and export opportunities to increase the amount of resources

available for the development of its human potential and the second strategy intends to promote redistribution of wealth by creating jobs and making adequate provision for essential services including water, housing, education, social services and health (Department of Constitutional Development, 1998). The promulgation of the White Paper on Local Government in 1998 gave further effect to these policies by committing to create sustainable settlements, to provide a good quality of life and meet the economic, social and material needs of communities in a holistic way (Department of Constitutional Development, 1998).

Direct and indirect service provision and associated economic theory.

Effective service provision to South Africans is a key challenge and an unquestionable commitment throughout legislation, policies and programmes promulgated by the South African government. The act of service provision can be divided into two categories, namely direct provision and indirect provision, this being important on the rationale that these two categories of provision can be separated into distinct roles and responsibilities and undertaken on their own accords. Direct provision is the act of physically delivering a service, including the construction, creation, implementation and maintenance aspects (Batley, 1996). Indirect provision on the other hand is the business of ensuring that service or good provision is available, this includes policy compilation, organisational arrangements, ensuring adequate standards, financing and regulating aspects (Batley, 1996).

In traditional economic theory, three broad theories for government intervention regarding service or good provision, either directly or indirectly, are classified, namely the public goods argument, the market failure argument and the equity or merit good argument (Batley, 1996). According to Batley (1998), it is to be noted that very few services or goods fall strictly into any one of the categories and where they are classified is largely dependant on local circumstances and judgements. The public goods argument is based on the fact that some goods and services are classified by their nature and characteristics as public in a sense that an exclusive private sector would not be capable of providing the service adequately. These are typically goods for which there are no means for charging consumers and for which rivalry does not exist between consumers (Batley, 1996). The market failure argument is based on circumstances where if private enterprises could provide a service, failure to do so effectively would take place due to a number of reasons namely there is a tendency to monopolise, there are significant financial risks so private enterprises are not willing to undertake the service provision and consumers or producers are not

informed to make decisions (Batley, 1996). The equity or merit good argument is based on the stance that in society, everybody should have access to certain goods and services, irrespective of their ability and willingness to pay the market price for the entity (Batley, 1996). Basic services are examples of public goods as they are the preserve of the state by default because their benefits cannot be kept from non-contributors once provided, this based on legislative and constitutional assurances (Batley, 1996).

To conclude, the post-apartheid South African government is clearly committed to the equity or merit good argument with regards to service provision. Additionally it seems safe to conclude that although the South African government is facing constraints with both direct and indirect service provision, policy formulation (indirect service provision) is more advanced and has been achieved to a greater extent than the actual direct provision of services. The basis of these economic theories sustains the stance that service delivery is a clear and ultimate responsibility of the government of South Africa.

Service provision and socio-economic realities in South Africa

South Africa is a country characterized by poverty, high unemployment levels, crime and a large sector of the population that is without access to basic services – a constitutional and human right. The results of the 2001 South African census highlights these alarming characteristics that have impacted upon the communities of South Africa for decades, indicating that at least seventeen of the forty million South Africans are surviving below the minimum living level, of which eleven million inhabit the rural areas of the country (African National Congress, 1994). In support of these statistics, is the estimation that approximately ninety percent of the countries total population is classified as historically disadvantaged South African citizens whose livelihoods have been negatively impacted upon during the apartheid era (Statistics South Africa, 2001).

Unemployment and literacy

Unemployment is a life threatening phenomena that affects an alarming forty two percent of the total labour force of South Africa, the majority (thirty seven percent) being within the most economically active age group of fifteen to thirty-four years old (Statistics South Africa, 2001). A total of forty-two percent of the population (including the economically non active sector of twenty seven percent) do not earn an income for their livelihoods or dependants (Statistics South Africa, 2001). Bond

(1998) outlines the relationship between formal employment stimulated by infrastructure development and endorses Merrifield's (1996) estimation that seven construction jobs result for every million rand spent in the civil engineering sector, twelve jobs per million rand in non-residential new construction, and an average of thirty jobs per million rand in public housing construction - a figure competitive with investment in labour-intensive manufacturing. It is argued by Bond (1998), that with current unemployment levels, numerous employment opportunities warrant an increase in state expenditure in both the construction of infrastructure and in the cross-subsidisation of services to improve basic consumption.

Education is the tool for improving the quality of lives of people and despite this fact, approximately eighteen percent of persons above twenty years of age have not received schooling of any nature, whilst only twenty percent of the population have completed grade twelve (Statistics South Africa, 2001). A mere eight percent of the population have achieved tertiary education qualifications (Statistics South Africa, 2001). Investment in education results in a high rate of social return by directly affecting a range of variables, which contribute to the health status of domestic units and ultimately that of society (Bond, 1998).

Environmental hazards

Notwithstanding clear constitutional and human rights of each South African to an environment that is not harmful to their health or well-being, a large percentage of the population live in substandard housing with inadequate water supply, electricity, sanitation provision and refuse disposal. A lack of access to these basic services can have a deleterious health effect upon the poor, who can least afford to bear these costs. An effective delivery of these services has the potential to greatly enhance the quality of lives and well being of many South Africans and to reduce exposure to environmental health hazards.

Environmental health hazards can be broadly classified into two categories, namely traditional and modern environmental health hazards (Mathee *et al*, 2001). Traditional environmental health hazards refer to environmental risks and impacts associated with service provision and commodity availability, for example, a lack of access to potable water, poor sanitation and refuse disposal services, safe shelter and indoor air pollution from the use of fossil fuels for cooking and lighting (Mathee *et al*, 2001). Modern environmental health hazards on the other hand result from modern day or secondary activities, for example emissions from mining activities,

industrial pollution and vehicular emissions (Mathee *et al*, 2001). Many South African communities, experience simultaneous exposure to both modern and traditional environmental health hazards, predominantly the informal settlements located in close proximity to commercial, mining and industrial sites (Mathee *et al*, 2001). Bond (1998) distinguishes between seven broad types of environmental health hazards both modern and traditional, commonly experienced by persons, particularly in urban or peri-urban areas, namely biological pathogens; chemical pollutants; a lack of access to natural resources; physical hazards; aspects of the built environment with negative consequences on physical and/or psycho-social health, natural resource degradation and national/global degradation.

An estimated fourteen percent of households (the majority of South African households accommodate four persons) do not have access to any sewage facilities, whilst a mere forty nine percent of households are connected to a sewage system and utilise a flush toilet system and twenty three percent of households utilize pit latrines, which are not ventilated (Statistics South Africa, 2001). Groundwater and/or surface water contamination from the use of pit latrines or the absence of sewage facilities is virtually guaranteed and are of two general types, biological and chemical. Biological contaminants include pathogens in the form of bacteria and viruses, which result in thriving diseases in areas of inadequate sanitation (Bond, 1998). Chemical contaminants include nitrates and phosphates, which damage ecosystems through eutrophication and which have inherent health risks to humans if nitrified water is consumed (Bond, 1998).

The quality of water within many of the rivers and streams in South Africa for potable purposes cannot be assured, predominantly in residential areas. Despite this reality of potential health hazards, one hundred and fourteen thousand South African households obtain potable water from stagnant dams and pools and seven hundred and twenty six thousand (six and a half percent) from rivers and streams (Statistics South Africa, 2001). Thirty two percent and twenty nine percent of households have access to piped water within their dwellings and within their yards respectively and approximately twelve percent of households have access to water in excess of two hundred meters from their yards (Statistics South Africa, 2001). Although statistics indicate that during the post apartheid period, potable water was provided to an additional nine million South Africans (van Zyl, 2004), constitutional rights of thousands of South Africans are still being denied.

Only seventy percent of South African households utilise electricity for lighting purposes and fifty one percent utilise the commodity for cooking purposes (Statistics South Africa, 2001). Twenty three percent of households make use of candlelight for lighting purposes and twenty one percent of households utilise wood as an energy source for cooking purposes (Statistics South Africa, 2001). Electrification of households within South Africa has positive impacts on many aspects of life quality, including the productivity of inhabitants. Enhanced lighting, as well as access to television, increases the quality of the working environment of scholars by generating the potential for longer schooldays, night schooling and access to audio visual aids (Bond, 1998). Electricity will terminate the use of fossil fuels for lighting (coal, wood), which may have significant health impacts on inhabitants, particularly due to the deterioration of air quality within the living environment. Electricity will also reduce population growth rates by generating economic opportunities that alter social relationships that will ultimately have a positive effect on work productivity (Bond, 1998).

In particular, with regard to waste management a great deal has to be done. Only sixty percent of all households within South Africa dispose of their waste in a legal and responsible manner that would have minimal negative environmental and health impacts (Statistics South Africa, 2001). Thirty three percent of households utilise their own rubbish dumps within close proximity to their dwellings (Statistics South Africa, 2001). Approximately nine percent of households do not make use of any method of waste disposal (Statistics South Africa, 2001). These conditions provide breeding grounds for bacteria and pose serious risks to human health and degrade the natural environment.

Psychological effects

Many psychosocial disorders are related to the stress of living in sub-standard quality houses, poor access to service provision and unclean environments (Bond, 1998). The resulting stress may also undermine the immune system, predisposing people to viruses and diseases. Enhanced income generation and family health are associated with timesaving gained from improved infrastructure and services, the importance of which cannot be underestimated (Mathee *et al*, 1998).

The improvement of infrastructure and municipal service provision should be undertaken with urgency due to the realities of the negative environmental externalities associated with sub-standard conditions and the substantial public

environmental health advantages of enhanced infrastructure. Cost-benefit analyses would undoubtedly justify on economic grounds, higher infrastructural service standards (Van Zyl, 2004). It is the environment and ultimately human health that pays when pit latrines leak pollutants into groundwater, when households use fossil fuels and when inadequate drainage leads to erosion, flooding and contamination of surface water. Environmental pollution directly impacts on health, property, quality of life and cost expenditure. The environment is a public good, and the public as a whole and represented by government must therefore take responsibility for its care (Bond, 1998).

The roots of service provision inadequacy in South Africa

A huge backlog in service provision resulting from decades of inadequacy is evident within the communities of South Africa. This crisis urgently needs to be addressed. Evidence of this urgency is depicted by recent, on-going and often violent protests and demonstrations by affected communities that has characterised 2005, illustrating increasing discontent and anger by South Africans towards government in terms of broken promises marked by inadequate service provision. The recent unrest and protest actions should however be regarded against the background where the chronic shortage of service provision that now characterizes South Africa has its past deeply rooted within the apartheid era, evident by the environmental and health consequences of poverty and inequity (Mathee *et al*, 2001).

The apartheid ideology

Racial segregation was already entrenched in policy by the time apartheid was introduced in the year 1948 (Otiso, 2003). Apartheid was driven by an ideology of racial purification and as a strategy for the capital accumulation for a white minority. Race was utilized as a social construct to “divide and rule” a black majority (Otiso, 2003). The racially based state government, in particular governments on a local level were designed and responsible for implementing and re-enforcing policies of residential and economic segregation, characterised by forced removals and the routine destruction of informal settlements (McEwan, 2002).

In the dawn of apartheid, the promulgation of the Group Areas Act, a key piece of apartheid legislation resulted in the dislocation of the African majority population from the South African society by the forcible relocation of the population to townships within reserves (Otiso, 2003). These reserves were known as homelands, which

were situated on twelve percent of the country's most infertile land (Otiso, 2003). The homelands were independent states to which each black South African was assigned by the state based on record of origin of each individual (Otiso, 2003). It was in these townships that the black communities were to create self-sufficient homelands. The townships were characterized by poorly maintained infrastructure and lacked essential services (ANC 1994 and Otiso, 2003). These constraints in addition to inadequate land availability resulted in severe overcrowding (Otiso, 2003). Peripheral townships were denied commercial, industrial and retail development and influx control laws permitted African migrants to work in cities, although they were to reside in townships based on the periphery of the country's major cities (ANC, 994).

In stark contrast to the economic and social conditions prevalent in the black townships, the white municipal districts enjoyed superior housing infrastructure, efficient public service provision, well developed transportation, commercial and recreational facilities and access to substantial employment (Otiso, 2003). The 'white' local government could depend on the taxable resources from large concentrations of economic wealth to deliver service to the smaller population of white citizens (Otiso, 2003). During the late 1970s despite the fact that there were nineteen million black South Africans and four and a half million white South Africans, black South Africans enjoyed less than twenty percent of the share of national income and the minimum taxable income level was considerably lower for black populations than that for white populations, three hundred and sixty rands comparable to seven hundred and fifty rands (Leonard, 1980). Annual expenditure on education per pupil for black South Africans was approximately four hundred and ninety five rands in contrast to approximately seven thousand and seven hundred rands per white pupil³ (Leonard, 1980).

The questioning of the apartheid ideology

Black Local Authorities were identified in 1982 to govern populations within the poverty stricken townships of the homelands (formally fulfilled by Community Councils). Black Local Authorities were seen as politically illegitimate (South Africa, 1998) and during the 1980s it became increasingly evident that the overloaded Black Local Authorities were not coping with the growing service demands of the population, the social unrest and the corruption that they were discredited by (Department of Constitutional Development, 1998). These authorities had no

³ Current rate is one pound equivalent to fourteen South African rand.

significant revenue base and thus attempted to impose service charges on township residents to generate revenue (Department of Constitutional Development, 1998). By the late 1980s most townships and homelands were effectively ungoverned and township communities responded to the deteriorating quality of public services and failing socio-economic conditions by organized boycott of rents, service charges, consumer boycotts and the rejection of Black Local Authorities (Department of Constitutional Development, 1998). For the first time in South Africa, people initiated systematic protests against the spatially and economically distorted human settlements (Department of Constitutional Development, 1998).

The disaster unfolding in local government, involving municipal service and housing crisis's within local government, was one of the sparks that spurred negotiations which ultimately led to the transition to a democracy in the 1990s (Otiso, 2003). White municipalities were increasingly being financially impacted upon by organized consumer and rent boycotts and sought to enter into negotiations with township representatives. These talks, initially regarded as crisis management interventions formed the basis for local negotiations, which ultimately contributed towards the formation of the Local Government Transition Act of 1993 (Department of Constitutional Development, 1998). The Local Government Transition Act provided the framework within which the transition to a non-racial local government could be undertaken (Rogerson, 1997). Until the closing years of apartheid, local government in South Africa were not concerned with issues of economic development - strategies and policies of poverty alleviation were not even considered on the policy agenda (Rogerson, 1997).

Post apartheid South Africa

The new South African government of 1994 led by the African National Congress (ANC) inherited an immense task of addressing these socio-economic realities and immediate and profound expectations were placed on the government to be innovative in providing policies and strategies to effectively address these aspects.

Striving for equitable distribution of public services

An immediate primary goal of the ANC in addressing the impacts of apartheid was to integrate historically marginalized areas through more equitable distribution of public services and welfare provision (Otiso, 2003). Central to these mandates and an important objective of the post apartheid government was the building of citizenship

through public participation in the decision-making process of the service delivery model (Otiso, 2003). Numerous legislation and policies were promulgated throughout the 1990s and which still impact on the mandate of democratizing local government (Otiso, 2003). The people-centered, grassroots vision of the *RDP* that was premised on growth through redistribution and the promulgation of *GEAR* in 1996, a macro economic strategy for achieving objectives underlying the *RDP* and the release of the Municipal Infrastructure Investment Framework in 1997 and the *Ten Year Plan for Service Delivery and Infrastructure* (Bond, 1998), are a few of the mandates governing the redistribution of wealth and basic service provision as a realised and fulfilled constitutional obligation.

Coupled with promulgations of mandates and policies to address inequalities of the past, local authorities in particular, underwent a protracted process of restructuring through the Municipal Demarcation Act of 1998 in order to extend services more equitably (Mathee *et al*, 2001). Boundary demarcations were revised which resulted in an outcome of significantly reduced numbers of local municipalities across the country with the establishment of two hundred and eighty four new municipalities from the amalgamation of many urban and rural areas (Mathee *et al*, 2001). The aim of the Municipal Demarcation Act was to permit the local government of a district to fulfil its constitutional obligations, pertaining to the redistribution of financial and administrative resources and for the creation of a safe and healthy environment (Ramutsindela, 2001). A common objective of government in addressing inefficiencies in service delivery was to characterise decision-making processes, planning and implementation with significant levels of public participation.

Weaknesses characteristic of government departments

The results of national surveys undertaken in the mid 1990s to ascertain people's perceptions of service improvements in education, electricity, health services, roads, transport and water, highlighted that the majority of respondents perceived little change in the quality of services in their area (The Washington Post/Kaiser Family Foundation, 2004). A survey undertaken in 2004 by Harvard University, marking ten years of democracy in South Africa, highlighted that although sixty six percent of South Africans felt that their quality of lives had improved since the inauguration of the new government in 1994, seventy five percent of black South Africans and only forty seven percent of white South Africans felt optimistic about the future of South Africa (The Washington Post/Kaiser Family Foundation, 2004). Sixty one percent of the population outlined that unemployment was the largest concern facing the people

of South Africa and within this percentage; seventy two percent of black South Africans were concerned with unemployment (The Washington Post/Kaiser Family Foundation, 2004). Twenty percent of South Africans felt that housing inadequacies were the most serious concern facing the country and sixteen percent felt that potable water was the greatest restriction. The largest portion of the population (thirty five percent) felt that the local government's performance was considered 'poor' (The Washington Post/Kaiser Family Foundation, 2004).

The challenge of housing and basic service provision by the state to populations of third world residents, especially the poor, is typical of the situation within South Africa. Despite the legal and social requirement binding the government to supply housing infrastructure and basic services to all South African citizens and the commitments underlying many policies, the government is unable to fulfil these responsibilities due to numerous administrative, financial, and institutional weaknesses coupled with rapid urbanization (Otiso, 2003). In South Africa, rapid urbanization has created complex management and policy problems in housing, infrastructure, income distribution and service provision and has outstripped municipal investments, predominantly in areas marked by poor households (Otiso, 2003).

Weaknesses inherent in state departments across South Africa are the result of administrative, financial and legal constraints. In terms of administrative weaknesses, the majority of municipalities have undergone administrative changes as a result of the amalgamation process, however many of the administration functions are characterized by poor coordination and communication between line departments, authoritarian management practices and inadequate performance management systems (Department of Constitutional Development, 1998). Domination within government departments by elite political groups, the recurrent lack of perspective in broad or large-scale projects; and the inability to manage and communicate with informal population groups are further examples of administrative and managerial inadequacies (Otiso, 2003). The changed mandate of local government with further developmental functions requires new attitudes, capabilities, capacities and approaches (Department of Constitutional Development, 1998).

Project Viability, the national government's financial monitoring audit results have confirmed deteriorating aggregate financial positions within local governments (Department of Constitutional Development, 1998). The amalgamation of previously

divided jurisdictions has largely increased service areas and populations, without a corresponding increase in financial revenue (Department of Constitutional Development, 1998). Coupled with service backlogs, dilapidating infrastructure, misallocation of financial resources resulting from corruption and nepotism among many bureaucrats and deteriorating borrowing capacity, local governments are experiencing financial stress (Department of Constitutional Development, 1998). Many municipalities are responding to these financial crises by spending accumulated financial reserves, extending long-term debt and decreasing capital expenditure (Department of Constitutional Development, 1998). In addition to these financial constraints, many legislative pieces pertaining to service provision that supported the apartheid era are still in effect and are expected to be enforced by local government. These inherited pieces of legislation are often applied and interpreted differently throughout the country, resulting in considerable confusion and uncertainty (Department of Constitutional Development, 1998).

Although payment by communities for service provision is believed to be improving, problems pertaining to non-payment for services are still pertinent (Department of Constitutional Development, 1998). The culture of non-payment for the receiving of services is deeply rooted within the apartheid era and was used as a weapon to demonstrate disapproval of the apartheid government. The culture of non-payment is largely evident within the majority of South African communities and is regarded as a huge obstacle in the provision of these services (Department of Constitutional Development, 1998).

In the absence of a thorough shift in commitment to human rights, the rule of law, open electoral processes and effective administrative and financial management, government departments may continue to serve the citizens of South Africa with attitudes and practices characteristic of the apartheid era (McEwan, 2002). The South African government is in dire need of effective and innovative approaches for the provision of basic needs and infrastructure, if the South African dream of realising constitutional rights is to materialise.

Service provision models

Frustrated by these archaic characteristics typical of the post-apartheid state, as well as by decreasing financial resources and enhanced responsibilities, local authorities across South Africa have sought alternative service delivery models for delivering basic needs to all citizens (Otiso, 2003). These service delivery models,

which involve various intensities of privatisation, originate in the organisational arrangement of direct and indirect provider roles in service provision, including the roles and responsibilities of ownership, financing, operation and maintenance (Otiso, 2003). Developing countries, of which a typical example is South Africa, often experience pressure to turn to privatisation from several sources, including their own experience of hardship of service provision as outlined earlier in the chapter. Privatisation is defined as a decline in government activity or ownership within a given industry or service, resulting either when the private sector participates in service provision or when state/public ownership is reduced as a result of state enterprises divesting into unregulated private ownership or the commercialising of state enterprises (Cointreau – Levine, 1994). The private sector includes formal private firms, informal enterprises, community organizations and non-governmental organizations whilst the public sector comprises of different tiers and agencies of government departments, and often more informal institutions of self-governance by communities (Batley, 1996).

Privatisation

There are three processes of increasing private involvement or privatisation, namely programmed privatisation, pragmatic privatisation and informal/unintended privatisation (Batley, 1996). Programmed privatisation takes place when decisions are made by government (public sector) to sell assets, to franchise a particular sector of service provision or to contract out particular aspects of the service provision (Batley, 1996). Pragmatic privatisation occurs when the private sectors become involved in service provision due to necessity or to management convenience, resulting in growing commitment (Batley, 1996). Informal or unintended privatisation occurs when the failure of public services commands the private sector (firms or communities) to intervene to address the deficiency in the service and find their own market solutions to the failure in the public sector (Batley, 1996). In developing countries, as in the case of South Africa, there is greater progression in informal than in programmed privatisation, predominantly in the sphere of essential personal service delivery and basic infrastructure (Moser *et al.*, 1993; Batley, 1996).

Organisational arrangements

The World Bank (1994) describes four categories of institutional options or organisational arrangement for allocating responsibilities of ownership, financing, operation and maintenance of direct and indirect provider roles in service provision. Organisational arrangement refers to the way of organising the direct and indirect

provider roles in service provision rather than a simple transfer of assets from public to private sectors. Batley (1996) identified additional types of organisational arrangement, most of which can be grouped under the World Bank's options, namely public ownership and operation, public ownership and private operation, private ownership and operation, community or user provision and mixed categories including partnership between public and private providers, joint ventures with beneficiaries and the public support for private consumption and provision. None of these organisational arrangements, at least in the case of public services, comprehensively excludes government or the public sector from any involvement; the public role changes rather than disappears with forms and degrees of privatisation (Batley, 1996).

Public ownership and operation

Public ownership and operation includes pure public provision by state departments, where there is direct and indirect provider responsibilities between different tiers of government or between the state and public agencies and circumstances where aspects of production or delivery to the private sector are contracted out, although the public sector retains direct and indirect provision responsibility (Batley, 1996). Pure provision organisational arrangements transpire when the public sector or the private sector are comprehensively responsible for direct and indirect aspects of a service, including the ownership, planning, financing and implementation (Batley, 1996). It must be noted that, it is not common for pure arrangements to occur as private sector service provision will almost always be subject to some level of public sector or state control, even if only theoretically. Pure provision organisational arrangements without measures of private involvement is difficult to substantiate on the mere technical grounds of the characteristics of goods and services (Batley, 1996).

There are a variety of arrangements where aspects of production or delivery are contracted out to the private sector, although the public sector retains direct and indirect provision responsibility (Batley, 1996). In these arrangements, the public authority carries full financial risk, remains responsible for setting standards and retains full ownership of facilities, whilst the private contractors usually receive payment according to contract stipulations and not to their own operational efficiency (Batley, 1996). Examples include contracting of construction work to the private sector; service contracts which entail the contracting out to a private sector entity for fixed periods, particular aspects of the operation or maintenance of a service and

management contracts, which entail the transfer of the entire operation and maintenance of a publicly owned service to a private body for a fixed period (Batley, 1996). Such short term and specific contractual arrangements, in which the public authority, and not the consumer, pays the contractor, safeguards the interest of the public authority and ensures that the public sector retains its control of service provision. These arrangements tend to occur where there is a strong public interest and when government does not wish to decrease its responsibility for service delivery (Batley, 1996).

Private ownership and operation

Private ownership and operation comprises of private monopoly where government retains an indirect provider role, competition between private providers where government retains responsibility in terms of licensing entry and regulating operations and competitive markets where the public sector supports private consumers/producers (Batley, 1996). Regarding licensed competition between producers, and unlike the case for the regulation of monopoly, market conditions exist and government aims to regulate the outcome of competition (Batley, 1996). Within the framework of their operating licenses, direct providers take the majority of the responsibility for the service (Batley, 1996). Licensed competition is suited to the provision of private goods for which it is possible to charge for and which individuals compete to consume (Batley, 1996).

Public ownership and private operation

Public ownership and private operation organisational arrangements result when direct provision becomes the responsibility of private operators whilst government retains ownership and an indirect provider responsibility (Batley, 1996). According to Batley (1996), such arrangements are made possible through lease, concession (or franchise) or agreements. Lease contracts entail the transferral of a public service for a fixed period to a leaseholder that has the responsibility of providing finance working capital but not investment in the fixed assets. The lessee retains a percentage of tariff revenue (Batley, 1996). A concession is in the form of a long-term contractual agreement, whereby the private sector entity takes responsibility for the facility or fixed assets (Batley, 1996). The private sector or firm may maintain indefinitely the ownership and operation or may transfer ownership of the facility to the state after a period of private ownership and operation (Batley, 1996). A franchise entails the awarding of a finite term monopoly by the public sector to a private firm for the delivery of service after the completion of a competitive

qualification process (Batley, 1996). Although the private firm ensures profit making through direct charges to establishments that are served, the public sector control the tariff charged to the consumer through establishment of adequate competition and control of price collusion or through price regulation (Cointreau – Levine, 1994).

These arrangements are based on the separation of the direct and indirect aspects of provision and the subjection of the private producer to public contractual control or regulation (Batley, 1996). These arrangements are dependant on a number of functionalities, namely the situation has to result in leaseholders, concessionaires or licensees earning a return by charging for the delivery of the service, the capacity of government to regulate effectively and capacity in the private sector in terms of having sufficient financial capacity to take on commitments to long-term investment (Batley, 1996). In many third world countries this may imply the entry of foreign companies, but long-term investment may be difficult to attract when investment entails establishment of fixed assets in uncertain political situations for service provision to poor populations (Batley, 1996). Pure community or user provision is rare and is under normal occurrences subject to government control (Batley, 1996).

Mixed categories

Mixed categories include joint arrangements between public and private direct providers and where beneficiaries participate in public provision and ventures (Batley, 1996). In terms of partnerships between public and private direct providers, several sorts of arrangements can be identified where the public sector and private bodies act in a mutual endeavour, operating in parallel rather than the hierarchical division of responsibilities, namely joint ownership, joint investments and joint ventures. Joint ownership or 'mixed economy' companies entail shareholding of governments, municipalities and private companies (Batley, 1996). The form and activities of the companies are regulated by law giving them certain social objectives, but act on commercial principles within that framework. These joint ownerships are common in the 'Latin' countries of Europe and Latin America (Batley, 1996). Joint investments entail public and private organisations focusing their sources of investment finance on a joint purpose (Batley, 1996). Joint ventures comprise of the harnessing of powers and capacities of the public and private sectors into a shared purpose. This is predominantly a partnership of responsibilities rather than a pooling of financial investments. These partnerships occur widely in urban development in the United States and United Kingdom (Batley, 1996).

Joint ventures with beneficiaries entail the involvement of beneficiaries or users of the services directly in the administration of public services (Batley, 1996). This involvement may occur at the level of broad policy formation or in the management of implementation (Batley, 1996). Direct user participation in the management of public services is most likely to pertain to goods and services which the private sector cannot adequately supply and which are sufficiently small-scale to be managed locally (Batley, 1996). The occurrence of participation tends to be increased where benefits to society are collective. Without localism, the rewards of the direct and inclusive participation of the beneficiaries are lost (Batley, 1996).

In terms of public support for private consumption and provision, needs may be transformed into market demand by state support to the purchasers of private goods and services (Batley, 1996). This can be achieved through financial support in the form of cash payments, vouchers, loans to consumers, or subsidies to providers. The advantage of this arrangement to the public authority or government is that by supporting private provision, this may be cheaper than the costs associated with implementing an alternative public service (Batley, 1996). This policy of supporting private provision makes assumptions of the existence of competitive market conditions, that there is excess capacity amongst service providers that services and goods are utilised individually and that purchasers have sufficient knowledge regarding adequate market information and alternatives (Batley, 1996).

Closing remarks

Despite concerted efforts by the post apartheid South African government to address service and infrastructure backlogs, it is clear that many South Africans perceive little change in the quality of service provision. The continuation of insufficient service provision and insignificant progress in this regard is largely a result of administrative, financial and institutional weaknesses within government departments. Frustrated by these archaic characteristics typical of the post-apartheid state, local authorities across South Africa have sought alternative service delivery models for meeting these constitutional responsibilities. In light of the theoretical descriptions of these service provision arrangements and given the current situation in South Africa of poor service provision, the legacy of apartheid and associated exclusion of many population groups along with the initiatives of government to promote participation, joint arrangements (mixed categories) between public and private direct providers and where beneficiaries participate in public provision and ventures is proposed as the most appropriate arrangement for service provision

within each localised region. Within this arrangement, the public sector and private bodies act in a mutual endeavour, operating in parallel rather than the hierarchical division of responsibilities and the occurrences of participation tend to be increased where benefits to society are collective (Bately, 1996). An avenue of opportunity thus exists in many developing countries, including South Africa, for the participation of the private sector and beneficiaries of the service in service provision, as there is clearly a demand from the public that cannot be met by the public sector. A successful service provision model will no doubt result in poverty reduction, an increase in the quality of lives of community members and lesser environmental impacts so duly desired by many South Africans. The next chapter takes a look at a South African township, which requires urgent intervention to enable the enhancement of service delivery and socio-economic upliftment.

Chapter 3: Socio-economic realities and waste management practices of Marikana

Background

The North West Province of South Africa is home to approximately three and a half million people, and constitutes nine and a half percent of the total surface area of the country (Department of Agriculture, Conservation and Environment, 2002). The province is predominantly rural and is significantly impacted upon by poverty, which affects sixty two percent of the population, the second highest provincial figure for South Africa. Based on the United Nations Human Development Index, the province has the third lowest quality of life of South Africa's provinces (Department of Agriculture, Conservation and Environment, 2002).

The North West province, commonly termed the 'platinum province' generates ninety four percent of the country's platinum production and is home to the single largest platinum production area in the world, the mining activities largely associated with the Merensky reef of the bushveld complex (Jarrod Ball and Associates, 2004). Three of the world's largest platinum producing corporations namely Anglo Platinum, Impala Platinum and Lonmin Platinum are located within the North West Province. Despite the many positive attributes of mining activities in the area, which include a significant

thirty five percent contribution to the gross domestic product of the North West Province and the employment of thirty nine percent of labour within the province, (Department of Agriculture, Conservation and Environment, 2002) negative environmental and social impacts of mining operations are evident. Mining operations not only affect the communities in terms of air pollution, land degradation and water contamination, but also attract large populations to the area in hope of employment opportunities, ultimately resulting in overcrowding and increased pressure on already ineffective service delivery from local government.

The North West Province currently comprises of four district municipalities and twenty-one local municipalities. The Bojanala Platinum District is the most northern district council of the province, comprising of five local municipalities, namely Madibeng, Moses Kotane, Moretele, Rustenburg and Kgetlengrivier and one district management area, the Pilanesberg District Management Area (Jarrod Ball and Associates, 2004). The Rustenburg Municipal District, which is centrally located within the Bojanala Platinum District Municipality is approximately three thousand, five hundred square kilometers in extent and consists of thirty-five wards (Jarrod Ball and Associates, 2004). As a result of the promulgation of the Municipal Systems Act (Act 32 of 2000) in 1998, the establishment of the Rustenburg Local Municipality entailed the amalgamation of the former Rustenburg TLC, Marikana TLC, Monnakato TRC and the tribal areas of the Bafokeng and Bakwena tribes (Jarrod Ball and Associates, 2004). The townships within the Rustenburg Municipal District reflect socio-economic realities typically experienced by the South African people. An example of a township is the town of Marikana.

The town of Marikana

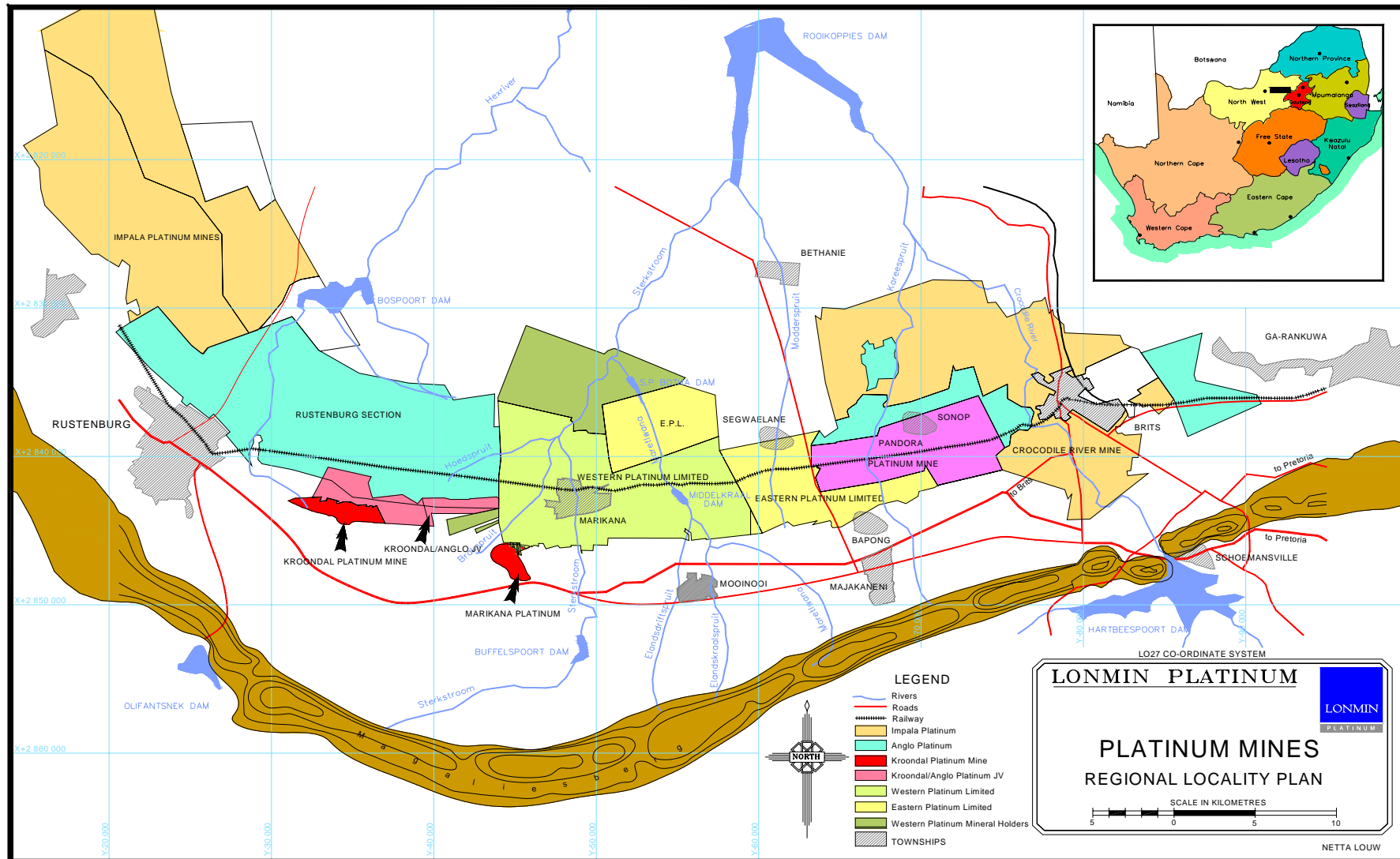
Marikana is a township situated within ward eleven of the Rustenburg Municipal District to the east of Rustenburg. The town of Marikana was established during the early 1900s as a result of mining activities in the eastern limb of the bushveld complex, in particular the platinum mining initiated by Lonhro Plc in 1909, (note the close proximity of the town to the mining operations in figure 3.1). The recent expansion of the town has been largely attributed to the formation of Lonmin Platinum (formally Lonhro Plc) during March 1999. Marikana experiences socio-economic realities associated with rudimentary infrastructure and inadequate service delivery. Although the statistics from the 2001 South African census represent ward eleven in its entirety of which Marikana Township is one of the settlements within the

area, the statistics are in all probability representative of the socio-economic conditions within Marikana.

Demographics

Ward eleven is approximately four hundred square kilometers in extent and has a total population of twenty three thousand. One percent of the total population falls within the white population group (Statistics South Africa, 2001). The Rustenburg Planning Department predicts that the population of the Rustenburg Municipal District is far greater than what was determined by Census 2001. Using a population growth rate of five percent as recommended by the Northwest Spatial Development Framework, the 2004 population is estimated at four hundred and sixty three thousand, and the 2015 population is estimated at eight hundred and twenty eight thousand (Jarrod Ball and Associates, 2004). Mining, predominantly platinum mining is the driving force behind the growth experienced by the areas situated within the Rustenburg Municipal District (Jarrod Ball and Associates, 2004). According to the Urban Renewal Report, mining is expected to continue to grow, which will, undoubtedly result in a continued influx of people to the area resulting in further pressure on infrastructure and service delivery (Jarrod Ball and Associates, 2004).

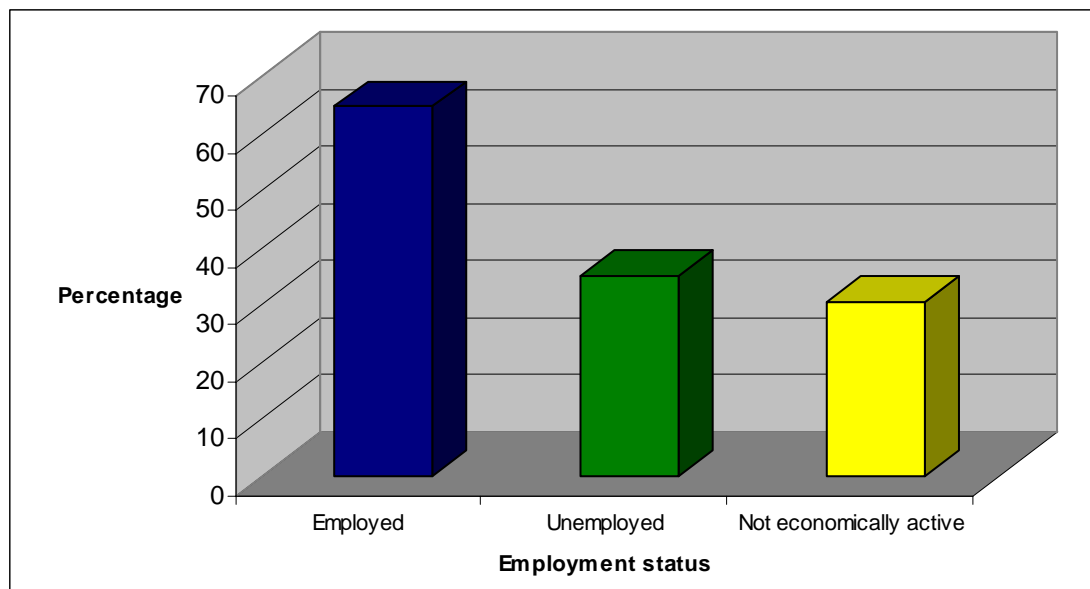
Figure 3.1: Locality map indicating positioning of the town of Marikana within close proximity of mining operations



Literacy, employment and income generation

Approximately eleven and half percent of people older than twenty years of age within Marikana have not received schooling of any nature, nineteen percent have received primary schooling to some degree and only nine percent of the target population have successfully completed grade twelve. These figures highlight the low literacy level of the population (Statistics South Africa, 2001). The labour force statistics indicate that thirty five percent of the economically active population group within ward eleven are unemployed (figure 3.2). Eighty three percent of the labour force is employed by mining or quarrying sectors, this underlining the dependency of the communities on the mining industries for employment and well-being (Statistics South Africa, 2001). An alarming fact is that fifty nine percent of the population residing within ward eleven of the Rustenburg Municipal District do not receive a monthly income. Of the population that generates a monthly income, nineteen percent, which represents the largest sector of the population, earn between one thousand six hundred rand and three thousand two hundred rand per month (Statistics South Africa, 2001).

Figure 3.2: Employment status of the population within ward eleven (Statistics South Africa, 2001)

*Environmental hazards*

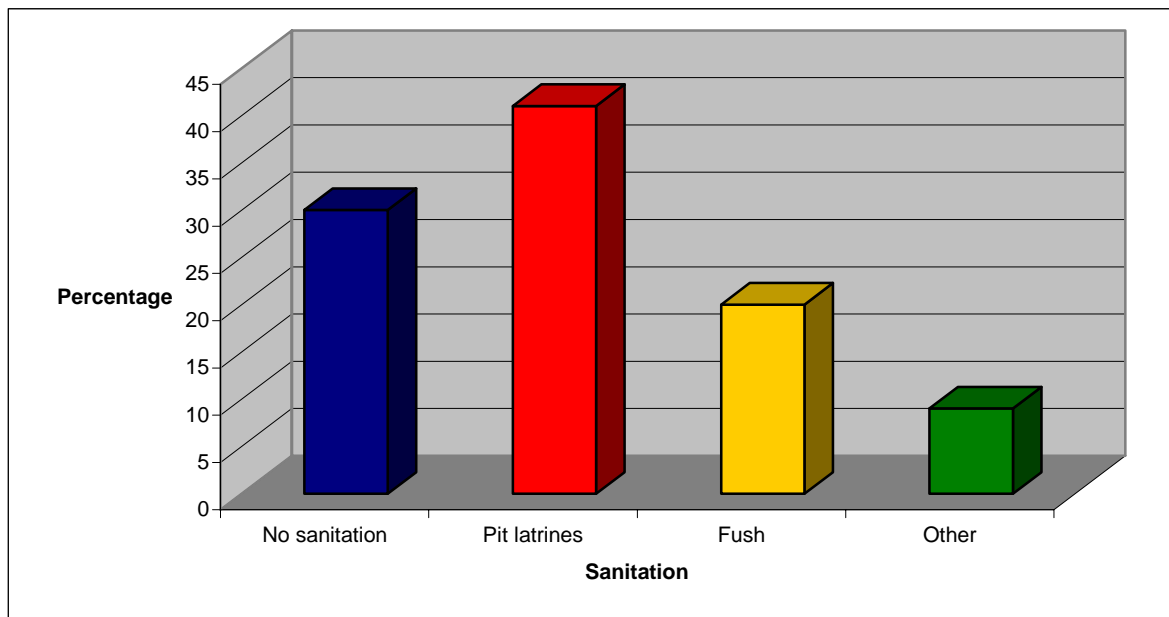
Informal settlements are a characteristic of the South African landscape. Within the formalized town of Marikana it is estimated that fifty percent of dwellings are of the informal dwelling type (Statistics South Africa, 2001), this typical environment illustrated by Figure 3.3.

Figure 3.3: Vast expansions of informal dwellings indicating the socio economic realities of Marikana



Despite the unmistakable benefits associated with improved and efficient lighting in terms of time management and productivity, forty eight percent of households within Marikana make use of candles as a source of lighting and only forty one percent of dwellings make use of electricity as a source of energy (Statistics South Africa, 2001). The provision of clean drinking water and adequate sanitation is a necessity for the protection of human health and the environment in which people live. Regardless of the numerous commitments by the South African government for provision of sanitary facilities and the constitutional status of this service provision, approximately thirty percent of households in Marikana do not make use of any sanitation facilities, forty one percent of households utilise pit latrines and approximately twenty percent of households utilise flush toilets (figure 3.4) (Statistics South Africa, 2001). A mere sixteen percent of households within Marikana obtain potable water from within their own dwellings and twenty five percent of households obtain potable water from a community stand in excess of two hundred meters from their own dwellings (Statistics South Africa, 2001).

Figure 3.4: The profile of sanitation facilities utilised by the community of Marikana (Statistics South Africa, 2001)



Only nineteen percent of household waste management practices in ward eleven are in alignment with legislative requirements (Statistics South Africa, 2001). Approximately fifteen percent of households do not dispose of their refuse in any manner, whilst sixty four percent of households dispose of their refuse on their own waste dumps (Statistics South Africa, 2001). It is estimated by local government that waste management services within Marikana are inferior to the average service provision in ward eleven (Jarrod Ball and Associates, 2004). Nevertheless any legally non-complying practices have huge negative implications for human health, water and soil resources.

Representative of South African townships, the people of Marikana are urgently in need of employment opportunities, education and service provision of potable water, electricity, sanitation and refuse disposal. Although it is acknowledged that waste management is not ranked the highest in terms of hierarchical needs of lower income communities in South Africa, effective waste management requires minimal infrastructural requirements and is a service that if effectively and appropriately delivered, where possible with the assistance and guidance of corporations will significantly benefit communities in terms of health and environmental impacts, compliance to legislation and the realisation of constitutional rights of many South African citizens. It is for these reasons that the management of general solid wastes within South African communities is considered within the scope of this dissertation.

Legislation pertaining to waste management

Within the legislative context of the Environmental Conservation Act (Act No 73 of 1989), waste is defined as any material or substance that is discarded or spilt by any person; or is accumulated and stored by any person with the purpose of eventually discarding it with or without prior treatment connected with the discarding thereof; or is stored by any person with the purpose of recycling, re-using or extracting a usable products from such matter. Hazardous waste is material or substance that, if handled improperly, has the potential to harm people, property or the environment (Department of Environmental Affairs and Tourism, 1989). Within the scope of this dissertation, solid waste management refers to the collection, transfer, recycling, disposal of municipal solid wastes and the management of landfilling operations. Municipal solid wastes include refuse from residential households, non-hazardous solid (not sludge or semisolid) wastes from industrial and commercial establishments, market and yard wastes and street sweepings. Effective and efficient waste management practices imply capacitated and timely waste collection service by local government and in line with legally compliant disposal practices.

Municipal solid waste management is an essential public service, which benefits all urban and rural residents and is a public good for which local or metropolitan governments are typically responsible (Cointreau – Levine, 1994). It is for this reason alone that government cannot exclude this service from those who do not pay, as the safe and legal disposal of wastes are essential to public health and environmental protection (Cointreau – Levine, 1994). The service of waste management is nonexclusive, the benefits thus extending to overall public welfare, and are not limited to service receivers. The service is also nonrivalled, this translating into the enjoyment experienced by service receivers without diminishing the benefit to anyone else (Cointreau – Levine, 1994). These characteristics of being nonexclusive, nonrivalled and essential, consign the responsibility for solid waste management squarely within the public domain as a public good (Cointreau – Levine, 1994).

The management of waste is theoretically regulated through over thirty acts of parliament, provincial ordinances and a significant number of local authority by-laws (Jarrod Ball and Associates, 2004). These pieces of legislation are vital tools for determining institutional powers, responsibilities of government and frameworks for the effective implementation of comprehensive waste management systems. A

fundamental shift during the last decade in the South African government's approach to the management of the environment is clearly evident in the commitments within the Constitution of South African and in the promulgation of legislation and strategies such as the National Environmental Management Act (Act 107 of 1998), The White Paper on Integrated Pollution and Waste Management and the National Waste Management Strategy (Jarrod Ball and Associates, 2004).

Through the enforcement of the South African Constitution and the promulgation of the Municipal Structures Act (Act 117 of 1998) and Municipal Systems Act (Act 32 of 2000), local government has new and expanded responsibilities in terms of giving effect to local economic development, poverty alleviation and environmental protection. These functions have a direct bearing on waste management in terms of the provision of municipal services to local communities and the promotion of a safe and healthy environment. The Municipal Systems Act requires local governments to develop *Integrated Development Plans*, which directly influences the design and implementation of strategic waste management practices. The *National Waste Management Strategy* endorses the Municipal Systems Act in terms of local government being liable and responsible for the provision of waste management services, the management of waste disposal facilities and the development and implementation of by-laws and ordinances in line with the national waste management policy and provincial legislation and policies (Jarrod Ball and Associates, 2004).

The Environment Conservation Act (Act 73 of 1989) affords important guidelines and requirements in terms of waste management and disposal requirements. Section nineteen of the Environment Conservation Act imposes obligations on the owner or occupier of land to keep premises clean of waste that may become a nuisance or injurious to health (Department of Environmental Affairs and Tourism, 1989). The act obligates every controlling authority to remove discarded litter within a reasonable period of time (Department of Environmental Affairs and Tourism, 1989). In addition, the act provides legislative requirements for the operation of a landfill site, in particular section twenty, which states that no person shall establish, provide or operate any disposal site without a permit issued by the Minister of the Department of Water Affairs and Forestry (Department of Environmental Affairs and Tourism, 1989). Regulations of the Environment Conservation Act detail legislative requirements for licensing of sites prior to construction or use, construction in terms of minimum requirements for waste disposal by landfill, the provision of buffer zones, the

implementation of specific water management procedures regarding drainage, provision of effective access control, operational requirements and environmental monitoring (Department of Environmental Affairs and Tourism, 1989).

A “trilogy” of documents, the “Minimum Requirements” published by the Department of Water Affairs and Forestry (DWAF), is pertinent to the establishment and operation of landfill sites. *The Minimum Requirements for Waste Disposal by Landfill (1998)* addresses landfill classification, siting, investigation, design, operation and monitoring of landfill sites and that waste be disposed of at appropriately licensed solid waste disposal sites. Hazardous waste is to be disposed only at professionally designed and managed hazardous solid waste disposal sites. *The Minimum Requirements for the Monitoring of Water Quality at Waste Management Facilities (1998)* illustrates and addresses the importance of the monitoring of water quality around waste disposal facilities. The guidelines take into account the potential for ground water usage, aquifer vulnerability, toxicity and quantity of waste. The objective of these guidelines being to minimise all environmental risks of the operation of landfill sites. Government has a responsibility to enforce compliance of all landfill sites with legislative requirements in terms of these guidelines and acts.

Local governments have the enabling authority to implement by-laws within the areas of jurisdiction, the objectives of these by-laws being to give effect to and enforce national legislative requirements. The Bojanala Platinum District Municipality does not make use of by-laws, thus limiting regulatory capacity in terms of enforcement and policing of waste management practices (Jarrod Ball and Associates, 2004). Mimicking this inadequacy, the Rustenburg Local Municipal is currently making use of outdated by-laws as the regulatory component of its function (Jarrod Ball and Associates, 2004). These by-laws do not give effect to recent legislative and policy objectives, particularly in respect of the waste management hierarchy and the duty of care and cradle-to-grave responsibilities. Additionally, the regulations are limited in scope and the socio-economic realities in Rustenburg are not reflected in the by-laws, this is typically evident in that fact that provision is made for servicing of formal settlements but excludes informal settlements (Jarrod Ball and Associates, 2004). Compliance and enforcement of by-laws is limited and does not provide a coherent basis to enforce waste management legislation and requirements (Jarrod Ball and Associates, 2004).

Waste management in Marikana

The socio-economic structure of a community determines demographic information including dwelling type and density, number of occupants within a household, population growth, level of income and employment status which are directly linked to typical waste generation and disposal characteristics. These characteristics in turn affect the nature of collection, transfer and disposal services (Jarrod Ball and Associates, 2004). These relationships are evident in the waste management practices experienced within the Marikana Township.

Waste management policies of the Bojanala Platinum District

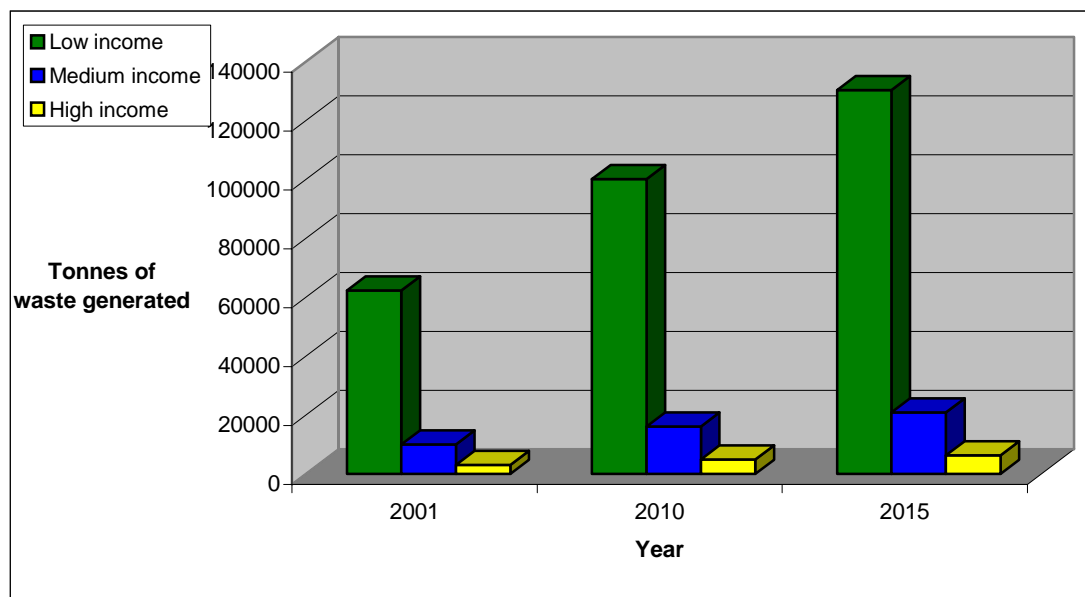
The intentions of the Bojanala Platinum District Municipality regarding service provision to towns within its jurisdiction are clear, as highlighted by the vision to provide “accountable, efficient and transparent district governance that ensures cost effective, sustainable and high quality services to its community in an economically vibrant, clean, safe and healthy environment” (Jarrod Ball and Associates, 2004:12). The *Integrated Development Plans* outlines strategies and plans of local government to achieve national objectives. The 2001 plans for the Bojanala Platinum District Municipality outline the commitment and intent of waste management in the objectives of issue twenty one. Accordingly, it is stated that waste collection services are to be established and fully realised by the year 2004 and that upgraded services are to be phased in where increased waste generation needs to be addressed. Another key objective for the District Municipality is to build capacity to utilise waste management as an employment creation opportunity (Bojanala Platinum District Municipality, 2003). The statistics outlined in this report prove that these objectives aimed for achievement by 2004 with regard to waste management are yet to be realised.

Echoing the objectives of the District Municipality are the commitments made by the Rustenburg Local Municipality in their 2004 *Integrated Development Plans*. Their intentions for maintaining and upgrading of existing services to meet the required standards, to ensure provision of free basic services to all indigent households, the forging of partnerships for the promotion of local economic development and employment creation through tourism and capital projects undertaken within the municipal area (Rustenburg Local Municipality, 2004) are once again commitments that are not being realised.

Waste generation

It is estimated that during the year 2004, the Rustenburg Municipal District generated eighty eight thousand tonnes of domestic waste, which is expected to increase to one hundred and twenty one thousand tonnes per annum by the year 2010 and to one hundred and fifty eight thousand tonnes by 2015 (figure 3.5) (Jarrod Ball and Associates, 2004). This will have serious implications for the service provision sector in terms of capacity of provision and will demand a significant increase in efficiency if waste services are to be implemented effectively. The low-income earning population generates significantly larger volumes of waste than the medium to high-income earning households (figure 3.5) (Jarrod Ball and Associates, 2004). Although the town of Marikana generates approximately six hundred and fifty tonnes of domestic waste per month⁴, the town is predominantly rural and characterised by low-income population groups. The rate of waste generation is therefore expected to increase significantly during the forthcoming years (figure 3.5).

Figure 3.5: A prediction of waste generation for the Rustenburg Municipal District (Jarrod Ball and Associates, 2004).



The quantities of hazardous waste, including medical waste generated within the Bojanala Platinum District Municipality are not easily quantifiable, firstly due to the inadequacy of hazardous waste disposal (included in general waste disposal in many instances) and due to numerous entities, such as mining operations and industries producing hazardous wastes, which are not collectively quantified (Jarrod Ball and

⁴ Personal communication with Mr Tim Hill, Manager of the Marikana Housing Development Scheme

Associates, 2004). Enviroserv, which is one of the largest hazardous waste collectors, transporters and disposers of hazardous waste in the country has estimated that on a monthly basis, approximately seven hundred cubic meters of hazardous wastes for the district are disposed of at the registered hazardous landfill sites, Rosslyn and Holfontein, the majority of the waste originating from the mining operations in the area (Jarrod Ball and Associates, 2004). The ad hoc and illegal dumping of waste further increases health impacts should this discarded waste include hazardous wastes. It is expected that waste generated within Marikana does not contain high quantities of hazardous wastes (Jarrod Ball and Associates, 2004).

Waste collection and disposal

Waste within the area of jurisdiction is collected by the Rustenburg Local Municipality or representatives of the Municipality as required by the Municipal Systems Act (Act 32 of 2000), an exception being the majority of areas which are owned by mining houses or industries and typically informal sectors which do not receive services due to non-payment and limiting factors characteristic of government (Jarrod Ball and Associates, 2004). Nevertheless this service remains the responsibility of the local government. Revenue generating waste services provided by the Rustenburg Municipality, if managed effectively, includes the routine collected waste service, bulk and special waste services to businesses and industries (Jarrod Ball and Associates, 2004). Non-revenue generating services, which take place on an ad hoc basis and often with limiting capacity, include street and park cleaning, management of waste transfer stations, enforcement of by-laws, bulk services to informal settlements and the identification of illegal dumping areas and subsequent collection (Jarrod Ball and Associates, 2004).

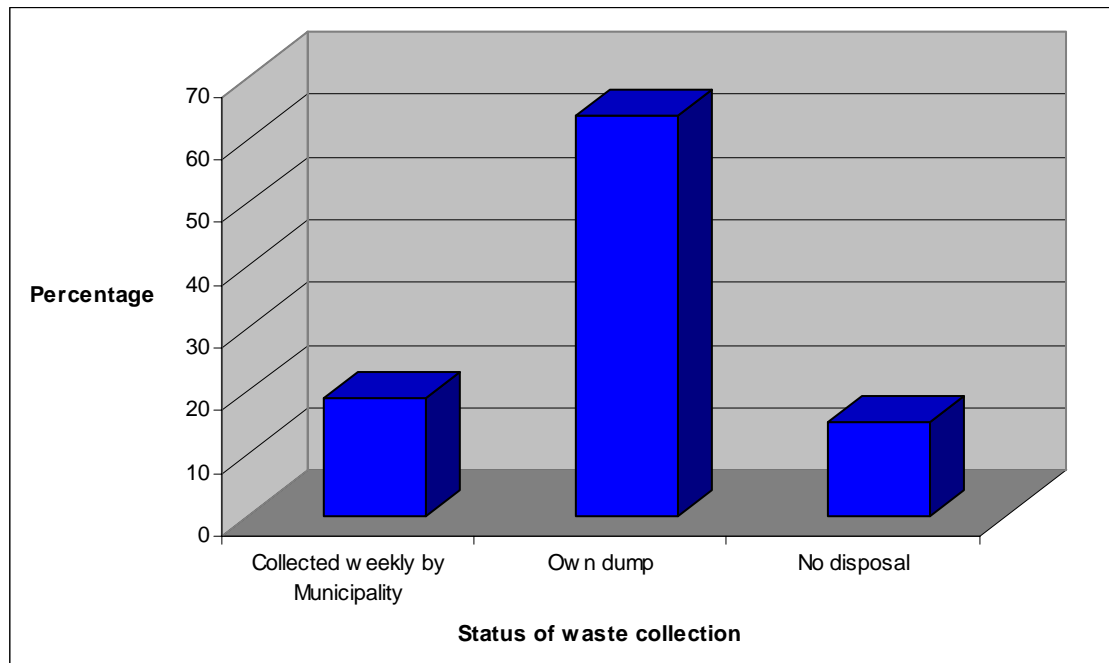
Waste is collected as part of a routine collection service, termed round collection from eight waste generating areas, namely Rustenburg Town, Tlhabane, Meriteng, Biotekong/Paardekraal, Hartebeesfontein, Phatsima, Marikana and Monnakato, which in total consist of approximately thirty nine thousand service points (Jarrod Ball and Associates, 2004). The Rustenburg Municipality aims to collect waste from the central business districts twice weekly and from residential areas on a weekly basis, which approximates seven thousand seven hundred households per day (Jarrod Ball and Associates, 2004). The Waste Management Unit operates from one depot located within the city centre. Although this location is optimal to waste collection within the town of Rustenburg, many of the townships are located a distance from Rustenburg, which results in significantly high waste collection costs (Jarrod Ball and

Associates, 2004). The Rustenburg Local Municipality utilises nineteen vehicles, which are used exclusively for waste management activities (Jarrod Ball and Associates, 2004). Contributing to the inefficiencies of waste collection is the availability and maintenance of the waste fleet, as a large percentage of these vehicles have exceeded their life span of ten years (Jarrod Ball and Associates, 2004), given that according to Cointreau – Levine (1994), collection vehicles should have an economic life of six to eight years under single-shift use and a life of four to five years under intense use. The inefficiencies resulting from exceeding this life span is problematic.

Local government makes use of a number of landfill sites in the region to dispose of waste, predominantly unregistered landfill sites. The workforce within the unit comprises of one hundred and thirty four employees, constituting supervisory roles, foremen, supervisors, drivers, street-cleaners and generalist workers (Jarrod Ball and Associates, 2004). The administrative functions such as resource management and financial aspects are managed in separate directorates within the Municipality, this resulting in information fragmentation, unclear responsibilities and ineffective management of the waste management services (Jarrod Ball and Associates, 2004).

Within ward eleven of the Rustenburg Local Municipal District, only nineteen percent of households waste management practices are in alignment with legislative requirements, this translating into waste that is collected by the Rustenburg Local Municipality and disposed of illegally (Statistics South Africa, 2001). Approximately fifteen percent of households within ward eleven do not dispose of their refuse in any manner, whilst sixty four percent of households dispose of refuse on their own waste dumps (figure 3.6) (Statistics South Africa, 2001). The statistics obtained from Rustenburg Local Municipality and from contractors working within Marikana, estimate waste generation at approximately six hundred and fifty tonnes per month and the collection of approximately eight and a half percent of the waste (Jarrod Ball and Associates, 2004), resulting in an approximate ninety one and a half percent of the waste not being disposed of, or being disposed on waste dumps other than the Marikana landfill site. Although the figures obtained for Marikana represent a significantly lesser degree of compliance by local government for collection of waste per household, accurate figures for waste generation and collection per household for Marikana are not available and cannot be verified. Despite this uncertainty, it is certain that the reality of illegal disposal and poor collection by local government is prevalent.

Figure 3.6: Waste collection status of the households within ward eleven, which is estimated to be in accordance with the waste collection patterns of Marikana (Statistics South Africa, 2001).



Contractors employed by the municipality for waste collection in Marikana collect approximately fifty-five tonnes of waste per month from one thousand three hundred service points within Marikana amounting to a cost of two hundred and forty thousand rands per annum to the municipality (Jarrod Ball and Associates, 2004). The collection of the waste entails approximately eight and a half percent of the waste that is generated. The informal settlements within Marikana remain largely unserved, this being one of the seven out of thirteen informal settlements within the district that are not serviced (Jarrod Ball and Associates, 2004). The waste collection service provided by the contractors to the municipality entails door-to-door collection of plastic waste bags, which are subsequently loaded on five tonnes flat bed trucks (figure 3.7). Although one truck services approximately two thousand households, the trucks are old and in poor condition resulting in unavailability of the trucks on an average basis of once per week (Jarrod Ball and Associates, 2004). The labour force for this waste servicing operation constitutes seventeen employees (Jarrod Ball and Associates, 2004).

Figure 3.7: Waste collection contractors operating within the formal sectors of Marikana



Limited recycling takes place at the source and informal scavenging takes place at the landfill site, which is typically restricted to the recycling of wastes that provide potential sources of income generation for the recyclers (Jarrod Balls and Associates, 2004). Illegal dumping of waste in and around the Marikana dwellings (figure 3.8) is a vivid characteristic of the town. The contracting company removes eight tonnes of illegally disposed waste per month from areas surrounding the dwellings and subsequently disposes this waste at the ineffectively managed and legally non-compliant Marikana landfill site situated approximately two kilometres from the town (Jarrod Balls and Associates, 2004).

Marikana solid waste disposal site

The Rustenburg Local Municipality utilises one informal landfill site for the disposal of waste from the township of Marikana, namely the Marikana solid waste disposal site (Jarrod Balls and Associates, 2004). This landfill site has not been registered and is in direct contravention to the Environment Conservation Act (Act 73 of 1989). The disposal of the waste does not entail any management or site operation, this including backfilling and compaction and merely acts as a collective area of illegally disposed waste (Jarrod Balls and Associates, 2004). The site does not have ablution facilities or access control (Jarrod Balls and Associates, 2004). A minimum of six

hundred and fifty tonnes (which represents the eight and a half percent of waste collected from households within Marikana by local government per month) of waste is illegally disposed of at the landfill site on an annual basis (Jarrod Balls and Associates, 2004).

Figure 3.8: One of the many illegal waste disposal sites within Marikana



The waste is dumped within a gravel borrow pit where informal recycling and uncontrolled scavenging takes place. After recyclable material is removed from the waste, the waste is subsequently set alight and burnt. A constant smouldering of the wastes take place, resulting in aesthetic impacts and potential health and fire hazards to the nearby informal settlements (Jarrod Balls and Associates, 2004). Due to the informal nature of this landfill site, there is an absence of storm water control measures and drainage systems thus enhancing erosion possibilities and the contamination of clean rainwater. This is allowed to happen despite the close proximity of the Sterkstroom River approximately one hundred and fifty meters to the east of the landfill site (Jarrod Balls and Associates, 2004).

There is no means by which the impacts of the site on ground and surface water quality are monitored. Moreover, during the life span of the site, of which there is an estimated three years remaining these impacts have never been determined or quantified (Jarrod Ball and Associates, 2004). The operation and management of the

Marikana landfill site is in direct contravention to legislation governing landfill sites and waste management. In summary, the current waste management practices in Marikana are rudimentary, non compliant to legislation and encompass a poor regard for the duty of care for the environment and for the community.

Constraints of the Rustenburg Municipality

Constraints experienced by both the District Municipality and by the Rustenburg Local Municipality are in line with the limiting factors experienced by all spheres of government within South Africa, namely financial and administrative constraints and shortage of personnel. Although the size of the municipal district jurisdiction as well as the population residing in the district and associated waste generation has increased significantly since the year 2000, the organisational structure and labour capacity has not increased accordingly (Jarrod Balls and Associates, 2004). In addition to the human capacity constraints, the absence of accurate information regarding the socio-economic parameters and physical constraints required for planning purposes results in a poorly planned and incapacitated service delivery (Jarrod Ball and Associates, 2004).

Financial resources are vital for the effective operation of an organisation, including the delivering of a waste management service. The Bojanala Platinum Municipal District charges forty rand and fifty cents per service point per month for residential areas and ninety-eight rand for a business service point. Despite these service charges, the twenty five million rand operating costs of the Rustenburg Municipality indicated a deficit of approximately one million and six hundred thousand rand for the 2003/2004 financial year, this is expected to increase to five million rand for the 2004/2005 financial year (Jarrod Balls and Associates, 2004). The deficit is largely attributed to expenditure on non-revenue generating activities such as street cleaning and clearing of illegal dumping. Non-payment for services has also contributed significantly to the budget deficit. In some instances in the Rustenburg Municipal District, townships have not yet been proclaimed or owners are unknown, which results in the non-payment of service costs (Jarrod Balls and Associates, 2004). It is estimated that approximately eleven thousand households and two thousand businesses do not receive invoices for services delivered resulting in a cumulative nine million rand loss per year (Jarrod Ball and Associates, 2004).

Community education and awareness

Education and awareness are vital tools for ensuring that communities are made aware of the principles of waste management and thus enhancing the sustainability of waste management projects and initiatives. The Bojanala Platinum District Municipality has been active during 2004 with regards to the awareness of communities through the initiation of recycling projects and the driving of campaigns aimed at encouraging communities to report illegal waste practices to local government (Jarrod Balls and Associates, 2004). A popular initiative undertaken by the district is the Ke Batla Tiro Project, which creates employment through the re-use of recyclable materials (Jarrod Balls and Associates, 2004). Although these awareness and education drives are limited, the importance of education as a strategy of the District Municipality is highlighted in these initiatives (Jarrod Ball and Associates, 2004).

It is clear that although both the Bojanala District Municipality and the Local Rustenburg Municipality have clear visions and goals for the successful delivery of an effective waste management service to the communities, they do not have the means for the realisation of these responsibilities. The North West local government requires innovative and urgent assistance from non-governmental organisations, private corporations or community based organisations for waste management service provision to not only curtail the increasing environmental impacts on water, soil and air resources but to improve the socio-economic conditions and quality of life of the local communities of Marikana.

Waste management service provision models

Certain circumstances lead to the introduction of varying degrees of privatisation to the sphere of waste management in South Africa. These service provision models as described by Batley (1996) and the World Bank in 1994 are discussed in Chapter two of this dissertation. Linking to this discussion, Ahmed, *et al* (2003) maintains that essential requirements for public private partnerships or the introduction of degrees of privatisation is a public sector characterised by less than satisfactory efficiency and capacity and a private sector (often represented by corporations), willing to undertake some elements of an activity and a general public that is willing to pay the private sector (or local government in the South African context) for the extra service. All of these above characteristics are present in varying degrees in developing countries, including South Africa. Table 3.1 outlines the disadvantages and advantages associated with models most commonly utilised

for the provision of a waste management service in developing countries as detailed by Cointreau – Levine (1994), all of which are associated with types of service provision models identified by Batley (1996) and the World Bank in 1994.

Contractual agreements

Generally, the formation of public – private partnerships lead to a more efficient and less costly means for waste management provision (table 3.1). An avenue of opportunity thus exists in many developing countries, including South Africa for the participation of the private sector in solid waste management, as there is clearly a demand from the public that cannot be met by the public sector. In line with the studies undertaken by Cointreau–Levine (1994), the advantages of contractual arrangement partnership models exceed the benefits of the alternative models of waste management provision, thus providing the greatest opportunity to involve the private sector in the provision of waste management services through contractual agreements with local government (table 3.1).

Table 3.1: Waste management provision models

Model	Description	Advantages	Disadvantages
Public service provision	Service provision solely by state departments with no private sector involvement.	Constitutional responsibility of the state and if delivered effectively could result in increased accountability of state department Cointreau – Levine (1994). According to Cointreau – Levine (1994) it has been shown that when the public service agency is in competition with the private sector and undertakes the necessary adjustments to become competitive, the public sector has the potential to attain costs and service delivery comparable to those of the private sector. According to Cointreau – Levine (1994), it is for this reason that the ideal arrangement entails both public and private contributions	The provision of services by state department is fraught with incapacitated departments, insufficient funding, extravagant costs, corruption, obsolescent equipment and inadequate supervision. Current practices depict the incapability of government in terms of waste management service provision. Municipal corporations typically spend the majority of operational budgets on primary waste collection services, in the range of more than sixty percent, this being due to excessive cost of service provision (Ali, 1999).
Public private partnerships □ Contracting	Private sectors deliver the service of waste management on behalf of local government and are paid by the local government from general revenues or through monies raised by direct user charges (Cointreau – Levine, 1994). The private sector provides the service under contract with local government.	The service provided by the private sector under contractual agreement often involves low economies of scale, technological simplicity, and moderate investment costs Cointreau – Levine (1994). It is often feasible for local companies with modest financial resources to enter into the business of solid waste management (Cointreau – Levine, 1994).	The possibility of the contracting of services is dependent on the absence of barriers to entry (Cointreau – Levine, 1994).

Model	Description	Advantages	Disadvantages
		<p>Although no comparable study has been conducted in developing countries to determine whether contracting versus a public monopoly lends to decreased costs, statistics illustrate that in the United States, contracting was ten percent to thirty percent less costly and based on studies conducted in England, Wales and Canada, contracting of solid waste collection service was twenty two percent to forty one percent less costly, respectively than public service provision (Cointreau – Levine, 1994).</p> <p>According to Cointreau – Levine (1994), among the various options for private sector participation, contracting for solid waste service holds the greatest potential to developing countries as a means of lowering cost due to the contestability of market principle and the elimination of public monopoly.</p>	
<p>Public private partnerships</p> <p><input type="checkbox"/> Franchise</p>	<p>Private sectors deliver the service of waste management on behalf of local government Cointreau – Levine (1994).</p> <p>The private sector is responsible for the collection of user charges from each</p>	<p>The elimination of public monopoly and the introduction of competition (Cointreau – Levine, 1994).</p>	<p>The costs of nonpayment and late payment is estimated at ten percent of the total cost to the consumer of service, this being the main reason of higher costs associated with franchise services (Cointreau – Levine, 1994).</p>

Model	Description	Advantages	Disadvantages
	<p>establishment that receives the service and thus individually bears the cost of billing and collecting user charges (Cointreau – Levine, 1994).</p>		<p>In developing countries, franchise is possible only in regions where full co-operation in terms of cost recovery is guaranteed and assisted by readily providing education regarding public cleanliness (Cointreau – Levine, 1994).</p>
<p>Public private partnerships <input type="checkbox"/> Concession</p>	<p>Private sectors deliver the service of waste management on behalf of local government (Cointreau – Levine, 1994). Under concession arrangements, the private sector finances solid waste management facilities and in return, the public sector typically enables access to a specified quantity and quality of waste and contributes finance towards tipping (Cointreau – Levine, 1994).</p>		<p>In developing countries, there is always possibilities of politically motivated decisions in terms of waste management facilities offered by vendors and customary procedures of city planning and the undertaking of feasibility studies to determine the most viable waste disposal option is often by-passed as are those of competitive procurement (Cointreau – Levine, 1994). In some instances waste management facilities are unwittingly financed by grants from bilateral donor agencies, which presents as a minimal risk (Cointreau – Levine, 1994).</p>
<p>Public private partnerships <input type="checkbox"/> Open competition</p>	<p>In open competition (often termed private subscription), each household entity/commercial establishment utilizes representatives of the private sector (may differ from house to house) and pays the service charges that the specific private sector representative</p>		<p>This arrangement of privatisation often according to Cointreau – Levine (1994) results in the majority of circumstances more costly than public service due to two main reasons, namely the ‘economies of continuity’ are forfeited when a number of competing firms operate in the same area, the economies of continuity would be achieved in circumstances where</p>

Model	Description	Advantages	Disadvantages
	charges (Cointreau – Levine, 1994).		services in an area are undertaken by one representation of the public sector. The second factor is collusion, which is a concern when open competition is allowed, predominantly in developing countries that do not have true competition at a significant level. In addition to these factors, competitive private sectors bear the cost of billing and collecting user charges from customers (Cointreau – Levine, 1994).

From the analysis in Table 3.1 it is clear that contractual arrangements in many instances enable the private sectors to provide an efficient, demand-responsive and low-cost service in terms of waste management due to capital cost and technological knowledge requirements being low. Ahmed, *et al* (2003) reinforces the potential of private sector involvement by stating that it has been demonstrated in many developing countries that people are willing to pay for an effective waste management service; therefore, providing a means of payment and ensuring the sustainability of this service.

If a contractual agreement that is formed between local government and the private sector aims at utilising or including local community members in the provision of this waste management service, with the private sector represented typically by large business sectors or corporations, the concept of tri-sector partnerships evolves. A tri-sector partnership is ‘... a voluntary collaboration to promote sustainable development, based on an efficient allocation of complementary resources across business, civil society and government’ (Acutt, *et al*, 2001c:3).

Tri-sector partnerships are unique in that the benefits extend beyond service provision in terms of empowering community members through entrepreneurship, skill development and employment. This notion is confirmed by The Natural Resources Cluster Business Partners for Development (2005a) who maintains evidence is increasing that pertinent social issues may be resolved through collaborative efforts by tri-sector partnerships. In the South African context of poor socio-economic conditions, high unemployment and poverty, the tri-sector partnership approach may pose an effective approach to address the concerns of service delivery (The Natural Resources Cluster Business Partners for Development, 2005a).

Closing remarks

It is for reasons of legislative compliance, inefficient service delivery by local government to poverty stricken communities and increasing environmental degradation that has led to the exploration of alternative approaches for service provision in South African townships. Not only state departments, but also private sectors that have been involved in this process of trying to find alternative options for service delivery. In developing countries, particularly in South Africa the concept of proactive tri-sector partnership formation is relatively unexplored and innovative (Warner, date unknown). Although there have been instances where tri-sector

partnerships have been initiated, there is limited evidence and experience of tri-sector partnerships being internationally brokered and actively managed and sustained over time (Warner, date unknown). Tri-sector contractual partnership arrangements, predominantly so in regions characterised by mining, oil or gas activities have the potential to effectively curtail environmental impacts through programmes that enhance local community development, improve local government accountability and significantly contribute to corporate reputations and the ease of undertaking operational activities. Chapter four explores the concept of this collaboration between government, local communities and corporations.

Chapter 4: Tri-sector partnerships

Background

Major oil, gas and mining corporations of the world increasingly operate in developing countries or regions often inhabited by poor communities, characterised by fragile environments and inefficient state departments (Natural Resources Cluster Business Partners for Development, 2005a). In addition to the status quo of local community, government and environment in developing countries, corporations operating in these regions further impact socially and environmentally, both positively and negatively on the livelihoods of the local community. These impacts are relative to the extent and duration of operations (Davy, 2001).

The commencement of platinum mining in the North West Province in the early 1900s attracted large populations of South Africans and immigrants from other African countries in the lure of employment opportunities. This migration resulted in the establishment and rapid and uncontrolled growth of townships, including the likes of Marikana in close proximity to mining operations. These settlements in turn, which continuous to this day, experience rapid population growth resulting in significant constraints on service delivery by local government. Poor service delivery in turn impacts on the physical environment in terms of contamination and degradation of water and land resources. Livelihoods of communities are not only affected by these environmental hazards resulting from inadequate service delivery but also by environmental impacts originating from mining operations taking place in close proximity to villages. In alignment with these realities, Limpitlaw (2003) proclaims that mining operations do not occur without an impact on the environment and society in which they operate.

Two broad categories of social impacts are distinguished resulting from mining, gas or oil operations in the vicinity of communities, namely primary and secondary impacts (Acutt *et al*, 2001d). Primary impacts are directly linked to operations of the project, including disturbances to agricultural land, displacement of villages and cultural disturbances, which are commonly addressed through compensation measures (Acutt *et al*, 2001d). Secondary impacts entail broader socio-economic effects and are often difficult to relate solely to one specific project or as a result of one corporation's operations (Acutt *et al*, 2001d). Secondary impacts include economic dependency, health care practices, change in migration patterns and altering economic systems (Acutt *et al*, 2001d). With the commencement of oil, gas

or mining projects within an area, local communities inevitably expect benefits or compensations from the projects and anticipate these adverse social and environmental impacts. These expectations, which are influenced by characteristics of the community and of the project undertaken, often originate during exploration and evolve as the project progresses (Davy, 2001).

The primary and secondary social impacts resulting from operations represent risks to corporations, which may create significant economic problems if neglected (Acutt *et al*, 2001d). Whilst the definition and quantifications of social costs are difficult due to the complex and non-market characteristics of social costs, the results of corporations failing to respond to social responsibilities, including primary and secondary impacts are numerous (Acutt *et al*, 2001d). Local community opposition to operations and human resource management problems entailing local staff dissatisfaction may result in significant economic implications from protests, delays or sabotage (Acutt *et al*, 2001d). The maintenance of community relations significantly affects corporation's reputations by customers, consumers and shareholders. Health problems and local socio-economic conditions can also have implications for corporations through high levels of absenteeism (Acutt *et al*, 2001d).

Social responsibilities of corporations

On a worldwide scale, large corporations are increasingly facing a new and significant reality, namely social and environmental health responsibilities for local communities. These realities are increasingly affecting the future of corporation's core businesses (Natural Resources Cluster Business Partners for Development, 2005a). Corporations are faced with challenges pertaining to the demonstration of compliance with legislative requirements to manage the social impacts of their operations on local communities and additional social responsibilities over and above legislative requirements (Natural Resources Cluster Business Partners for Development, 2005a).

In terms of legislation, mining industries are not only bound by the Constitution of the Republic of South Africa, in inter alia section nine to redress historical and social inequalities but also by Section 100 (2) (a) of the Mineral and Petroleum Resources Development Act (Act 28 of 2002). The Act states that industries are to expand opportunities for historically disadvantaged persons to enter into the mining industry or to benefit from the exploitation of the mineral resources (Department of Minerals and Energy, 2002). Community development can be achieved through Broad Based

Socio Economic Empowerment (BBSEE), which is a policy that encompasses the *RDP* principles namely, ownership - black economic empowerment (BEE), career-pathing, job creation and rural development for historically disadvantaged South Africans (HDSA) (Department of Minerals and Energy, 2002). Community development focuses on the empowerment of communities (typically HDSAs) so as to enable them to manage their own environments using effective technology and by meeting their basic needs in a manner that does not result in ecological deterioration (Urquhart, 2003).

Black economic empowerment aims to ensure that black people have a broader and more meaningful participation in the economy so as to achieve sustainable development and prosperity (Black Economic Empowerment Commission, 2001). The *Black Economic Empowerment Commissions Report* (2001) defines BEE as an integrated and coherent socio-economic process, aimed at redressing the imbalances of the past by seeking to equitably transfer and confer the ownership and management of South Africa's financial and economic resources to the majority of its citizens. Black economic empowerment can be achieved through three core elements of the principle namely direct empowerment through the control and ownership of assets and enterprises, human resources development and employment equity (Department of Minerals and Energy, 2002) and indirectly through preferential procurement and enterprise development.

In addition to legislative requirements, corporations are finding it increasingly difficult to undertake business in these developing regions without building good relations with communities and other stakeholders (Nigam, 1999). Good community relations entail the engagement of local communities in an ongoing process of public consultation and the demonstration to communities that there is a potential for sustainable benefits or advantages to communities to be derived from the operations (Nigam, 1999). A key component of community relations is thus the promotion of community development (Nigam, 1999).

Lonmin Platinum

Lonmin Platinum, a world leader in platinum mining is the third largest primary producer of platinum in the world, producing over nine hundred thousand ounces of platinum and a similar number of ounces of the other platinum group metals such as palladium and rhodium (Lonmin Platinum, 2004a). The mining operations are located in the district of Marikana, in the North West Province of South Africa.

Lonmin Platinum currently employs approximately twenty five thousand employees, a major percentage of employees residing in Marikana (Lonmin Platinum, 2004a). Two platinum-bearing reefs, namely the UG2 and Merensky are mined simultaneously in the lease area of approximately twenty-seven kilometres in extent (Lonmin Platinum, 2004a). Lonmin Platinum was incorporated on 13 May 1909 as the London and Rhodesian Mining Company Limited, latterly referred to as Lonrho Plc, and subsequently during March 1999 Lonrho Plc was renamed Lonmin Platinum (Lonmin Platinum, 2004a). A new era as a focused platinum mining company commenced, the vision being to create value by the discovery, acquisition, development and marketing of minerals and metals (Lonmin Platinum, 2004a). Lonmin Platinum however also acknowledges the legal obligation for the empowerment of historically disadvantaged South Africans as well as a social obligation for the empowerment of communities in close proximity to the mining operations (Lonmin Platinum, 2004a).

Corporate social responsibility initiatives are an important part of Lonmin Platinum's corporate business strategy and reflect their responsibility towards both business and non-business stakeholders (Lonmin Platinum, 2004a). Lonmin Platinum believes that investing in sustainable community business developments not only makes good business sense, but also endorses the ultimate objectives of creating a platform for sustainable future co-existence between local communities and mining operations (Lonmin Platinum, 2004a). One of Lonmin Platinum's key visions is to align with "...long term responsibility towards the welfare of our communities and the environment within which we operate" (Lonmin Plc, 2003). Despite this vision and the initiatives already undertaken by the corporation in terms of community development, the results of a perception survey conducted on communities surrounding Lonmin Platinum during 2004, highlighted that a negative perception of Lonmin Platinum prevails amongst the local community (Lonmin Platinum, 2004b). The negative social and environmental legacies of mining activities pose huge challenges for mining corporations in terms of building trust relationships with local communities.

Urgent intervention is required to reverse these negative perceptions held by local communities towards Lonmin Platinum. These circumstances of poor service delivery in the town of Marikana, poverty stricken communities and Lonmin Platinum, the generator of negative perceptions, lends to the utilisation of a tri-sector partnership model for effective waste management. The notion of these partnerships is embraced by The Habitat Agenda of 1996 which states "partnerships among

countries and among all actors within countries from public, private, voluntary and community based organisations, the co-operative sector, non-governmental organisations and individuals are essential to the achievement of sustainable human settlement development and the provision of adequate shelter for all and basic services” (United Nations 1996:27).

In the context of service provision arrangements outlined in both chapters two and three and for the reasons outlined in this chapter, the idea of a tri-sector partnership seems very enticing. Again, given the mining activities undertaken by Lonmin Platinum in the immediate vicinity of Marikana, the poor reputation of Lonmin Platinum held by local communities, high levels of unemployment and sub-standard service provision within Marikana and an incapacitated Rustenburg Local Municipal – it seems reasonable that the concept of tri-sector partnerships is explored. In this regard the principles and objectives of a tri-sector partnership is considered within the scope of this dissertation as a potential solution to not only the provision of waste management services through the collaboration of local government, corporations and community members in the town of Marikana but also to the enhancement of welfare of local communities.

Tri-sector partnerships

A tri-sector partnership for social investment is ‘a new type of product, a unique set of relationships that if properly maintained can increase rates of investment return, create social capital, and produce a continuous flow of benefits’ (Warner, date unknown: 2). In tri-sector partnerships, a relationship is established to the point where corporations ‘pool’ complementary resources, knowledge and skills from across the three sectors of society, namely business, government, civil society to jointly address complex social impacts, thus signalling a commitment to go beyond consultation and dialogue and to practically achieve local development (Natural Resources Cluster Business Partners for Development, 2005a). Tri-sector partnerships are a process of trust-building, joint problem solving and relationship management, the outcome of which is a set of agreements designed to deliver a joint action programme (Natural Resources Cluster Business Partners for Development, 2005c). These business related partnerships are distinctive in many characteristics including the provision of a new model for conversion of wealth generated by corporate companies into sustainable local development, establishing long term relationships between non-traditional parties and establishing consensus on more efficient distribution of risks, advantages and responsibilities between government,

business and civil society (Natural Resources Cluster Business Partners for Development, 2005c).

Warner (date unknown) believes that tri-sector partnerships deliver a higher level of business benefits and development impacts compared with those resulting from bi-sector partnerships, which involve relationships between two of the partners. A partner is defined in the Oxford Dictionary (1991) as “a person who shares or takes part with another or others especially in a business firm with shared risks and profits.” Thus, interactions may take on a variety of forms that are mutually beneficial but the establishment of partnerships implies a shared responsibility in decision-making. Tri-sector partnerships can exist at different operational phases and different levels of society can alter in shape, organization and function over time (Warner, date unknown). Tri-sector partnerships are not static entities, but are dynamic and evolving business models for partnerships (Warner, date unknown).

Generally, the three partners in a tri-sector partnership include government authorities, the private sector which typically entails oil, gas and mining corporations and civil society (Warner, date unknown). Although the degree of each sector's involvement in such partnerships is not constant, the objectives for the collaboration are constant, namely the augmenting of strengths and the overcoming of weaknesses by tapping into other sectors' strengths (Warner, date unknown). For the effectiveness of a partnership, specific benefits of partnerships must exceed the cost of participation. Specifically, government may be drawn to the partnerships by the opportunity to increase its political support and legitimacy by enhancing service provision and legal compliance by means of the assistance obtained from the partnership (Warner, date unknown). Government can offer to the partnership, strategic coordination through *Local Development Plans*, financial provision for public services and through the role as a broker or capacity builder (Warner, date unknown).

The private sector is attracted to the partnership as they are potentially a source of lucrative opportunities, including but not limited to the enhancement of corporate reputation, employment provision, procurement/supply chain management, granting of a 'licence to operate', reduced dependency of local communities upon corporations, a performance-led work ethic and displaying of best international practices (Natural Resources Cluster Business Partners for Development, 2005a). The tri-sector partnership model has the capability to enhance the effectiveness of

corporate companies as a voluntary means of the provision of social development in mining projects (Natural Resources Cluster Business Partners for Development, 2005a). Civil society encompasses local knowledge to ensure relevance to local needs and have the capacity to mobilise community participation. A significant outcome of the partnerships in terms of local development will enhance socio-economic conditions within the local community (Natural Resources Cluster Business Partners for Development, 2005a).

Key characteristics of effective and well managed tri-sector partnerships include voluntary collaboration between company, government and civil society, the pooling of resources and risks from all parties, the defining of mutually agreed objectives, establishing consensus across society in terms of obtaining a more efficient distribution of project benefits, responsibilities and costs (Natural Resources Cluster Business Partners for Development, 2005a). The benchmarking characteristics of these partnerships are the ability to add value to what could be achieved by each partner in isolation (Natural Resources Cluster Business Partners for Development, 2005a).

Formation of tri-sector partnerships

The partnering process for the establishment of tri-sector partnerships entails three phases, namely partnership exploration, building and maintenance (Warner, 2000). Warner (2000) outlines in appendix 5.1, the circumstances deemed most suitable and responsive to corporations for the establishment of tri-sector partnerships for the management of social issues.

Partnership exploration

The processes of internal assessment and consultation form two vital components of exploring the possibilities of collaboration between oil, gas or mining companies, civil society organisations and government authorities (Warner, 2000). The internal assessment enables a corporation to fully comprehend and understand its own internal needs and interests prior to negotiations with potential partners. An internal assessment should include the identification of the core business interests to be served by the partnership, the area of integration of the partnering process in terms of social management programmes or projects, confirmation of the corporations negotiating tactics and approach and the anticipated benefits of the partnership weighed against the costs of partnership (Warner, 2000). These processes of internal assessment will enable the corporation to judge the merits of partnership

establishment and the potential to manage social issues (Warner, 2000).

One vital component prior to the commencement of exploring tri-sector partnerships, are the decisions made by corporations in terms of whether the program resulting from the partnership should form part of the corporation's management structure or form a separate non-governmental organisation, foundation or trust, both of which have advantages and disadvantages (Nigam, 1999). According to Nigam (1999), the establishment of community development programmes or environmental management programmes within the management of a corporation lends itself to enhanced communication between the corporation and the development programme. Reasons for the establishment of independent organisations for community development or environmental management include the fact that independent organisations may outlive the corporation, serving as an ongoing contribution to community development, tax benefits are associated with independent organisations, an independent management structure has the potential to enhance community control of the community development programmes that would be feasible for a corporation managed programme and a separate institution can assist the corporation distance legal liability for the actions of the community development program from those of the corporation (Nigam, 1999). Acutt, *et al*, (2001c) highlights that independent organisations may result in the exclusion of stakeholders who may have the means to contribute to local development projects and for distancing responsibility for development projects from operational company staff. If the decision resulting from internal assessment of partnership exploration is affirmative, the corporation will commence with the process of consultation to identify suitable partners and to obtain the support and buy-in of these partners for the tri-sector partnerships (Warner, 2000).

The objective of the consultation process is for all partners to reach agreement on the process of negotiation, to investigate potential responsibilities and resource commitments of prospective partners, to establish communication pathways with partners and to validate prevailing assumptions with external stakeholders (Warner, 2000). In order to facilitate consultation, it is critical for corporations to appoint a senior manager to 'champion' the partnering process, a person capable of achieving the longer-term goal of constructing a new capacity within society for the company, government and civil society to work together (Warner, 2000). Factors critical for the success of negotiating with potential partners include focusing on underlying interests with potential partners and not focusing on finer details of management plans,

utilising a consensual style of negotiation and not an adversarial style, ensuring clarity with regards to limits of engagement to avoid future possible reputational risks and to remain firm in terms of the objectives the corporation aims to achieve, but flexible in methods of achievement (Natural Resources Cluster Business Partners for Development, date unknown (b)). It is good practice for corporations to inform regulators and investors of the company's intentions to secure their support in the event that the partnership causes deviation from formal social or environmental initiatives (Natural Resources Cluster Business Partners for Development, date unknown (b)). It is often advisable for corporations during the consultation process to use third party facilitation and to undertake consensus building, this due to the risks associated with unfamiliar partners (Warner, 2000).

Partnership building

Once the corporation has, during the process of partner exploration identified potential partners for the establishment of tri-sector partnerships, intense negotiations with these partners will commence (Warner, 2000). Building successful tri-sector partnerships requires all partners to adopt a style of negotiation that accommodates these distinct characteristics of sectors and yet still achieves consensus (Warner, 2000). Principles of consensus building include the building of trust through mutual understanding and communication that is meaningful and effective, focusing on achieving strategic interests and the reaching of agreements that adds value for all partners through the widening of options through solving problems together (Warner, 2000). Similarly as in the exploration phase of tri-sector partnership establishment, parties should utilise the consensual negotiation style, where mutual understanding and a 'celebration of difference' are key features (Warner, 2000). Negotiation aiming at the definition of objectives, responsibilities and resource commitments that will form the building blocks of the partnership, can take place either through direct negotiation or through a third party facilitator that will guide and co-ordinate the negotiation process (Warner, 2000).

The key objective during the negotiating phase in partnership building is for all parties to reach consensus with regards to resource commitments, which is central to the success of the partnership (Warner, 2000). Resources can take the form of finance, expertise and local knowledge, time investments, technical or operational equipment, mediation skills, capacity to leverage resources from other sectors and willingness to adopt a leadership and co-ordinating role (Warner, 2000). A key factor within resource allocation and commitment is the degree of complementarity. Resources

from each party, namely from corporations, civil society and government should offer resources unique to the partnership rather than duplicating resources offered by other constituting partners and should generate a synergistic effect, whereby the collaboration of resources should generate benefits over and above the outcome if each resource is applied in isolation (Warner, 2000).

The outcome of the partnering process is a series of agreements between the partners to better manage social and local environmental issues. The effectiveness with which a partnership functions in practice and delivers its agreed objectives is dependent on how it has been structured according to these elements of agreement (Warner, 2000). The following key elements of partnership have been identified by Warner (2000):

- Ensuring representation from each partner organisation
- Geographic boundaries and target population of the partnership activities
- A vision statement, common to all parties
- The objectives of the partnership, which could entail shared and individual objectives
- Joint workplan, encompassing: activities, schedules and performance indicators, resource commitments and roles and responsibilities
- Funding arrangements if applicable
- Principles for decision making
- A grievance mechanism to ensure that all conflict is resolved effectively
- Procedures for transparency and communication between partners
- Measures and means by which capacity of partners can be strengthened to implement required commitments and to mitigate external risks to the partnership
- A strategy for communicating with constituents and other interested and affected parties
- Procedures for monitoring and measuring the impact of the partnership on business and development

The last element of an effective partnership, once the objectives of the partnership are defined, resources committed, and a joint workplan developed is to ensure that the partners have sufficient capacity to implement commitments and achieve objectives (Warner, 2000). If required, implementing the joint workplan should be delayed until measures have been taken to strengthen the capacity of the weaker constituting partner (Warner, 2000).

The formation of the Papua New Guinea's Development Forum represents a case whereby the partnership model was imperfect and provides evidence that if partnerships are not established with caution and with a participatory approach, poor functioning and associated risks can outweigh advantages of partnerships (Davy, 2001). The development forum was based on a tri sector partnership approach and the aim was to provide landowners with a forum to make decisions over whether natural resource projects may proceed or not, the forum embodying the principles of stakeholder participation (Davy, 2001). The causes of the inefficiencies in this particular case study are due to many reasons. In the first place, custom dictated procedure and effectively excluded many important stakeholders that were not males of high social standing. Secondly, although the outcomes of the process often adversely impacted women, they and many other stakeholders were excluded from the forum, which created tension in terms of benefits both between and within population groups and also with regards to the power of the landowners. Finally, the process collapsed highlighting the inability of the state to exert ownership over resources defined by a constitution aimed at benefiting the country as a whole (Davy, 2001).

Partnership maintenance

Tri-sector partnerships are complex relationships and like any type of product require careful and appropriate maintenance (Warner, 2000). It is not uncommon for maintenance to take the form of adaptation within the partnership (Warner, 2000). The need for adaptation resulting over time has four principle causes according to Warner (2000). Firstly, adaptation could be required as a result of unanticipated behaviour of, or between, the different partners; achievement of agreed objectives or milestones within the work plan, external alterations in the political or business environment or an insufficient degree of capacity and capability within partners for the successful achievement of commitments. One of the most important and key factors for partnership maintenance is effective communication and interaction. Communication is vital for the resolving of differences and for solving problems. Warner (2000:10) enforces this key principle by stating that the "more the partners interact, the more likely it is that the partnership will be successful".

Partnership maintenance entails the evaluation of the benefits and costs of the agreements; required to illustrate the potential of practical value to the organisations (Warner, 2000). The benefits are assessed and evaluated in terms of core business

interests, community development objectives or the governance of public office (Warner, 2000). Essential to the evaluation is the measurement and assessment of the impact of the partnership compared to the next best alternative to the management of the project, including options of operating of the project in isolation versus outsourcing of the project or the formation of bi-sector partnerships (Warner, 2000). It is the incremental contribution of the partnership over-and-above the next best alternative option that forms the foundation of proving either the business case or development case for the tri-sector partnership (Warner, 2000).

Advantages of tri-sector partnership formation

Positive attributes associated with the effective establishment of tri-sector partnerships are numerous for corporate companies, government and local communities (Acutt *et al*, 2001b). If tri-sector partnerships are well managed and implemented, they have the potential to facilitate an effective response to social requirements in mining, oil or gas projects in conjunction with the managing of environmental impacts (Acutt *et al*, 2001b). Otiso (2003) reinforces this potential, although clarifies that whilst these partnerships are often difficult to initiate and maintain, they are characterised by mutually reinforcing strengths that have the potential to increase effectiveness in meeting disadvantaged local community urban housing and service needs.

Advantages for business

Advantages for businesses include benefits affecting individual operational business units and benefits experienced by global corporations (Warner, date unknown). Benefits associated with business units of corporations include the enhanced likelihood that stakeholders impacted upon by operations will be content that the business unit has been responsive and sensitive to their requirements and therefore grant a 'social license to operate' (Warner, date unknown). A 'local license to operate' is a newer and evolving concept and assumes that a corporation has both earned the good will of the surrounding and affected communities and have demonstrated that the operations would not only be advantageous to shareholders or the national government, but also to members of the local community (Nigam, 1999). Local licenses are predominantly important for corporations that operate in remote and developing regions, operate in regions with disputed land tenure among local residents or between local residents and the company or government, significantly contribute to local or regional economy, have high environmental and social impacts on the environment and on the community respectively and are perceived as foreign

by the community (Nigam, 1999). Benefits associated with business units of corporations also entail the enhancement of corporate reputations, often resulting in reduced political objectives against operation expansion and the reduction in the long-term dependency of local communities on business units for employment and income generation (Nigam, 1999). Another commonly overlooked advantage is the presence of a platform for resolving conflicts with local communities (Nigam, 1999).

Advantages for corporate reputations include decreased risks to sales and share prices associated with management of social impacts, evidence to prove operationalisation on sustainability and corporate citizenship, thus reducing exposure to negative publicity (Warner, date unknown). Through local development and often through tri-sector partnerships, employees of corporate companies become convinced that the corporation has a human face, which often increases the attractiveness of the company to potential employees (Warner, date unknown).

If corporations do not respond to social issues within the areas they operate, significant economic implications may result. Responding to social issues may however have inherent cost implications founded in additional resources for social investment programmes or partnership initiatives (Acutt *et al*, 2001d). On the flip side, a most powerful incentive and attraction for corporations to engage in tri-sector partnerships is the potential of cost savings or net benefits (Acutt *et al*, 2001d). The cost-benefit analysis undertaken on a tri-sector partnership at Sarshatali coal mine indicated that financial benefits of partnering could be substantial amounting in this case to eighty nine percent in the trust building and community development sphere and twenty five percent in the assessment of community livelihoods (Acutt *et al*, 2001d). It is to be acknowledged that the strength of partnerships are founded in the fact that 'the whole is greater than its parts', implying that clear lines of causality cannot be drawn between elements of the partnership and cost savings (Acutt *et al*, 2001d). More direct cost savings through partnerships can be realised including leveraging resources and skills sharing between government, civil society and business, reduced dependency, increased collaboration and increased networking (Acutt *et al*, 2001d).

Advantages for local community

Historically, social obligations of mining or oil companies were limited to formal obligations for compensating affected communities for negative social impacts resulting from company operations, this typically including cash compensation for lost

assets and employment opportunities (Warner, date unknown). However today “...the demand from many quarters is for corporations to be part of a smarter type of social investment, one that reflects the complex relationship between mitigating negative social impact and promoting community development” (Warner, date unknown:3). These demands originating from new government policies for citizen participation and economic decentralisation, legislation promulgation in the likes of the Minerals and Petroleum Resources Development Act (Act 28 of 2002) and the fact that financial benefits from mining and oil corporations visibly bypass the local regions of operations, prompted leading corporations to take a more advanced approach to social responsibility and investment (Warner, date unknown). According to Warner (date unknown), to achieve smarter social investments is to establish community development to an extent that economies of households affected by operations are to be restored in a manner where they are sustainable beyond life of business operation, independent of handouts from businesses, afford a greater or equal level of income, welfare, subsistence and security. Smarter social investments also entail establishing supportive community and development context, which affords the markets and technology for the transformation of new skills and assets into sustainable livelihoods. Another vital positive impact associated with the implementation of tri-sector partnerships is the transformation within communities of the perception associated with being victims of development to perceptions of becoming a part of the development process, thereby enhancing the acknowledgment by communities for being responsible for their own development (Davy, 2001).

Advantages for government

Tri-sector partnerships contribute to the enhancement of the public sector’s capacity to deliver public services thereby improving the visibility of government (Warner, date unknown). This is vital in the South African context, particularly so with growing expectations on the African National Congress government of post 1994 to rectify the South African history of poor service provision, incapacitated state departments and the trademark governmental control of the apartheid era. Positive outcomes in terms of governance by the state entail an increased visible revenue distribution, improved legitimacy of the government and an aligned social policy enabling the more efficient delivery of benefits to communities (Warner, date unknown).

Case studies of successful tri-sector partnerships

The Palabora Foundation, linked to the Palabora Mining Company in South Africa established a partnership with the former Northern Transvaal Department of Education, non-governmental organisations (NGO's), parents and community groups to improve educational services (Nigam, 1999). The Foundation initiated the construction of eight pre-schools in the communities around the mine with the agreement that the Department of Education would provide teachers for the schools. The steering committees of the schools were formed by representation of staff of the foundation, officials from the Department of Education and members of parent and other community groups. Due to the success of this partnering process, an advisory service in terms of the establishment of pre-schools in collaboration with government commenced. By working in partnership with the government, NGOs, parents and community groups, the Foundation was able to leverage resources to significantly improve educational levels in the region (Nigam, 1999).

The Sarshatali opencast coal mine located in the Asansol sub division of Burdwan District in West Bengal, India operates in a region characterised by a population of approximately eleven thousand within the mine impact area of which fifty to sixty five percent live below the poverty line (Natural Resources Cluster Business Partners for Development, 2005b). Poor health, educational facilities, water supply and road access dominates this region (Natural Resources Cluster Business Partners for Development, 2005b). In June 2000, a partnership was established between the corporation and the infrastructure department of Zilla Parishad (the District level Panchayat government). The objective of this partnership was to upgrade and maintain rural roads required by the company to join the mine concessions to a railway siding (Natural Resources Cluster Business Partners for Development, 2005b). The areas of collaboration within the partnership included the sharing of financial costs, procedures for government to receive revenues from traffic tolls, reduced noise impacts and risks of accidents and to ensure improvements in access to schools and a health centre and the distribution of agricultural produce (Natural Resources Cluster Business Partners for Development, 2005b).

The Grace Help Centre is a registered holding facility in the North West Province of South Africa that provides accommodation and crisis counseling for abused women and children (Lonmin Platinum, 2004b). The Amazing Grace Ministries partnered with the Lonmin Development Trust, a number of Social Welfare Organisations and with the local South African Police Services to form the establishment of a non-profit

organisation (Lonmin Platinum, 2004b). During the nine-month period extending from January 2004 until September 2004, three hundred adults and thirty-six children were cared for resulting from domestic violence. Additionally seven women were counseled for rape and a number of individuals for HIV/Aids related diseases (Lonmin Platinum, 2004b). In addition to these services the volunteers of the organisation are now equipped to provide assistance at incident scenes, in terms of assisting with counseling, thereby allowing the police the opportunity to investigate cases more thoroughly (Lonmin Platinum, 2004b). This centre is unique to the North West Province. To date, the Lonmin Development Trust has invested a total of seven hundred and forty thousand rands towards the building costs of these facilities (Lonmin Platinum, 2004b).

Lonmin Platinum through the Lonmin Development Trust embarked on a project during 1998 to develop the town of Marikana, in partnership with the North West Government Housing Board, the National Union of Mineworkers and the community of Marikana to establish the Marikana Housing Development Company (Lonmin Platinum, 2004b). The Lonmin Development Trust endeavours to create a sustainable village that will continue to prosper after mining operations have ceased (Lonmin Platinum, 2004b). The objective of this partnership is to ensure that all Lonmin employees have access to formal and affordable family accommodation by 2009, but highlighting that this approach will not exclude the needs of the larger community (Lonmin Platinum, 2004b). These objectives outlined by the partnership, triggers the need to address the challenges of capital resources, access to funding by potential homeowners and the provision of supporting infrastructure and services for the town of Marikana (Lonmin Platinum, 2004b).

Despite these undisputed advantages and success of these tri-sector partnership case studies, these partnerships if not effectively established and maintained may result in increasing negative experiences and enhanced risks for all partners. The long-term sustainability of the success of these partnerships is still questionable.

Constraints associated with tri-sector partnerships

Although both Acutt *et al*, (2001d) and Otiso (2003) have highlighted the pertinent advantages associated with the formation of tri-sector partnerships, numerous authors including Warner (date unknown), Natural Resources Cluster Business Partners for Development, (2005b) and Forsyth (2004) have highlighted constraints and risks associated with tri-sector partnership establishment. Warner

(date unknown) identifies numerous concerns, the fundamental aspects being unaligned and dissimilar perceptions, expectations, visions, values, relative power and negotiation skills of the constituting partners of the tri-sector partners. The Natural Resources Cluster Business Partners for Development (2005b), clarifies risks faced by corporations including the dangers of increasing community expectations and demands to a degree to which the cost of contributing to community development becomes excessive for the corporation, the risks of increasing the dependency of the local community on the corporation for the provision of services and a shortage of 'in-house' expertise in community development skills which have the potential to result in the failing of projects (Natural Resources Cluster Business Partners for Development, 2005b). The greatest concern is deemed to be the dependency of the local community on business sectors, resulting in poor sustainability of the partnership. Another concern is the exclusion of the representation of stakeholders in the partnership, which is vital for effective tri-sector partnership formation (Natural Resources Cluster Business Partners for Development, 2005b). The proven inability of corporations or representatives of corporations to release ownership of outcomes of partnerships, on the basis of high investments is another concern that has plagued the optimal efficiency of partnerships (Natural Resources Cluster Business Partners for Development, 2005b). Yakovleva, *et al* (2004) outlined that the tri-sector partnership model is a less popular choice for the operating of a corporate foundation. This being depicted in the case of the SAPI Foundation and the Target Fund in the Republic of Sakha, located in Central Siberia of the north region of the Russian Federation, where it was proved that true partnerships between the government, industry and civil society are difficult to sustain.

Often in the case of tri-sector partnerships, these models are used for community development and for the management of particular aspects that have the potential to result in environmental degradation. The provision of basic services is such an example, proving beneficial to the community and in terms of reduced risks to the environment. These optimistic approaches to public private partnerships in environmental policy, have however received skepticism from an array of critics who have argued that the political implications of partnerships outweigh the potential advantages of implementing environmental policy in this manner (Osbourne, 2000; Rosenau, 2000). Firstly, in recent years, critics have taken the stance that by using business to enable environmental protection merely enhances the causes of environmental degradation or results in the weakening of environmental regulation,

by processes such as regulatory capture, where policymakers represent the interests of investors (Gouldson *et al*, 1998; Singleton, 2000). Other critics imply that public–private partnerships may contribute to the reshaping of environmental discourses towards business objectives, and hence influence the nature of environmental problems (Hajer, 1995). Secondly, critics have argued that by using public–private partnerships as a functional means of implementing policy, this has the ability to contribute to the trend towards new public management or the neo-liberal hollowing out of the state, this being interpreted as the reduction of the public space for the provision of basic services, and thus decreasing accountability of local governments (Rhodes, 1996; Skelcher *et al.*, 2003). Thirdly, critics from development studies warn against the implementation of partnerships without effective participation and governance, as this may result in a policy that is not pro-poor, and the continued influence of political elites, this predominantly so in developing countries (Forsyth, 2004).

Measuring outcomes of tri-sector partnerships

The emphasis of measuring outcomes, or the disadvantages or advantages of tri-sector partnership during the partnership maintenance phase is based on measuring the incremental 'added value' of a partnership approach, over-and-above the alternative methods of achieving social or environmental objectives by business, government and civil society organisations (Mitchell *et al*, 2001). Extensive literature reviews have indicated that particularly in terms of assessing the outcomes of tri-sector partnerships, Mitchell *et al* (2001) is the sole author regarding compilation or publishing of an assessment tool to specifically determine outcomes of various tri-sector partnerships. Mitchell *et al* (2001) outlines attributes of this methodology, supporting the notion of the methodology being affordable, repeatable, replicable, independent, non-intrusive and comparable. Mitchell *et al* (2001) attributes the success of the methodology to these characteristics. Despite the exclusiveness of this methodology, the methodology is to be a suitable and effective tool for determining partnership outcomes.

Figure 4.1 outlines the four phases of the methodology used by Mitchell *et al* (2001) in evaluating the outcome and effects of tri-sector partnership formation. The four phases in the approach are scoping, data collection, assessment of incremental contribution and the assessment of value for money. An important assumption underpinning this methodology as described by Mitchell *et al* (2001) is that the outcome of partnerships are measured retrospectively by determining the extent to

which the partnership has realised in terms of the intended outcomes of the partnership as per original partnership objectives, the unexpected outcomes – both positive and negative and the net positive ratio of partnership benefits to the cost accrued from partnering. The methodology for evaluation does have inherent limitations, predominantly in the focusing of the outcomes of the tri-sector partnership as defined by each constituting partner, and therefore does not take into account broader societal or business impacts unless these are confirmed as objectives of the partnership, or identified as unexpected outcomes of the partnership (*personal observation*).

Scoping phase

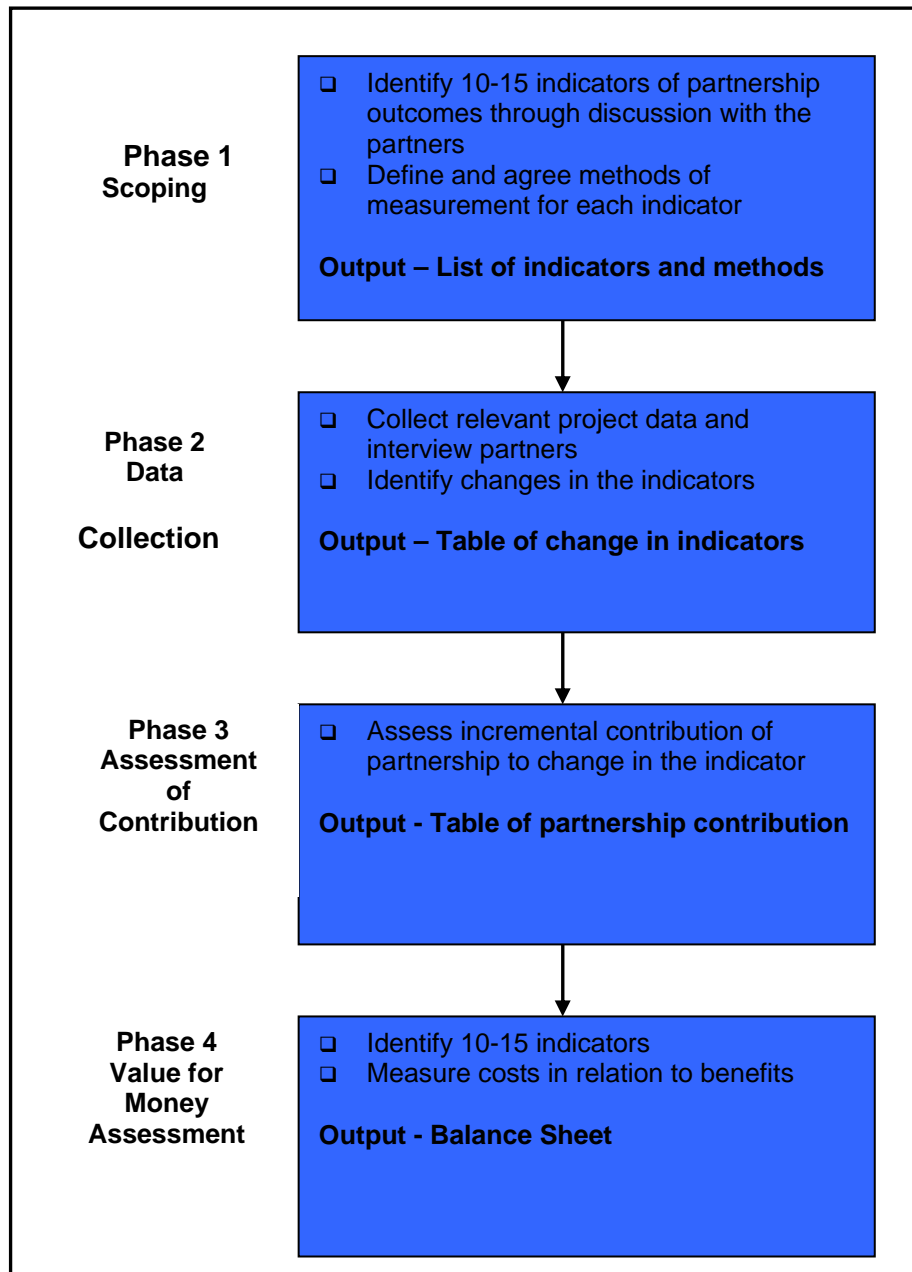
The objective of scoping is to identify approximately ten to fifteen key indicators of partnership outcomes applicable to the partnership and the most appropriate and suitable methods of measurement (Mitchell *et al*, 2001). These indicators should cover the three categories of impacts, namely business impacts, community development impacts and public sector governance impacts (Mitchell *et al*, 2001). These indicators can be selected from the generic checklist of possible indicator categories and indicators for each partnership sector as identified by Mitchell *et al* (2001). This list is not exhaustive and additional indicators may be identified as per the characteristics of the partnership. For each key indicator, methods of measurement and data sources should be documented and where possible, the measurement scale should be quantitative and linked to financial expressions (Mitchell *et al*, 2001). In many cases however cost savings or benefits are intangible and a normative scale of evaluation is to be applied. The above-described process should be undertaken in conjunction with representatives from partner organisations, including where possible community stakeholders (Mitchell *et al*, 2001). The resulting set of indicators and measurement methods are likely to reflect the underlying interests and objectives of each partner and the unexpected negative and positive outcomes (Mitchell *et al*, 2001).

Data collection phase

The overarching objective of this phase in the evaluation process is to identify the changes that have taken place in each of the key indicators, this is achieved by collecting data on baseline conditions prior to partnership formation and on the changes in the key indicators post partnership formation (Mitchell *et al*, 2001). Data can be obtained through workshops, interviews, observations or key informants and should be obtained from representatives of all partners (Mitchell *et al*, 2001). The

deliverable for the data collection phase is a summary table determining the magnitude of the change in each indicator (Mitchell *et al*, 2001).

Figure 4.1: The four phases of evaluating outcomes of tri-sector partnerships (Mitchell *et al*, 2001)



Assessment of contribution

The assessment of the contribution phase in the process evaluates the incremental contribution of the partnership formation to the change in the identified key indicators, taking into account the reliability of evidence used in the assessment (Mitchell *et al*, 2001). In order for the overall contribution to be evaluated, external contributing

factors and each partner's most likely alternative to the partnership needs to be analysed (Mitchell *et al*, 2001). External factors include all significant changes in wider economic or socio-political environments that could potentially have an impact on the outcome of the partnership, these include but not limited to changes in political atmosphere and the local economy, time delays to projects and investment programmes, effects of community group's efforts to manage their own developments and outcomes of social programmes with similar or the same objectives as those of the partnership but which are implemented by non-partner members (Mitchell *et al*, 2001). This process of the assessment of contribution of the partnership also entails the analysis of the alternative plans of actions of each partner in order to achieve their objectives for the partnership, had the partners not come together (Mitchell *et al*, 2001). According to Mitchell *et al* (2001), a common error in evaluating the added value of partnership formations is to attribute all the success achieved by the partners to the presence of the partnership and to not take cognizance of alternative plans of each partner. The incremental contribution of the partnership is calculated as the monetary value difference, where possible, between the aggregate of the latter and the value of the partnerships attributable outcomes. This calculation can be represented as follows (Mitchell *et al*, 2001):

Added Value of Partnership = Sum of the Value of Partnership Outcomes - (External Factors + Most Likely Alternatives)

The final step in this phase of the methodology is to determine the reliability and confidence limits of the data used in the evaluation (Mitchell *et al*, 2001). Simple criteria can be used for the confidence limits, namely high, moderate or low. Factors such as traceability of data to support monetary values, the consistence of different sources of data and the degree of consensus on the impacts from all partners and external stakeholders will affect the reliability of the data used (Mitchell *et al*, 2001). These factors are to be taken into consideration during the evaluations (Mitchell *et al*, 2001).

Measuring costs in relation to benefits

The aim of measuring costs in relation to benefits is to determine the value of the partnership by determining the overall costs of exploring, resourcing, establishing and maintaining the tri-sector partnership arrangements for each partner in relation to the monetary and other benefits realised through the partnership (Mitchell *et al*, 2001). Costs of partnering include direct costs for logistics and equipment and

indirect costs such as related opportunities foregone, labour time and costs relating to maintenance of the partnership often in terms of third party brokering or facilitating (Mitchell *et al*, 2001). Subsequently these partnership costs are weighted against the added value of the partnership that has already been assessed. Where possible, values are expressed in financial monetary terms or quantitative terms (Mitchell *et al*, 2001). The outcome of this process will provide partners with the information, which will enable them to assess the degree to which the partnership achieved 'value for money' (Mitchell *et al*, 2001).

Analysis of the methodology

Although Mitchell *et al* (2001) uses the approach to determine the results of partnerships between businesses, typically representative of oil and gas and mining corporations, due to the added benefits for these corporations in terms of social responsibilities, it is also recommended that this approach be used in the context of businesses besides extractive industrial activities.

Mitchell *et al* (2001) describes the methodology as being repeatable and replicable in terms of providing a standard framework and approach to determine outcomes of partnerships. The repeatability, replicability and the ability of the model to truly reflect the circumstances of the partnership would be dependant on the interviewing and personnel skills of the investigator, the representation of the sample size of persons interviewed and the manner in which the interviews are conducted, all of which have the potential to influence the perceptions of the outcome of the partnership. In the light of using this methodology successfully, it is to be ascertained that sufficient and representative personnel are interviewed to ensure a true reflection of the partnership in terms of perceptions. It is to be ensured that during the process of obtaining perceptions of people involved in the partnership, questions are posed in laymen's terms to ensure understanding, all interviewees have the opportunity to remain anonymous, the atmosphere in which questions or questionnaires are posed is relaxed and interviewees are prompted to be honest in their response. In terms of the methodology being non-intrusive, information should be obtained where possible from representatives of all parties by direct contact. In terms of the methodology being affordable regarding investment in costs and time, it cannot be evaluated on these criteria prior to the undertaking of this methodology, which is dependant on project type, indicator selection and degree of evaluation.

Reliability of the conclusions of the study are dependent on the accuracy of the information supplied by all parties, on whether there is any external motivation for deviation from reality and on the applicability and nature of the indicators selected for investigation. The certainty of independence of the outcome of the study from other external influences cannot be guaranteed. Should this methodology be utilised, attempts will need to be made to eliminate changes prompted by other factors or that would have occurred as a results of existing measures during phase three of the methodology. According to Mitchell *et al* (2001), the consistent application of the methodology should in theory enable comparisons between partnership outcomes. Comparisons are dependant on the choice of indicators used in the study, predominantly so if the indicators are qualitative and intangible in nature, as the methodology renders it difficult to assess and conclude the outcome in monetary terms. The use of this methodology would therefore not always be ideal for determining qualitative advantages and disadvantages of partnerships, particularly so where qualitative aspects are key characteristics of the partnership, particularly where social and environmental aspects are considered.

It can be concluded from an initial evaluation of Mitchell *et al*'s (2001) methodology that although the methodology has inherent flaws, which do not at all times maximise the intent of the methodology, it can be summarised that the use of the model will be effective in outlining the benefits and shortcomings of tri-sector partnerships and will give justice to the intent of analysing partnership successes and downfalls. It is to this extent and the fact that this methodology has been utilised exclusively to determine tri-sector partnership results that the methodology utilised by Mitchell *et al* (2001) is deemed suitable for utilisation in this dissertation.

Closing remarks

Although often difficult to establish and maintain, tri-sector partnership arrangements offer a unique approach to the management of environmental aspects through the collaboration of local government, corporations and community members that uplift and enrich the livelihoods of local communities, enhance accountability of state departments and improve the ease to which corporations operate in regions often marked by poverty, fragile environments and incapacitated governments. In the light of waste management provision by local government in Marikana and current socio economic conditions, the provision of a waste management service within this area particularly lends to tri-sector collaborations.

Chapter 5: Waste management by Moses Kotane Municipality – a case study of tri-sector partnerships

Introduction

The Moses Kotane waste management service presents a case study entailing a tri-sector partnership between government authorities, represented by the Moses Kotane Municipality, the community residing within the Moses Kotane Municipal District representing civil society and Tedcor Pty Ltd representing the business sector. The principle objective of this partnership, which was initiated in October 2003 by local government, has been the provision of a waste management collection service for the formal and informal households within the majority of wards within the Moses Kotane municipal district in the North West Province of South Africa.

This chapter aims to examine the effectiveness of these arrangements in the context of developing countries, by attempting to synthesise the outcomes of this tri-sector partnership for community development and waste management in the Moses Kotane Municipal district. As outlined in chapter four, the tool utilised by Mitchell *et al* (2001) to evaluate the success of tri-sector partnerships aims to facilitate the gathering and analysis of information in pursuit of the following objectives:

- To assess the process of partnership establishment and maintenance.
- To evaluate the preliminary outcomes of the partnership, with respect to the degree to which the objectives have been achieved as well as to measure the 'added value' of the partnership in comparison to likely alternative strategies.

Situation prior to partnership formation

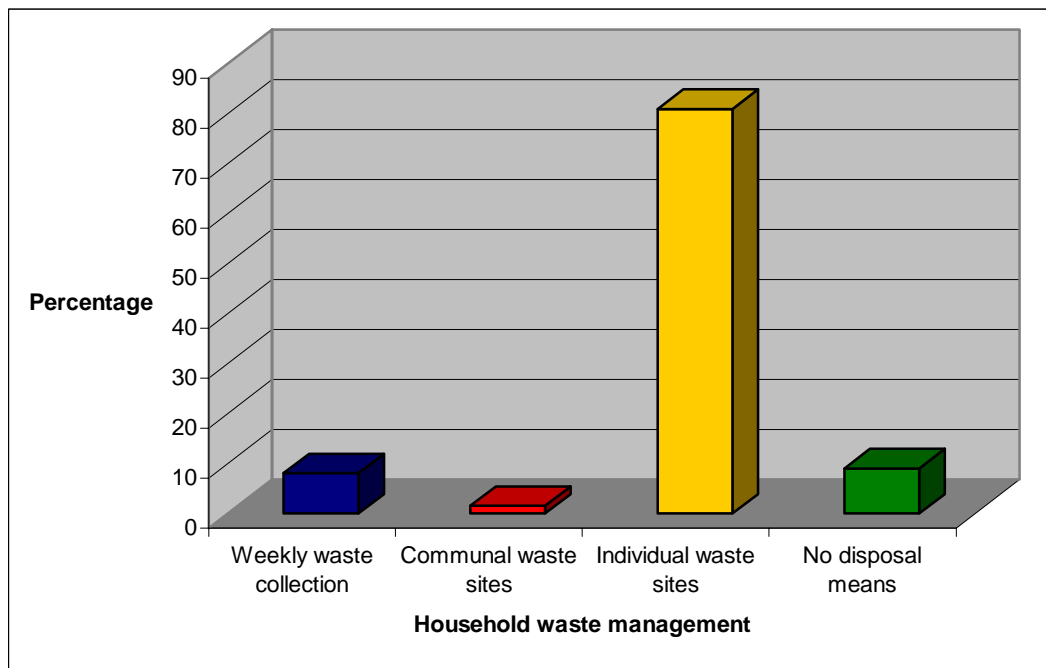
The Moses Kotane Local Municipality was established in December 2000 as a result of the amalgamation of the former magisterial districts of Madikwe and Mankwe. The municipality has approximately one hundred and nine low-density settlements situated on rural land either state owned or tribal land (Jarrod Balls and Associates, 2004). The results of the South African census undertaken in 2001 by Statistics South Africa, estimates the population at two hundred and thirty six thousand, eight hundred and forty five, at a projected annual growth rate of two percent prior to 2010 (Statistics South Africa, 2001). The geographical area of the municipality extends approximately five thousand two hundred and fifteen square kilometres (Statistics South Africa, 2001) and is situated within the Bojanala Platinum District Municipality. The municipal district is partitioned into thirty wards. Although

formal dwellings constitute seventy eight percent of settlement types, there are only two formal townships, namely Madikwe and Mogwase. In 2001, informal settlements constituted only seventeen percent of the total dwellings in the Moses Kotane district (Statistics South Africa, 2001). Informal settlements are however rapidly increasing. In line with national statistics, forty nine percent of the population within the district is economically not active and twenty six percent of the economically active sector are unemployed, thus resulting in a significant percentage of the population surviving without a source of income (Statistics South Africa, 2001). Further debilitating the socio-economic conditions of these populations, is the staggering reality that eighteen percent of the population have not attended schooling of any nature and only five and a half percent of the population have received some form of higher education (Statistics South Africa, 2001).

Waste management

Prior to the establishment of the tri-sector partnership in October 2003, only eight percent of households, constituting three thousand and three hundred service points within Moses Kotane Municipal District received a waste collection services on a weekly or less frequent basis (figure 5.1) (Statistics South Africa, 2001). Of the remaining households, eighty one percent disposed of their waste on their own household refuse site, one and a half percent of households utilised an unpermitted and illegal communal waste disposal site and nine percent did not utilise any disposal facilities (Statistics South Africa, 2001). In areas not serviced, waste was often disposed of through burning, burying or illegal dumping activities. Although eight percent of households were serviced, the disposal of this waste was undertaken at the Mogwase and Madikwe landfill sites, both unpermitted and illegally operated sites in terms of the Environment Conservation Act (Act 73 of 1989) (Jarrod Balls and Associates, 2004). Waste management in the municipal district was unmistakably rudimentary and inefficient.

Figure 5.1: Status of waste management within households in Moses Kotane municipal district prior to 2003 (Statistics South Africa, 2001)



Waste collection was limited to the two townships, Madikwe and Mogwase and entailed unorganised and sporadic waste collection by small contracting companies operating with a 'bakkie' type vehicle (Jarrod Ball Associates, 2004). Labour employed to collect and transport wastes were not exposed to further training or development initiatives (Jarrod Balls and Associates, 2004). Despite the ineffective and limited nature of this waste management service, the annual cost of this service to Moses Kotane Municipality was five hundred and sixty four thousand during the financial year July 2002 to June 2003, this at a cost of fourteen rand, twenty four cents per household per month⁵. In addition to the high cost of this service to local government, less than three percent of households paid monthly service fees for the collection and disposal of their waste⁶.

The inefficiencies of the waste management service in the Moses Kotane district are mirrored by elementary service provision in other spheres of socio-economic development, namely sanitation, water and electricity, thus increasing pressure on

⁵ And ² Personal communication with Mr Stephen Piek, consultant to Moses Kotane Local Municipality, May 2005

local government to deliver basic needs to resident communities. It is an unambiguous fact that in the case of Moses Kotane Local Municipality, as is so typical of South African municipalities, that urgent assistance was required to transform the circumstances surrounding poor service delivery. This situation spurred the local government of Moses Kotane to explore innovative partnership options for waste management service provision through contractual agreements with the business sector and civil society.

Partnership exploration

The process of partnership exploration for the provision of a waste management service was initiated by the Bojanala District Municipality during the early months of 2003⁷. According to procedural requirements of local governments, the provision of waste management services require the undertaking of a tendering process, which entails the submission of proposals to local government according to tendering requirements. On receipt of proposals, decisions are made by representatives within local government on the selection of a contracting company to undertake waste management on behalf of local government. In the decision making process, the predominant criteria for selection, typically entails cost of service provision⁸. However in the situation of the Bojanala District municipal tendering process for waste management within wards of the Moses Kotane municipal district, Tedcor Pty Limited was awarded the contract, based not only on cost to government, but on the potential to empower local community members through the establishment of small businesses for the provision of this waste management service⁹. This decision re-enforcing the crisis local government faces regarding the prevailing socio economic conditions within these townships.

In the majority of case studies and literature on tri-sector partnerships, particularly by the Natural Resources Cluster Business Partners for Development, business sectors are usually represented by mining, gas and oil corporations due to the fact that tri-sector partnerships benefit these corporations not only through financial opportunities but also by improving community relations and earning “social licenses to operate”. Large mining, oil or gas corporations are however not the only business sector engaging in tri-sector partnerships - the business sector in this case study is

³, ⁴ and ⁹ Personal communication with Mr Stephen Piek, consultant to Moses Kotane Local Municipality, May 2005

represented by a small sized waste management corporation, namely Tedcor Pty Limited.

Tedcor Pty Ltd (hereafter termed Tedcor), which was formally established in 1997, is a company specialising in the provision of waste management services through the formation of joint venture partnerships with local government, local communities and the private sector (Tedcor, 2005). Tedcor is the catalyst of these partnerships and facilitates the establishment of a tri-partite contract between themselves as principle consultant, additional private sector representatives, local authorities and community representatives. The objective of these tri-partite partnerships is to engage local level entrepreneurs (community representatives) in the establishment of solid waste management business ventures (Tedcor, 2005). This concept of waste management provision is known as the Billy Hattingh Scheme, which originated in 1992 as a result of the relationship between Billy Hattingh and Associates, Future Bank and First National Bank (Sindane, date unknown). This scheme offers cost effective, efficient and sustainable waste management services, resulting not only in local authorities achieving their service delivery goals, but also enhancing local community through employment, skills development and awareness initiatives (Tedcor, 2005). During the contract period, although Tedcor is accountable for the associated business and service provision risks, local authority retains the responsibility of waste management to communities and the collection of service payments by residents (Tedcor, 2005).

On the completion of partnership exploration and the securing of the partnership arrangement between Tedcor and Bojanala Platinum District on behalf of Moses Kotane Municipality, the process of partnership building commenced with the selection of entrepreneurs and the establishment of small sized waste management businesses (Tedcor, 2005).

Partnership building

The process of partnership building commenced with the discussion and final approval of the contractual agreements outlining objectives and commitments of all partners. The main objectives as per contractual agreement between Tedcor (the principle consultant) and the sub contractors (community entrepreneurs) is to:

- Provide effective waste management to residents of Moses Kotane Municipal district as is reflected by the objective in the contract “to provide a high

standard cleansing service to the given community” (Bojanala Platinum District Municipality, 2003:3).

- To empower local community, committing “to provide the maximum possible uplifting business empowerment opportunity to individuals within the given community and further employment opportunities to members of the community through this” (Bojanala Platinum District Municipality, 2003:3).

The municipal district is partitioned into waste collection areas based on the number of service points. The extent of investigations in this dissertation includes waste management within six of the nine demarcated waste collection areas of the district, based on the extent of the tri-sector partnership agreement that was initially established with government. Waste collection within the six areas comprise of forty three thousand one hundred and seventeen service points¹⁰, encompassing sixty nine percent of all service points within the Moses Kotane municipal district. The ‘cleansing service’ for informal and formal households within the scope of the partnership, encompasses the weekly collection of domestic waste and garden refuse, the collection of business waste on a frequency as required, the cleaning of streets and open areas on a weekly basis, the removal of illegally dumped waste on an on-going basis, the transportation of waste to transfer stations or waste disposal facilities and the promulgation of education and awareness campaigns. The operation and management of the landfill sites used for waste disposal is excluded from the scope of the contract with local government due to financial constraints (Tedcor, 2005).

Community sector

Once contractual agreements were formalised between the principle consultant and local government, representatives of the third partner in the tri-sector partnership were selected through a structured and transparent process by the principle consultant, local government and community members (Tedcor, 2005). The third party in the tri-partite agreement constituted selected members from local communities to fulfil the responsibilities of sub contractors and to develop into thriving entrepreneurs for the operation and management of waste companies (Tedcor, 2005). The selection of sub contractors (entrepreneurs) was undertaken according to a strict tendering procedure, whereby candidates were assessed against criteria,

¹⁰ Personal communication with Mr Stephen Piek, consultant to Moses Kotane Local Municipality, May 2005

including the possession of an appropriate drivers license, resident status of local areas, unemployment or existing municipal workers, literacy, possession of leadership qualities and financial records (Bojanala Platinum District Municipality, 2003). Two hundred and eighty applicants were received, which were subsequently lessened to sixty applicants from which six applicants were chosen as sub contracting entrepreneurs against the above mentioned criteria and interviewing processes for the waste management services (figure 5.2) to the local communities of Moses Kotane (Jarrod Ball and Associates, 2004).

Figure 5.2: The launch of the six new sub contractors for waste management within the Moses Kotane district



Once the sub contractors were successfully appointed, the principle consultant entered into an agreement with them, extending over a five-year term, commencing in October 2003 (Tedcor, 2005). In terms of the provision of a waste management service, each sub contractor was assigned to a waste collection area and assistance to each entrepreneur obtained through the employment of sixteen workers resident in areas in which waste management is undertaken (Tedcor, 2005).

Successive to the selection and employment processes, intense partnership building commenced within the tri-sector partnership aiming at successfully undertaking all

activities stipulated in the contract to ensure compliance to constitutional responsibilities associated with waste collection (Tedcor, 2005). The Billy Hattingh concept entails assistance provided by the principle consultant to the sub contractors to enable the formation of separate sole proprietorships of fully-fledged waste management businesses. Assistance provided by the principle consultants include training in terms of skills development, financial management, conflict resolution and the monitoring of progress to achieve the objectives outlined in contractual agreements and committed to by all partners (Tedcor, 2005). All assistance provided is aimed at equipping the sub contractors with the necessary skills for self-management and to create sustainable and independent companies (Tedcor, 2005).

Roles and responsibilities

Each partner has specific and documented roles and responsibilities within the Moses Kotane waste management tri-sector partnership, many of which are contractually bound, to ensure effective operation and management of the partnership (table 5.1). Disciplinary events were undertaken in instances where the contractors failed to comply with contractual agreements.

Waste collection

The waste collection service entails a routine, weekly door-to-door collection from each of the forty three thousand one hundred and seventeen household or business service points (Tedcor, 2005). The waste collection process constitutes the sub contractor of the business driving the vehicle along each roadway, whilst workers of the sixteen personnel team collect waste bags placed on the roadway outskirts by residents for collection (figure 5.3). Particularly in informal settlements, where dwellings are often situated in close proximity to each other with the absence of formal roads, workers work their way up between the houses on foot collecting all waste bags (Tedcor, 2005). On collection of the waste, additional bags are issued to the households or businesses for storage of waste in the forthcoming week¹¹. The number of loads collected in each waste generation area and the distance travelled is in relation to the density of the households and the distance to the landfill site. A proud sub contractor with workers in his team is illustrated in Figure 5.4. The waste services provided by the businesses also include the cleaning of public and municipal areas; this deemed a vital constituent of the contract (Tedcor, 2005). The cleaning of public spaces occurs weekly where the workforce operates in open areas and

¹¹ Personal communication with Mr Clarence Hamman, Director of Tedcor, April 2005

collects waste in black refuse bags (Tedcor, 2005). Equipment used during the process includes uniquely designed waste collection trucks (figure 5.5), plastic bags, large broad flat spades, rakes and hard bristle brooms to assist in the collection of litter and illegal waste disposal sites (Tedcor, 2005). Maintenance and operational costs associated with the equipment is the responsibility of the sub contractors.

Table 5.1: Summary of the roles and responsibilities of all partners in the tri-sector partnership (Tedcor, 2005).

Category	Principle Consultant (Tedcor)	Sub contractors (Entrepreneurs)	Local Government (Moses Kotane)
Overall objectives	Responsible for compliance to contractual agreement with local government to ensure effective waste management.	Responsible for compliance to contractual agreement with principle consultant and local government, in terms of waste collection and transportation.	Overview of contractual arrangements to ensure that constitutional responsibilities in terms of service provision are met through effective and timeous waste management services.
Human resources	<p>Stipulate criteria in conjunction with government for employment of sub contractors.</p> <p>Appoint and manage sub contractors.</p> <p>Ongoing support to sub contractors to ensure legal compliance, maintenance arrangements are adhered to and levels of competency and skill development are satisfactory.</p>	<p>Appoint and manage work force under advice given by principle consultant.</p> <p>Provide salaries to workforce.</p>	<p>Appoint Tedcor as principle consultants.</p> <p>Participate in sub contractor selection process.</p>
Waste collection	Supervise waste collection	Collect waste from each	

Category	Principle Consultant (Tedcor)	Sub contractors (Entrepreneurs)	Local Government (Moses Kotane)
	<p>processes and take action on any non-compliances to contractual obligations</p>	<p>service point on a weekly basis.</p> <p>Clean illegal waste disposal sites and litter to ensure public spaces are clean.</p> <p>The transportation of waste to the waste disposal facility.</p> <p>Maintain and keep records of waste collection and transportation.</p>	
Equipment	<p>Specify equipment required for project undertakings and arrange financial requirements.</p>	<p>Maintain equipment for waste management. An advantage for maintaining the equipment is once financial loans have been paid, the equipment belongs to sub contractors.</p>	
Financial management	<p>Provide advice to sub contractors regarding financial services.</p> <p>The undertaking of all financial</p>	<p>Retain profits and take responsibility for all expenditure.</p>	<p>Collect tariffs from communities for waste management services or provide financial requirements for service provision.</p>

Category	Principle Consultant (Tedcor)	Sub contractors (Entrepreneurs)	Local Government (Moses Kotane)
	management tasks on behalf of the sub contractors and in accordance with contractual agreements.		Pay principle consultant according to contractual agreements for co-ordinating service delivery.
Communication	Ensure effective three-way communication with local government, sub contractors and the community.	<p>Communicate with workforce and local community in terms of environmental awareness and job requirements.</p> <p>Report and manage incidents pertaining to waste management.</p>	Communicate grievances or complaints received pertaining to waste management to principle consultants.
Training	Co-ordinate training requirements.	Succeed with regards to training courses and achieve learning objectives.	Be supportive of skill development initiatives.

Figure 5.3: Waste collection process within one of the townships in Moses Kotane



Figure 5.4: Proud sub contractor, workers and the waste collection



truck

Transportation and disposal

Waste is transported in waste collection trucks varying distances to two landfill sites, namely the Madikwe and Mogwase landfill site (Tedcor, 2005). The management and operation of the landfill sites are excluded in the contractual agreements between local government and the principle consultants (Tedcor, 2005). The Madikwe landfill sites receive on an annual basis, four thousand, seven hundred and fifty tonnes of waste (Jarrod Ball and Associates, 2004). The quantity of waste received has exponentially increased since the commencement of the waste collection service in October 2003, to such a degree that the remaining life span is estimated at three to five years (Jarrod Ball and Associates, 2004). The Mogwase landfill site receives approximately ten thousand and eight hundred tonnes of waste per year and has an estimated remaining life span of ten years (Jarrod Ball and Associates, 2004). The landfill sites are legally non complying not only in terms of not being licensed in terms of section twenty of the Environment Conservation Act, Act 73 of 1989, but also in terms of poor and sub standard operation and management (Jarrod Ball and Associates, 2004).

Figure 5.5: The sub contractors' trucks, which are designed exclusively for waste collection and transportation



Service charges

Local government retains the responsibility of financing waste collection via the collection of service charges from the community or through financial assistance from either the Bojanala District Municipality, national or international donors. The cost of waste collection per household per month amounts to eleven rand and fifty cents¹², this significantly lower than the South African average service rate of forty rand to fifty rand per service point serviced by municipalities and fifteen rand to twenty three rand per service point serviced by typical South African contractors on behalf of local government (Jarrod Ball and Associates, 2004). This low rate is imposed by the characteristic rural and low income populations of the district. Despite this low service rate, a mere three to four percent of households within Moses Kotane municipal district pay service rates on a monthly basis¹³. In contradiction to perceptions held by the principle consultants in terms of residents being more inclined to pay service charges when waste management is effective and provided by persons drawn from their own community (Tedcor, 2005), local government is under the perception that during the past three years little to no improvement has been realised in terms of service payment improvements¹⁴. The absence of payment from households originated during the apartheid era and continues to be a concern to local government as detailed in chapter two. However with the lapse of time, partnership maturity and change in attitudes, statistics of payment for effective services received are predicted to improve (Tedcor, 2005).

The process of partnership building is inclusive of the arrangement by the principle consultants in terms of financing and insurance requirements for the sub contractors and their labour forces, on-going training by the principle consultants to the sub contractors pertaining to financial, operational, personnel and business management, monitoring of waste management procedures and vital communication networks ensuring effective communication between all sectors of the partnership (Tedcor, 2005). All these aspects have a significant effect on the outcome of the partnership.

¹², ⁷ and ⁸ Personal communication with Stephan Piek, consultant to Moses Kotane Local Municipality, May 2005

Partnership outcome

The aim of this section is to assess the tangible outcomes of the partnership effort to date by using the methodology outlined by Mitchell *et al* (2001) and as outlined in chapter four of this dissertation. The outcome of the partnership aims to conclude to what extent the original objectives of the partnerships have been met, as documented in the contractual agreements and to what extent did the partnership 'add value' over and above what would have been expected in the absence of the partnership (Mitchell *et al*, 2001). In order to determine the 'added value', the most likely approach to waste management provision should the partnership not have been established is to be determined as well as the assessment of the effect of the partnership against these alternative scenarios so as to yield the incremental contribution (Mitchell *et al*, 2001). The contributions of the partnership, where possible have been expressed in financial terms, however significant intangible and qualitative benefits have been realised, which cannot be easily expressed in terms of financial gains. In recognition of this fact, some calculations have been based on subjective assumptions and a level of confidence in terms of high, medium or low have been assigned to the conclusions reached.

Identification of indicators

The first step in the methodology is to identify indicators on which investigations can be focused and which are representative of the outcomes of the partnership (Mitchell *et al*, 2001). Mitchell *et al* (2001) compiled a generic list of possible indicators for partnerships (appendix 5.1). Although not exhaustive the inventory outlines examples of possible indicators, with significant emphasis placed on social indicators. The indicators selected for investigation in this case study, include indicators for good governance, for community development and for business requirements, totalling ten indicators (table 5.2).

The indicators of the partnership were selected through a desk-based exercise, whereby project objectives outlined in contractual agreements and key targets outlined in documentation were taken into consideration. Indicators that were associated with environmental management and social development were given preference as one of the objectives of this dissertation is to determine the extent to which the tri-sector partnership has a direct association with environmental impacts and the degrees to which local government and communities benefited respectively in terms of accountability and social development. The indicators were selected and

have been amended to ensure suitability for evaluating the business of waste management.

Table 5.2: Selected indicators for measurement of the outcome of the partnership

Categories	Subcategories	Indicators of partnership impact/outcomes on good governance
Capacity of public office to manage resources.	Effective resource management.	Cost-effectiveness of public spending in terms of waste management provision.
Visibility of public office in discharging its civil duties for social development.	Effectiveness of social programmes.	Degree of interaction/negotiation between sub contractors and local government (project implementation).
Visibility of public office in discharging its civil duties for social development.	Effectiveness of social programmes.	Accessibility by the poor to government services of waste management.
Categories	Subcategories	Indicators of partnership impact/outcomes on community development
Environment (where households exist).	Infrastructure.	Adequacy of waste management services.
Household livelihoods.	Personal empowerment.	Employment opportunities.
Household livelihoods.	Personal empowerment.	Life skills enhancement (financial management, negotiating skills, time management).
Household livelihoods.	Social network security.	Enhancement of communication.
Household livelihoods.	Social network security.	Participation of local people in the management of 'common goods'.

Categories	Subcategories	Indicators of partnership impact/outcomes on business benefits
Overall efficiency of project.	Sustainability of community development projects.	Community (represented by sub contractors) dependency on principle consultants for public service provision, economic opportunities and environmental management after cease of five year contract.
Effectiveness of social investment.	Employment.	Level of skills of sub contractors and/or transferability of skills from principle consultants to sub contractors.

The methodology of measurement used in the investigation of the indicators selected for use in determining the partnership outcomes (as indicated in Table 5.2) are outlined in Tables 5.4, 5.5 and 5.6, namely “Impact of partnership on indicator”.

Data collection

Data utilised to determine the impact of the partnership on the selected indicator or the magnitude of change in the indicator was assembled through a number of data collection techniques, namely review of existing documentation from all sectors of the partnership, structured and unstructured interviews with contractors, workers and community members, informal discussions with local government, the principle consultant and sub contractors. In addition a number of site visits were undertaken in all areas of project implementation to ensure a clear understanding of the project was obtained.

Feasibility studies, records held by government, contractual agreements and previously undertaken waste studies within Moses Kotane municipal district were used to determine the impact of the partnership. This documentation was obtained from local government and the principle consultant and through review of existing literature.

Perceptions and opinions of local government were obtained through conducting informal discussions with representatives of Moses Kotane Local Municipality and of

Bojanala District Municipality. The objectives of these informal discussions were to identify perceptions of local government towards current waste management practices in Moses Kotane district versus the waste management undertaken prior to project implementation in October 2003, to identify perceived threats to effective waste management and recommendations for improvement.

Informal discussions were held with fifty seven community members within the Moses Kotane district, with the objective of obtaining perceptions surrounding current waste management practices and to obtain an understanding on whether community members have perceived improvements in waste management since 2003. Generally community members were responsive and willing to participate in discussions.

On-going discussions with the principle consultants were held to gather information surrounding the establishment, implementation and maintenance of tri-sector partnerships of the waste management nature. The discussions were a valuable source of information regarding problems experienced in these partnerships and recommendations to ensure project sustainability.

In terms of obtaining information from the sub contractors and work force for the Moses Kotane waste management project, structured documented questionnaires were issued to representatives. The questionnaires were compiled to ensure ease of execution, ensuring that questionnaires were brief in length, compiled in laymen's terms and persons undertaking questionnaires had the opportunity to remain anonymous to ensure integrity and honesty. The aim of the questionnaires were to obtain perceptions regarding waste management service provision, effectiveness of the enterprises in providing this service and to identify any concerns or recommendations the sub contractors or workers may have. Table 5.3 outlines the details of the 41 questionnaires issued and returned by each sector of the businesses.

Table 5.3: Details of questionnaires

Status	Sub contractors	Workers
Total number of personnel	6	96
Questionnaires issued	6 or 100%	40 or 42%
Questionnaires completed and returned	6 or 100%	35 or 88%

Numerous site visits were undertaken during the course of the investigation to obtain an overview of the project implementation, undertake interviews and conduct interviews with representatives from different sectors and to view waste collection and transportation by the sub contractors and work force. Site visits were conducted not only to assess the success in terms of waste collection but also to obtain a feeling for the general socio-economic conditions of Moses Kotane townships.

Assessment of contribution

The evaluation of the overall contribution of the partnership entails an analysis of external contributing factors, each partner's most likely alternative to achieving their objectives for the partnership and the level of confidence of the data used in the analysis (Mitchell *et al*, 2001). The assessments of the contribution of the respective indicators are summarised in table 5.4 and detailed in appendix 5.3.

Impact of partnership on indicators

The impact of the partnership on the indicators as selected during the scoping phase of the methodology, was determined through obtaining data from all sectors of the partnership as described in the section on data collection. As prescribed by Mitchell *et al's* (2001) methodology, it is to be ensured that the impact of the partnership on the specified indicator is not associated with external contributing factors, including political or social influences. In the Moses Kotane waste management partnership, there is no evidence that suggests that any external contributing factor has or is currently playing a role in influencing the outcome of the partnership. It is thus assumed in this case with reasonable confidence, that external factors have not played a significant role in altering the outcomes of the partnership, this notion supported by local government representatives and by the principle consultants¹⁵.

Assumed most likely alternative strategy to partnership

In terms of each partner's most likely alternative to achieving the objectives of the partnership, there is no conclusive guarantee that the most likely alternative strategy would have realised in the absence of this partnership. At the time of assessment however, the most likely alternative according to local government and community representatives of Moses Kotane, would entail the continuation of the waste

¹⁵ Personal communication with Stephen Piek, consultant to Local Government and Clarence Hamman, Director of Tedcor Pty Ltd, May 2005

management services provided by contracting companies prior to October 2003 and partnership formation¹⁶. These circumstances are also represented by current waste management strategies within three of the nine waste collection areas, which were excluded from the scope of the partnership. With regards to the principle consultants, no partnership formation would have taken place, thus the exclusion of Moses Kotane from Tedcor's area of influence and service.

Incremental contribution of partnership

The incremental contribution of the partnership, where possible has been expressed in monetary terms although this has been challenging due to the majority of the benefits being intangible. The contribution has been determined by calculating the difference between the value of the partnership's attributable outcomes and the outcome of the circumstances relating to the most likely alternative for each sector (Mitchell *et al*, 2001). Where assumptions have been made in terms of determining the incremental contribution of the partnership, these have been duly noted.

Confidence in evidence

For the evaluation of the contribution of each indicator to the partnership, the level of confidence is highlighted in terms of the reliability of the evidence used to make the assessment. Confidence of data utilised is expressed in terms of high, medium or low confidence. Factors taken into consideration when determining the level of confidence included the extent to which there was traceable data to support monetary values, the consistency in different sources of information including perceptions obtained through interviews and the degree of consensus on the impacts from all sectors of the partnership.

¹⁶ Personal communication with Stephen Piek, consultant to Moses Kotane Local Government

Table 5.4: A summary of the impacts of the tri-sector waste management partnership, Moses Kotane (October 2003 – April 2005)

Indicators	Incremental contribution of partnership	Confidence in evidence
Adequacy of waste management service	Large improvements in adequacy of waste management services verified by waste records and perceptions. Associated with this is enhanced legal compliance and environmental management	Medium
Employment opportunities	Although the impact of the partnership on employment statistics in Moses Kotane's population is minimal, 102 employment opportunities have been realised which is significantly larger than the circumstances prior to October 2003.	High
Life skills enhancement	Intense skill development currently undertaken by sub contractors. Although realisation of skills and opportunities ultimately unknown due to initial phase of contractual completion, potential for optimal development is high	Medium
Enhancement of communication between service providers and community.	Enhanced communication not only in terms of waste management but also in general matters of importance to communities.	High
Participation of local people in the management of 'common goods'.	Enhanced participation and ownership of waste management by local community members evident through perceptions obtained from community members and sub contractors.	High

Summary of findings

The partnership objective to provide high standard cleansing services to the given community has clearly been achieved as indicated by paramount improvements in waste collection. The achievement of the objective has benefited both local government and the community. The improvements in this regard prove to be significantly greater than all other advantages realised by the partnership. Maximum possible uplifting business empowerment opportunity to individuals within the given community and further employment opportunities to members of the community was achieved by the partnership to a great extent as highlighted by the development and transfer of skills to sub contractors and employment realisations for many community members. Future opportunities and sustainability of skills however cannot be assessed due to the infancy of project implementation.

Less significant advantages for government (appendix 5.3) include enhanced interaction between local government and the community, noting that this issue is not a priority or a main objective of the partnership although an improved reputation of government is associated with this achievement. Although records indicate cost of service delivery per household has increased through partnership formation, it is to be noted that the service provided has improved significantly and entails a far greater scope of waste management activities, thus the benefits being more sustaining and significant than what is initially anticipated from the results.

In terms of benefits for the business sector, the achievement of responsibilities in terms of the management of sub contractors and overall operation of waste management benefits the principle consultants in terms of positive marketing and reputation based on the success of the waste management services and the empowerment of community members.

Although table 5.4 and appendix 5.3 highlight the incremental benefits associated with the objectives of the partnership and do not outline the exhaustive benefits of the waste management partnership, there are further advantages of the partnership, including reputational enhancement for local government and marketing benefits for the business sector should the project succeed. The benefits are highlighted through a comparative analysis against costs associated with partnership formation and maintenance.

Costs and benefits of the partnership

The aim of measuring the indirect costs and benefits of the partnership formation is to determine the 'value for money' of the tri-sector partnership (Mitchell, *et al*, 2001). The costs and benefits to each sector resulting from the partnership have been expressed in both monetary and other benefits as illustrated by tables 5.5, 5.6 and 5.7. Evident in the tabular comparisons, is the significant benefits of the project to the sectors in relation to the relatively low cost associated with the partnership, thus indicating a high value for money attribute of the partnership. In the broader developmental context of South Africa, specifically in terms of high unemployment rates, poverty and incapacitated local governments, the advantages of the partnership are proportionally significantly greater for the community and local government than the benefits experienced by the business sector, although the majority of the benefits are intangible and are not directly associated with financial benefits.

Table 5.5: Costs and incremental benefits of the Moses Kotane partnership for local government

Partnership costs	Rand	Added Value/Incremental Benefits	Rand
Operational costs in terms of waste management on an annual basis.	R8205689 ¹⁷	Reputation improvements through improved relations with communities.	Intangible
Annual management costs, including equipment, staff time and salaries.	R600 000 ¹⁸	Increased compliance to constitution and waste management legislation	Intangible
		Decreased environmental degradation.	Intangible
		More cost effective and efficient waste management services to communities.	Intangible
Total cost (annually)	R8 805 689	Total incremental benefit	Intangible
Total costs less total incremental benefits = R8 805 689			

¹⁷ Personal communication with Mr Stephen Piek, consultant to Moses Kotane Local Municipality, May 2005

¹⁸ Personal communication with Mr Stephen Piek, consultant to Moses Kotane Local Municipality, May 2005

Table 5.6: Costs and incremental benefits of the Moses Kotane partnership for the community

Partnership costs	Rand	Added Value/Incremental Benefits	Rand
No costs for community. Costs of service included in costs for local government due to lack of payment by households.	R0	Annual income of workers and sub contractors.	R1365120
		Skills development increasing potential for future employment or income generation.	Intangible
Total cost	R0	Total incremental benefit	R1365120
Total costs less total incremental benefits = R1365120			

Table 5.7: Costs and incremental benefits of the Moses Kotane partnership for the business sector

Partnership costs	Rand	Added Value/Incremental Benefits	Rand
Management costs on an annual basis.	R720 000 ¹⁹	Marketing of concept and model of partnership.	Intangible
Partnership exploration and initial partnership building.	R50 000 ²⁰	Estimated annual profit.	R1117592.64 ²¹
Total cost	R790 000	Total incremental benefit	R1117592.64
Total costs less total incremental benefits = R327 592.64			

Partnership maintenance: long term viability

¹⁹ Personal communication with Mr Roelof van Rooyen, Manager Human Resources Development of Tedcor Pty Ltd, June 2005

²⁰ Personal communication with Mr Roelof van Rooyen, Manager Human Resources Development of Tedcor Pty Ltd, June 2005

²¹ Personal communication with Mr Stephen Piek, consultant to Moses Kotane Local Municipality, May 2005

Partnership maintenance entails effective ongoing management of the partnership, focusing on achieving the objectives through effective and interactive communication, conflict resolution and commitment by all sectors of the partnership. Strengths, weaknesses, opportunities and risks characteristic of partnerships define the potential for success and sustainability.

Strengths going forward

From the analysis of the partnership outcome, a prevailing strength in this partnership is the eagerness for participation pervading the community, sub contractors, workers and local government– a common language that commits all parties to the success and long term sustainability of this partnership. This eagerness and thirst for knowledge has been obtained through a sense of empowerment through successfully combining core competencies of partners into a tangible and visible project, which to date has drawn wider public recognition of efforts invested by all parties. The sub contractors have not only developed new skills but have and are furthering them for the common good of the community. The partnership building over the past two years has created good will amongst the partners, resulting in constructive and collaborative relationships, which will assist the partnership in going forward. Some of the remarkable success factors to date, which constitute strengths of the partnership and provide evidence of success, include high levels of participation by all parties, particularly local community and sub contractors, quality project management skills by the principle consultant, particularly evident during early phases of partnership building, and excellent record keeping by local government and sub contractors.

Weaknesses going forward

A riveting and ongoing concern is late payments made by Moses Kotane Municipality to the principle consultants on a monthly basis, which in turn has cascading effects on sub contractor and worker salaries and operating costs for the provision of the waste management service²². Late payments arise due to a lack of service payments by community members, forcing financial assistance from Bojanala District Municipality who in turn obtains finance from international donors and national government. Local government does not perceive that concerns surrounding non-payment will improve in the near future, thus placing increasing pressure in terms of

²² Personal communication with Mr Stephan Piek, consultant to Moses Kotane Local Municipality, May 2005

financial requirements on the district, local government and the principle consultants. Non-payment has the potential to jeopardise contractual agreements between parties and the legal groundings of the partnership.

The principle of cradle to grave in the notion of waste management is vital to ensure achievement of ultimate service delivery obligations by local government and to minimise environmental degradation and health risks to surrounding communities. It is undeniable, as indicated by the benefits of the partnership, that waste collection and transportation has improved significantly since partnership implementation, however the subsequent disposal of the waste by local government contradicts this success, as it constitutes an illegal act. The illegal status of waste disposal is due to the unlicensed status of the landfill sites and the sub standard management and operation of the sites. The disposal of the waste in this manner partially masks the benefits of the partnership, as the constitutional obligation of local government to ensure the rights of all citizens to an environment that is not harmful to their health or well being has not been fulfilled.

Opportunities going forward

The partnership has benefited the community in terms of increasing their awareness of the responsibility for their own livelihoods and ownership of the environment, which paves the way for enhanced accountability and empowerment of community members. This increase in accountability may lead to the natural formation of other alliances with government or with the private sector in terms of managing the environment or enhancing socio-economic conditions. The success of the establishment of this partnership and the resulting enterprises within Moses Kotane will promote the concept of tri-sector partnerships within local government spheres, in turn benefiting communities and improving environmental performance.

Potential risks going forward

Perhaps the most significant potential risk facing the success of the partnership in terms of rendering independent self-sustaining successful enterprises is the continuation of dependency of the sub contractors on the principle consultants, particularly once the contractual period of five years has expired and predominantly in the sphere of financial management. Case studies have indicated that in the majority of the circumstances, the sub contractors remain dependant on the principle consultants for financial guidance. In addition to this potential risk, the insecurity of

financial resources for project implementation is not only a current weakness in the partnership, but also poses a significant risk to the partnership (Tedcor, 2005).

Recommendations for identified weaknesses and risks and improvements opportunities for strengths are identified and discussed in chapter six, not only in the context of the Moses Kotane waste management strategy, but also as part of a strategic waste management model for the Marikana township, based on the tri-sector partnership arrangement.

Closing remarks

The waste management tri-sector partnership in Moses Kotane municipal district illustrates a unique and innovative approach to rendering a high quality waste management service, which has, in line with the accepted methodology of determining partnership outcomes, proven successful in achieving the partnership objectives. The realisation of these objectives by all parties has undoubtedly contributed to the enhancement of socio-economic conditions of the people within Moses Kotane district and to rendering an efficient waste management service to the communities, contributing significantly to a healthier environment. This success is distinctive despite concerns and potential risks marking the sustainability of the partnership. Benefits, particularly qualitative benefits in terms of reputation and enhanced stakeholder relations to the business sector have the potential to increase extensively if tri-sector partnerships are formed between oil, gas or mining companies, with communities affected by their operations and with incapacitated local governments. The sphere of service delivery lends itself to the formation of tri-sector partnerships with large mining corporations against the milieu of the service delivery and poverty crisis in South Africa.

Chapter 6: Waste management strategy for Marikana township based on the tri-sector partnership arrangement

8. Background

Poverty is the single greatest burden upon the South African nation, with at least seventeen million of the population below the minimum living level (African National Congress, 1994). The socio-economic and environmental impacts of these alarming poverty levels are worsened by ineffective service delivery in South Africa where service delivery has been burdened by administrative, legislative and financial incapacities. It is made clear in the first chapters of this dissertation that the situation in terms of service delivery is reaching a crisis point, with fourteen percent of households having no access to sewage treatment facilities of any nature, seven hundred and twenty six thousand households obtaining potable water from rivers and streams, only seventy percent of South African households utilising electricity for lighting purposes and only sixty percent of households with legal waste disposal practices (Statistics South Africa, 2001). Despite the clear commitments outlined in the South African constitution, legislation, mandates and policies to provide environmentally sustainable services to all South Africans, constitutional rights of millions of South Africans are being denied. These alarming statistics clearly reinforcing the claims that government alone cannot address this calamity.

The residents of the Marikana Township are no strangers to the hardship of poverty and futile attempts of service provision by Rustenburg Municipality. The on-going lack of delivery has resulted in increasing disease, environmental pollution and degradation. The effects of these traditional environmental hazards are exacerbated by the modern environmental hazards, emanating from mining operations in close proximity to the community, by one of the largest platinum producers, Lonmin Platinum. Waste management services to the communities of Marikana display all facets and typifies service delivery problems in South Africa. A comprehensive investigation into waste management within the township in chapter three of this dissertation highlights that only nineteen percent of household waste management practices are aligned with legislative requirements and approximately fifteen percent of households do not dispose of their refuse in any manner, whilst sixty four percent of households dispose of their refuse on their own waste dumps (Statistics South Africa, 2001). In addition to this *status quo*, the waste that is collected and removed by Rustenburg Local Municipality on a weekly basis (constituting the nineteen percent of households) is disposed at an unlicensed and illegal waste disposal site (Jarrod Ball and Associates, 2004). The circumstances within Marikana pertaining to waste management provide evidence of the incapacity of government to reach their

constitutional responsibilities and to provide solutions to the crisis surrounding service delivery.

The South African government, and to a limited extent, the public and private sector have during recent years explored alternative service delivery models as solutions to inadequate and ineffective service provision. These endeavors imperative in the broader context of the post apartheid society. One organisational arrangement for service provision, which is becoming increasingly popular on a worldwide scale, is tri-sector partnerships (Warner, date unknown). Although there have been instances where tri-sector partnerships have been initiated, there is limited evidence and experience of tri-sector partnerships being internationally brokered and actively managed and sustained over time (Warner, date unknown). In developing countries, particularly in South Africa the concept of proactive tri-sector partnership formation is relatively novel and innovative. An example of an unconventional but 'successful' tri-sector partnership in South Africa is the waste management partnership in Moses Kotane Local Municipal district as outlined in chapter five. This tri-sector partnership concept has been extended in the sense of establishing enterprises for the community representatives of the partnership.

As highlighted in chapter five, the tri-sector partnership in Moses Kotane municipal district to date has achieved all strategic objectives of the partnership in terms of improving waste collection and removal statistics by an estimated ninety two percent²³. Additionally the partnership has also been successful with regards to the realisation of employment for local community members and in terms of developing selected community members into business owners. The methodology compiled by Mitchell *et al* (2001) was utilised to determine the partnership outcome, the methodology proving suitable and justifiable for the intent of the study. In addition to achieving the strategic objectives of the partnership, the result of the analysis indicated that immense benefit has been achieved in the form of enhanced public participation and enrollment of local communities in the act of service provision. All partners to date, seem to have benefited significantly in terms of the partnership building and maintenance process and are positive in terms of the potential of the partnership. Despite the objectives being achieved by all sectors, aspects of implementation can be enhanced to further the success of the project.

²³ Personal communication with Mr Roelof van Rooyen, Manager Human Resources Development of Tedcor Pty Ltd, June 2005

Despite the positive outcome of the partnerships, the analysis in chapter five echoes general concerns that although the tri-sector partnership, which commenced in 2003 is in the early phases of implementation, it has yet to prove that the black economic empowerment companies providing the services to the communities will develop into self sustaining and independent companies capable of furthering their business initiatives. Experience has proven that limited waste management enterprises have evolved into entirely independent companies post the initial contractual period, thus remaining dependent on principle consultants²⁴. Financial resources plague the implementation of these projects, originating from non-payment of communities and the inability of government to provide financial resources to fund the project²⁵. Opportunities going forward include recycling initiatives within Moses Kotane – these initiatives have not been comprehensively implemented, predominantly in terms of effective recycling at the waste disposal site. In addition to minimal recycling, the unlicensed waste disposal site and the sub standard management of the site contradict the effective waste collection and transportation.

Prior to making final conclusions regarding the effectiveness of the tri-sector partnership at Moses Kotane, and based on an initial theoretical analysis of Mitchell *et al*'s (2001) methodology in chapter four, a critical review of both methodology and findings is deemed necessary. This is regarded as essential as it should be acknowledged that the conclusions on the perceived success or failure of the project are dependant on the effectiveness of the methodology. The next section of this chapter therefore takes a critical review of the model that was utilised in chapter five to conclude the outcomes of the partnership and outlines precautionary concerns.

Critical review of methodology

The methodology compiled by Mitchell *et al* in 2001 was critically analysed and applied in chapter four to ensure suitability of the methodology to the intent of the study. This initial evaluation proved the model apt for determining the outcomes of the Moses Kotane waste management partnership. Subsequent to utilising the methodology in chapter five, a more appropriate and in depth critical review obtained through practical implementation can be undertaken, not only to ensure adequacy of

²⁴ Personal communication with Mr Clarence Hamman, Director of Tedcor Pty Ltd, April 2005

²⁵ Personal communication with Mr Stephen Piek, consultant to the Moses Kotane Local Municipality, May 2005

the model but to provide recommendations to improve the objective of the methodology.

As detailed in chapter four, Mitchell *et al* (2001) outlines attributes of the methodology, as affordable, repeatable, replicable, independent, non-intrusive and comparable, thus attributing the success of the methodology to these characteristics. In terms of the undertaking of this methodology as part of the case study, many of these positive attributes were re-enforced but others were challenged. Mitchell *et al* (2001) uses the approach to determine impacts of social development through partnerships, typically representative in terms of the business sector, of oil and gas and mining corporations. It is recommended that this approach be extended for use in the context of businesses besides extractive industrial activities. The selection of appropriate indicators in these scenarios is therefore imperative to optimise the applicability of the outcomes based on the nature of the business sector.

The undertaking of the methodology supports Mitchell *et al* (2001)'s description of being repeatable and replicable in terms of providing a standard framework and approach to determine outcomes of partnerships. The repeatability, replicability and the ability of the model to truly reflect the circumstances of the partnership is however dependant on the interviewing and personnel skills of the investigator, the representation of the sample size of persons interviewed and the manner in which the interviews are conducted, all of which have the potential to influence the perceptions of the outcome of the partnership. In the case of determining the outcomes of the Moses Kotane's partnership, sufficient sub contractors and workers were interviewed to ensure a true reflection of the partnership in terms of perceptions. Although only fifty seven community members were interviewed, it was deemed sufficient to obtain a accurate idea of the community's opinion in general with regard to the partnership. It was ensured that during the process of obtaining perceptions of people involved in the partnership, questions were posed in laymen's terms to ensure understanding, all interviewees had the opportunity to remain anonymous and the atmosphere in which questions or questionnaires were posed was relaxed and interviewees were prompted to be honest in their response. It is also recommended to ensure an accurate reflection and validity of the partnership outcome, that guidelines or benchmarking practices are identified for utilisation in obtaining information from all parties.

In terms of the methodology being affordable regarding investment in costs and time, it was found that a relatively significant percentage of time is spent obtaining information from sector representatives, as often records are not maintained, which subsequently requires further research to obtain the necessary information. However in line with the consequential conclusions and importance of the study, the time invested in this case study was deemed affordable. Reliability of the conclusions of the study are dependent on the accuracy of the information supplied by all parties, on whether there is any external motivation for deviation from reality and on the applicability and nature of the indicators selected for investigation. The certainty of independence of the outcome of the study from other external influences is limited, although attempts have been made to eliminate changes prompted by other factors or that would have occurred as a result of existing measures during phase three of the methodology. The practicality of doing this is not always possible and this process has, to the extent that it is possible, identified the incremental contribution of the partnership.

In the majority of situations, information was obtained from representatives of all parties by direct contact, as per the intent of the methodology of being non-intrusive. Secondary data sources in terms of documentation were also utilised where applicable. According to Mitchell *et al* (2001), the consistent application of the methodology should in theory enable comparisons between partnership outcomes. Comparisons are dependant on the choice of indicators used in the study, predominantly so if the indicators are qualitative and intangible in nature, as the methodology renders it difficult to assess and conclude the outcome in monetary terms. A shortcoming characteristic of the methodology is the lack of quantification of intangible or qualitative benefits. These forms of benefits typify outcomes of tri-sector partnerships due to impacts associated with social and upliftment aspects. It is recommended that techniques distinctive of cost-benefit analyses be employed in this methodology to attempt to further quantify qualitative outcomes. The use of this methodology is thus not always ideal for determining qualitative advantages and disadvantages of partnerships, particularly so in this case study where qualitative aspects are key characteristics of the partnership.

Due to the potential risk of partnership failure as highlighted through perceptions of corporations in this field and on the history of case studies on the sustainability of tri-sector partnerships, it is recommended that Mitchell *et al* (2001) necessitate the assessment of sustainability as an indicator in all case studies. This undertaking will

ensure that the sustainability and independence of the partnerships is included in the evaluation and monitoring of the success of the partnerships, this is deemed vital for the long term success of these arrangements.

In light of the above and the initial theoretical evaluation in chapter four, it can be concluded that although the methodology utilised in the case study has inherent flaws, which do not at all times maximise the intent of the methodology, it can be summarised that the use of the model has been effective in outlining the benefits and shortcomings of the Moses Kotane tri-sector partnership and has given justice to the intent of the study.

Marikana versus Moses Kotane's waste management

The townships within Marikana and the Moses Kotane district share many similar attributes of socio-economic conditions and governance, although distinctive differences are evident. A comparative analysis of waste management in Marikana and in Moses Kotane district (table 6.1) clearly highlights the similarities and dissimilarities of the two regions in terms of visions, socio-economic conditions and resources.

Table 6.1: Comparative analysis of waste management in Marikana and in the Moses Kotane district

Aspect	Marikana Township	Moses Kotane district (post tri-sector partnership formation)
District municipality's vision	"Accountable, efficient and transparent district governance that ensures cost effective, sustainable and high quality services to its community in an economically vibrant, clean, safe and healthy environment." (Jarrod Ball and Associates, 2004:12) and to build capacity to utilise waste management as an employment creation opportunity (Bojanala Platinum District Municipality, 2001).	
Employment.	Thirty five percent of the economically active population group is unemployed (Statistics South Africa, 2001).	Twenty six percent of the economically active population group is unemployed (Statistics South Africa, 2001).
Waste collection.	Nineteen percent of households are serviced	One hundred percent of both informal and formal

	on a weekly basis (Statistics South Africa, 2001).	households are serviced on a weekly basis ²⁶ .
Waste transportation.	Utilisation of five tonne flat bed trucks, which are old and in poor condition resulting in unavailability of the trucks on an average basis of once per week (Jarrod Ball and Associates, 2004).	Utilisation of specially designed waste collection trucks with a capacity of thirty cubic meters, which are effectively maintained (Jarrod Ball and Associates, 2004).
Waste disposal.	Illegal and unpermitted disposal practices.	Illegal and unpermitted disposal practices.
Public participation/engagement.	No public participation in waste management (Tedcor, 2005).	Significantly greater participation of community, predominantly in act of service provision.
Corporations.	Lonmin Platinum in close proximity and relation to Marikana.	Involvement of Tedcor, a specializing company in terms of the formation of tri- partite arrangements.

In light of the information obtained through the literature review of tri-sector partnership arrangements, the evidence of the success of the model implemented at Moses Kotane for waste management and an analysis of the shortcomings facing Marikana in terms of waste management, the service of waste management to communities of Marikana lends itself to the formation of a tri-sector partnership. Thus indicating that a replication of the successful waste management strategy in Moses Kotane is possible given the conditions prevalent in Marikana. It is clear (table 6.1) that many characteristics are common between the two townships and that approaches that have resulted in strong positive attributes of waste management in Moses Kotane district could be applied successfully to Marikana, due to the similarities not only in socio economic conditions but also in greater governance approaches by local government to waste management.

²⁶ Personal communication with Mr Stephen Piek, consultant to Moses Kotane Local Municipality

Major oil, gas and mining corporations of the world increasingly operate in developing countries or regions often inhabited by poor communities, characterised by fragile environments and incapacitated state departments. Lonmin Platinum operates in these conditions characteristic of the North West province. In addition to these realities, a significant percentage of Lonmin Platinum employees currently reside in Marikana, which is situated within close proximity to the mining operations. The origin of the town is directly associated with the commencement and expansion of mining operations by Lonmin Platinum. The residents of Marikana have during the course of the past few years turned to Lonmin Platinum for assistance in terms of service delivery. In accordance with the prevailing socio-economic state of townships adjacent to Lonmin Platinum, are Lonmin Platinum's visions to align with the long-term responsibility towards the welfare of the communities and the environment within which they operate (Lonmin Plc, 2003). Investigations in the form of perception surveys conducted in the year 2004 on communities surrounding Lonmin Platinum highlighted that a generally negative perception of Lonmin Platinum prevails amongst the local community (Lonmin Platinum, 2004b).

It is clear from Lonmin Platinum's relationship and association with the Marikana communities, that it would be commonsensical and rational for the proposed tri-sector partnership formation to take place between Lonmin Platinum, representing the business sector, Rustenburg Local Municipality, the responsible local tier of government for waste management in Marikana and the affected communities of Marikana, representing civil society.

Proposed tri-sector partnership model

The proposed tri-sector partnership model for the provision of a waste management service to Marikana is in accordance with the contracting public private partnership arrangement as outlined in chapter three. In these arrangements, the private sectors delivers the service of waste management on behalf of local government and are paid by local government from general revenues or through monies raised by direct user charges (Cointreau – Levine, 1994). In the tri-sector partnership model of contracting public private partnerships, there are three sectors directly or indirectly involved in the undertaking of the service, namely business, government and civil society where a relationship is established to the point where this sector 'pool' complementary resources, knowledge and skills to jointly address complex social and environmental impacts (Natural Resources Cluster Business

Partners for Development, 2005a).

The common objectives of all parties in terms of this partnership would be to provide an effective cradle to grave waste management for the Marikana community and for creating employment opportunities and developing skills through the provision of this service. These objectives will drive the formation, establishment and maintenance of this partnership, and bind all sectors in the shared vision of the partnership. Each sector in this partnership has the ability to add value to what could be achieved by each partner in isolation as is highlighted in this section. Each sector also stands to benefit by the partnership establishment (Natural Resources Cluster Business Partners for Development, 2005a).

In terms of Lonmin Platinum, one vital component prior to the commencement of tri-sector partnerships from the business sectors point of view, particularly if exploration of the partnership is initiated by the business sector, is the decision in terms of whether the program resulting from the partnership will form part of the corporation's management structure or form a separate non-governmental organisation, foundation or trust. There are clear advantages and disadvantages to both (Nigam, 1999). Advantages of establishing independent organisations include benefits in terms of taxation, enabling more community control than would be feasible for a company-managed program, assisting the company and the communities to separate legal liability from the actions of the community development program from those of the corporation, an independent organisation can outlive the company, serving as an ongoing contribution to community development (Nigam, 1999) and an independent organisation is viewed as more independent and sustainable than company based organisations. The most significant benefits in terms of establishing partnerships within the management structure of a company include enhanced communication between the community and business sectors, and the increased ease of execution in terms of forming partnerships across business units (Nigam, 1999).

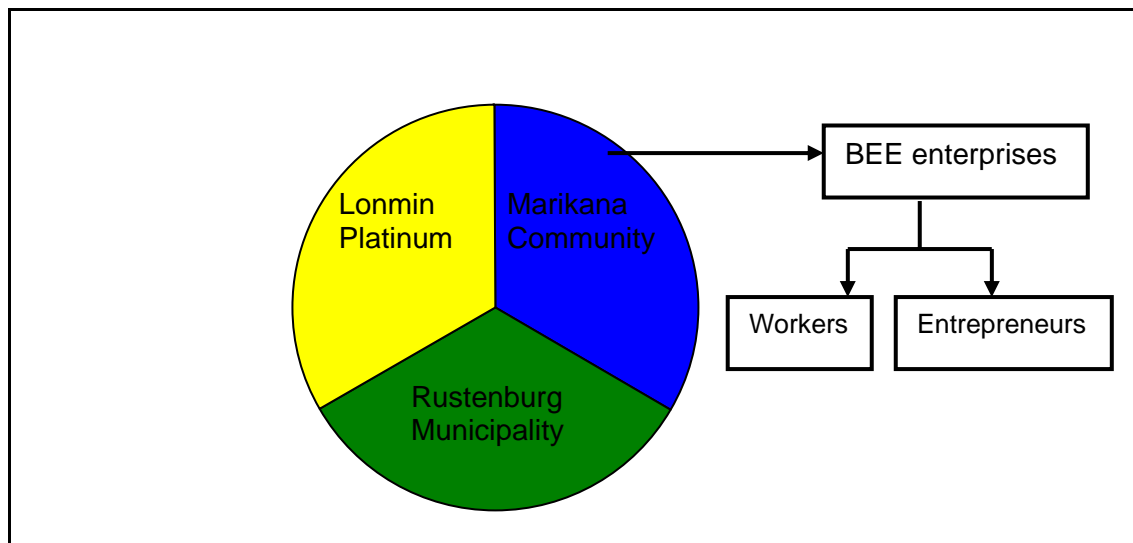
Three tiers of the local community of Marikana are identified in terms of benefiting from the partnership and offering resources for implementation, namely the entrepreneurs or owners of the waste management enterprises, worker teams who are employed by the entrepreneurs and assist in the act of service provision and the general community of Marikana.

Proposed partnership structure

Taking into account all vital components, structures and characteristics of the three sectors, the study proposes a holistic structure of a tri-sector partnership for waste management (figure 6.1), which will entail the following:

- The formation of contractual agreements between the Rustenburg Local Municipality and with selected individuals of the Marikana community, namely the entrepreneur, sub contractor or owner of the enterprise. It is to be ascertained that the selection process co-ordinated by local government selects individuals with the potential for effective business management skills. Advantages of this partnership will be maximised if unemployed persons are selected for the partnership.
- The entrepreneur employs workers to assist with waste management operations and as a result of these structures individual waste management enterprises are established comprising of one entrepreneur and a worker team. These enterprises are formed on the basis of black economic empowerment (BEE) aimed at redressing the imbalances of the past by seeking to equitably transfer and confer the ownership and management of South Africa's financial and economic resources to the majority of its citizens. BEE aims to ensure that black people have a broader and more meaningful participation in the economy so as to achieve sustainable development and prosperity (Black Economic Empowerment Commission, 2001).
- The study regards Lonmin Platinum's role as two fold. Firstly to offer waste management facilities where possible to the enterprises and secondly a role of guidance, supervision in terms of financial, business and waste management of the enterprises. Lonmin Platinum aims to endeavour successful and self-sustaining enterprises, which are ultimately independent from Lonmin Platinum's management.
- In light of the structure of the company in relation to Lonmin Platinum, it is proposed that an independent organisation is established that is not controlled or managed by Lonmin Platinum, thus ensuring ultimate independence from Lonmin, enhancing self-sustainability.
- The Rustenburg Municipality is to fulfil the responsibilities of contract holder and ensure that waste management services to the communities of Marikana are effective and line with constitutional commitments.

Figure 6.1: Proposed tri-sector partnership model for waste management in Marikana



This partnership has the potential to realise both Rustenburg Municipality and Bojanala District Municipality's vision to provide "accountable, efficient and transparent district governance that ensures cost effective, sustainable and high quality services to its community in an economically vibrant, clean, safe and healthy environment" (Jarrod Ball and Associates, 2004:12) and to build capacity to utilise waste management as an employment creation opportunity (Bojanala Platinum District Municipality, 2001). This partnership has the potential to enhance the socio-economic conditions of Marikana through job creation, reduce degradation to the environment and appeal to Lonmin Platinum in terms of corporate responsibility and stakeholder engagement initiatives.

Responsibilities of each sector

Although each sector has designated responsibilities within the partnership (table 6.2), the partnership has the potential to provide immense benefits to all parties of involvement and to pave the way for future alliances between these sectors.

Potential partnership benefits

Each partner within the partnership has the potential to benefit immensely from the partnership, both in terms of monetary benefits and qualitative advantages. The three tiers of the community all benefit in different aspects of the partnerships. The community entrepreneurs stand to benefit in terms of employment realisations and

the ability to provide for families, ownership of established businesses, the potential for the realisation of future contractual agreements and skills development in the light of waste management and business management. Advantages of the partnership to the workers employed by the enterprises include employment realisations and the ability to provide for families and exposure to and experience in waste management. The general community of Marikana gain from the arrangement in terms of cleaner and healthier environments, free of litter and illegal waste disposal and an opportunity to participate in the destiny of their livelihoods and to enroll in the management of the environment.

The Rustenburg Local Municipality and the Bojanala Platinum District Municipality stands to benefit in terms of the following:

- Realisation of constitutional responsibilities;
- Enhancing reputation and accountability of local government;
- Achieving the visions of the Rustenburg Local Municipality and of the Bojanala District Municipality in terms of service delivery through employment opportunities

Lonmin Platinum stands to benefit from the partnership in the following aspects:

- Increased achievement of corporate responsibilities;
- Compliance to the Mineral and Petroleum Resources Development Act (Act 28 of 2002), which requires industries to expand opportunities for historically, disadvantaged persons to enter into the mining industry or to benefit from the exploitation of the mineral resources;
- Improved reputation in terms of community perceptions towards Lonmin Platinum;
- Cleaner surrounding environments and decreased environmental pollution resulting from ineffective waste management;
- More content, satisfied and loyal work forces, particularly for the large percentage of employees who reside within Marikana;

Table 6.2: Responsibilities of the three sectors in the partnership

Rustenburg Municipality	Lonmin Platinum	Marikana community
<p>Ultimate responsibility for service delivery to ensure an environment that is not harmful to communities' well being and in line with constitutional responsibilities.</p>	<p>Provide legal aid for enterprises and for partnership operation.</p>	<p><u>Community entrepreneurs</u> Adhere and honour contractual agreements in terms of waste management.</p> <p>Effective management and operation of the enterprises, inclusive of human resources management, financial management and the maintenance of equipment.</p>
<p>Manage contractual agreements.</p>	<p>Provide availability of Lonmin Platinum's four landfill sites for use by the community for waste disposal. Costs associated with waste disposal provided by Lonmin Platinum.</p> <p>Ensure operation of landfill sites in accordance with legislative requirements, therefore ensuring effective cradle to grave waste management.</p>	<p><u>Workers constituting enterprises</u> Adhere and honour contractual agreements in terms of waste management.</p>
<p>Assist in the development of local economic development and poverty alleviation by creating local enterprises</p>	<p>Provide effective basic training to entrepreneurs through the Lonmin Training Centre in terms of waste management.</p>	<p><i>Community of Marikana</i> Comply with waste management strategy for Marikana.</p>

and employment opportunities.		
Be responsible for financial requirements of the partnership and enhance possibilities for international and national donor support.	Offer bursaries to entrepreneurs as part of the Lonmin bursary scheme to assist in tertiary education pertaining to business and financial management.	
	Provide guidance in terms of effective waste management by the Lonmin Environmental Centre and in terms of financial management by the Finance Department.	
	Provide assistance in the name of Lonmin Platinum for the financial requirements of the enterprises.	
	Utilise waste management enterprises resulting from the partnership for in-house waste management of Lonmin Platinum.	

Recommendations for waste management in Marikana

As discussed in chapter three, residents of Marikana are plagued by poverty, high unemployment rates and poor skills development and in desperation have turned to Lonmin Platinum for assistance. In line with these general socio-economic conditions, the waste management for Marikana constitutes deficient service delivery by the Rustenburg Municipality, illegal waste disposal practices and a lack of participation by local communities in the management of common goods. Contrasting these waste management strategies is the efficient collection and transportation of wastes by the Moses Kotane Municipality through the tri-sector partnership. Chapter five elicits the success of the tri-sector partnership in Moses Kotane designed for delivering effective waste management services to the communities within Moses Kotane. The strengths, weaknesses, opportunities and risks characteristic of this partnership defines the potential for its success and sustainability.

As highlighted in chapter five, a prevailing strength in this partnership is the eagerness for participation in waste management amongst the community, sub contractors, workers and local government – a common language committing all parties to the success and long term sustainability of this partnership. This high level of commitment of cause paving the way for enhanced accountability and empowerment of community members based on an increased awareness of their own role in decision making surrounding their environment. This increase in accountability may lead to the natural formation of other alliances with government or with the private sector in terms of managing the environment or enhancing socio-economic conditions.

Perhaps the most significant potential risk facing the success of the partnership in terms of rendering independent self-sustaining successful enterprises is the continuation of dependency of the sub contractors on the principle consultants. This risk is based on information from case studies indicating that in the majority of the circumstances, the enterprises remain dependant on corporations for financial guidance. In addition to this risk, is the ongoing concern of late financial payments made by Moses Kotane Municipality to the principle consultants on a monthly basis. Non-payment has the potential to jeopardise contractual agreements between parties and the legal groundings of the partnership.

The principle of cradle to grave in the notion of waste management is vital to ensure achievement of ultimate service delivery obligations by local government and to minimise environmental degradation and health risks to surrounding communities. The disposal of the waste by local government in illegally operated landfill sites masks the benefits of the partnership in terms of effective waste collection and transportation.

This section of chapter six attempts to provide solutions for the waste management concerns in Marikana in line with the tri-sector partnership approach implemented in the Moses Kotane district and to recommend strategies to solve the concerns plaguing the Moses Kotane waste management tri-sector partnership, thereby increasing the success and sustainability of the proposed tri-sector partnership for waste management in Marikana.

Management of wastes through a tri-sector partnership approach

The proposed tri-sector partnership model for waste management in Marikana is to be based on the concept of local employment, skills development and enhanced literacy, these concepts proven successful and obtained by the Moses Kotane waste management partnership. Although on a holistic level, this will have little impact on the communities, selected individuals will benefit immensely in terms of employment and literacy and this in itself is a more desirable situation than current circumstances. The realisation of an effective waste collection, transportation and disposal system in Marikana will impact profoundly on compliance by government to legislation governing waste management, the South African Constitution, the Municipal Structures Act (Act 117 of 1998) and Municipal Systems Act (Act 32 of 2000) in terms of realising local economic development, poverty alleviation, environmental protection, the provision of municipal services and the promotion of a safe and healthy environment. In addition to the legislative responsibilities of government, the visions and policies of the Bojanala Platinum District and of the local governments will be realised, in terms of providing “accountable, efficient and transparent district governance that ensures cost effective, sustainable and high quality services to its community in an economically vibrant, clean, safe and healthy environment “(Jarrod Ball and Associates, 2004:12) and in terms of building capacity to utilise waste management as an employment creation opportunity (Bojanala Platinum District Municipality, 2001). These visions have been realised to a large degree by local government within Moses Kotane, aspiring Rustenburg Municipality to achieve these goals through partnership implementation.

Recycling and re-use of waste

Limited recycling or re-use of wastes takes place both within Marikana and Moses Kotane townships, an identified short coming of the operational tri-sector partnership with Moses Kotane. Recycling and re-use of wastes is imperative and offers significant advantageous in terms of cost recovery, employment opportunities, landfill space optimization and best environmental practice (Jarrod Ball and Associates,

2004). The billion dollar recycling industry in South Africa has provided an estimated forty thousand South Africans with employment on both a formal and informal level (Jarrod Ball and Associates, 2004). To date one of the most impressive job creation initiative through recycling is collect-a-can, boasting on their tenth anniversary that thirty seven thousand people have earned or supplemented their income by collecting cans and being paid by a buy back system (Jarrod Ball and Associates, 2004). These facts provide evidence of the importance of recycling as job creation, not only in the formal sectors but also in the informal sectors. Should recycling be implemented at landfill sites, waste for disposal is expected to decrease by five percent²⁷, this estimated at industry norm for recycling practices and should recycling be initiated at source or prior to entering the waste disposal sites, this quantity of waste could be further reduced. Waste reduction prior to final disposal has positive time and cost implications. In line with these facts, it is recommended that recycling initiatives and awareness campaigns be launched in Moses Kotane townships and within Marikana through the tri-sector partnership, prompting recycling at source and that controlled and managed recycling is undertaken with immediate effect at all landfill sites. The approach to recycling is that revenue generated through recycling be retained by the recycler, thus providing incentives to maximise recycling of all waste types. Enterprising opportunities are also present in using waste products to make saleable items, including curios and decorative items.

Transportation and disposal of wastes

The collection and transportation of waste in high tonnage designed waste trucks enhances the efficiency of waste management as highlighted in the Moses Kotane scenario. It is proposed that similar types of equipment specialised for high quantity waste removal are utilised in the Marikana waste management programme, thereby optimising time spent on waste management and increasing practicality of waste collection and transportation. Due to the nature of the ownership of the waste equipment by the sub contractors and guidance provided by the business sector, the likelihood of effective maintenance of the vehicles and other equipment is expected to increase due to associated incentives and ownership.

²⁷ Personal communication with Mr Tinus Roedolf, Facilities Manager of Mellenium Waste Pty Ltd, June 2005

The illegal disposal of wastes at landfill sites is a significant concern both within the townships of Moses Kotane and Marikana. Waste disposal is characterised by sub standard management of landfill sites and illegal waste disposal practices. Disposal of wastes at landfill sites within Moses Kotane has been excluded from the tri-sector partnership, predominantly due to financial incapacities of local government. Local government has failed to manage waste as a holistic entity, which includes final waste disposal. In order to address these concerns by including the management of landfilling in the scope of the tri-sector partnership, financial assistance needs to be obtained from either provincial or national government, through national or international donor agencies or from communities receiving the waste service. In terms of waste disposal at Marikana, one of the contributions by Lonmin Platinum to the proposed tri-sector partnership is the use of the landfilling facilities at Lonmin Platinum to ensure legal disposal of waste, thus endorsing compliance to the Environment Conservation Act, Act 73 of 1989 and implementation of best environmental practice.

Awareness and involvement of community members

Awareness and the involvement of community members in any waste management practices in Marikana are modest (Tedcor, 2005). By implementing a tri-sector partnership in Marikana for the provision of a waste management service as described in this chapter, community members who are currently affected by inadequate waste management will be employed and responsible to ensure that waste management is effective in terms of collection, transportation, recycling and disposal. There is no more direct involvement by the communities in waste management, than what is offered by these tri-sector partnership arrangements. Such direct participation and community involvement is evident in the Moses Kotane partnership, which demonstrates the immense success and benefits associated with utilising local community members for service provision due to strengthened accountability and a sense of ownership. However the success of waste management within a community is not only dependant on the inclusion of community members in the delivery of the service but is proportionate to participation and buy in of all sectors of society.

To enhance the involvement and enthusiasm of communities towards not only waste management but to the partnership arrangements within the townships of Marikana and Moses Kotane and to enhance the sustainability of the partnership and associated enterprises, participation is to be sourced from and committed to by all sectors of society. Often viewed as the most vital audience of participation are the school attendees, due to inherent vitality and eagerness. In the case of Marikana, it

is proposed that local primary and secondary schools, namely Marikana High, Thusanang Preprimary, Retief Primary and Marikana Primary²⁸ and particularly the environmental clubs within these schools are included in waste management through campaign launching regarding waste management awareness, recycling initiatives, clean up operations and reinforcing of legislation. In the Moses Kotane district the same approaches and initiatives to enhance involvement of local schools should be applied. By undertaking these initiatives, young community members are exposed to, made aware of and form an integral part of the solutions to environmental challenges at an early age, enhancing ownership and accountability to environmental and socio-economic concerns. Existing community forums and communication networks in addition to the utilisation of the loud speakers erected on the truck roofs should be utilised in both districts to make communities aware of waste management, the concerns plaguing the service and the responsibilities associated with this waste management. On-going awareness campaigns are to be launched, predominantly driven by local government and community members, this is important to enable the partnership to be successful and sustainable in the uneducated and poverty stricken communities of Marikana and the Moses Kotane townships.

Illegal waste disposal practices

The social behavioural problem of illegal waste disposal practices originates from the lack of sense of ownership of community members, the belief that waste management is somebody else's responsibility and the circumstance that the area is already characterised by evidence of illegal waste disposal practices (Marais *et al*, date unknown). The heart of the proposed tri-sector partnership model within Moses Kotane is the inclusion and utilisation of resident community members in waste management, encompassing the management of illegal waste disposal, ranging from the awareness of such practices, the reporting of incidents to the cleaning up of these areas. It can thus be expected that illegal waste disposal would decrease due to the involvement and participation of communities, which ultimately lends itself to accountability and responsibility towards aspects influencing their livelihoods. This assumption has proven correct within the waste management strategy of Moses Kotane, with claims that illegal waste disposal has decreased since partnership initiation in 2003. In terms of the proposed partnership for Marikana waste management, the management of illegal waste disposal and littering will form an integral component of the service provided and is not viewed as a separate entity, as in the case of the scope of waste management within Moses Kotane. A recommendation in terms of this waste management strategy is that prior to the

²⁸ Personal communication with the Lonmin Development Trust representative, Ms Chrissi Smith, July 2005

commencement of weekly waste collections from households, an initial clean up campaign be launched to address the large amounts of current illegal waste masses and to act as an awareness drive. The implementation of systems whereby individuals are reprimanded for illegal waste disposal practices is recommended to be introduced once initial clean up has taken place and weekly services have been implemented at all households.

Sustainability and independence of enterprises

To date, there is little evidence in the case of tri-sector partnership arrangements for waste management service provision in South Africa, of absolute enterprise independence after a post contractual period of five years (Tedcor, 2005). In existing case studies, operational independency realisations are good, whilst independency in terms of financial management, predominantly in terms of financial responsibility has proven challenging, evident in the large number of case studies extending their contractual agreements with corporations, driven by the need for effective financial management²⁹. This is a concern in terms of sustainability and independence and contrary to the vision of the business enterprises and partnerships. Intensive training and awareness, particularly practical experience regarding financial management is critical, recommending that the sub contractors of the proposed Marikana partnership and those of Moses Kotane partnerships be exposed to intense financial management in any way possible, with guidance and supervision provided by knowledgeable and capable partnership sectors. If so required in these partnerships, it is advised should financial management of the enterprises be sub standard, for the sub contractors to extend or enter into contractual agreements with the private sector to undertake continuous financial auditing, monitoring and assistance to ensure the sustainability of the enterprises until such a time that the sub contractors are comprehensively capable of effective and stringent financial management.

In the proposed partnership arrangement for Marikana waste management, the inclusion of the partnership as a subsidiary to an independent company will also assist in decreasing enterprise dependency on Lonmin Platinum. An independent company in the Marikana waste management model will also ensure against risks often associated with tri-sector partnerships of the disinclination of corporations or representatives of corporations to release ownership of the outcomes of partnerships due to the large advantages associated with these partnerships in the favour of the corporation (Nigam, 1999) – this model will hence increase the potential for the

²⁹ Personal communication with Roelof van Rooyen, Human Resources Development Manager of Tedcor Pty Ltd, June 2005

optimal efficiency of this partnership. This arrangement of an independent trust or corporation will also decrease the dangers of increasing community expectations and demands on the company and risks of increasing the dependency of the local community on the corporation for the provision of infrastructure and basic services (Nigam, 1999).

Financial resources

The shortage of financial resources for service delivery is perceived as one of the largest and most complex challenges facing the South African government today, with the origin deeply rooted within the defiant years of the apartheid society. The absence of payment or the shortage of financial resources is the greatest risk to the Moses Kotane waste management programme and the largest trial to face the implementation and sustainability of the proposed Marikana waste management partnership. The sustainable solution in the light of this dissertation is to identify means to ensure that South African citizens pay rates and taxes willingly in the face of effective service delivery, this challenging in societies fraught by poverty and a history of non-payment. The means to enable this lies with greater socio-economic upliftment and awareness. In the experience and opinion of Tedcor, it is emphasized that payment for services delivered increases in situations whereby local people are involved in service delivery, although Moses Kotane local government to date have denied any evidence in favour of increasing payment rates, this situation still undoubtedly lends more favorably to co-operation by communities in terms of payment.

A possible technique for recovering financial resources for waste management includes the 'loading' of electricity and water rates to incorporate finance for waste management, this is possible due to the low costs of waste management in comparison with electricity and water taxes. Increasingly common in the United States of America, is the concept of unit pricing or pay-as-you-throw programs, an innovative approach to encourage significant waste reduction and with management of waste by individual households, to potentially significantly lower costs of waste management (Marinda *et al*, 1997). Marinda *et al* (1997) highlights the results of these initiatives indicating decreases in annual residential waste landfilled after implementation of unit pricing and increasing recycling as households increase diversion behaviours. Source reduction behaviour became evident after several years of experience with unit pricing. Marinda *et al* (1997) express concerns

regarding undesirable diversion which do not appear to be well founded, although it is of the opinion in this dissertation that with current socio-economic conditions, undesirable diversion may become inevitable.

Involvement and participation by local government

As highlighted in chapter four, there are known risks and constraints impacting on the success of tri-sector partnerships in terms of government accountability and business sector involvement. Firstly in terms of utilising business to enable environmental protection which, according to many critics, merely enhances the causes of environmental degradation or weakens environmental regulation (Gouldson *et al*, 1998; Singleton, 2000), secondly by contributing to the reshaping of environmental discourses towards business objectives, and hence influencing the nature of environmental problems (Hajer, 1995) and thirdly by using public-private partnerships as a functional means of implementing policy, resulting in the decrease of accountability of local governments (Rhodes, 1996; Skelcher *et al.*, 2003). Lastly critics warn about the implementation of partnerships without effective participation and governance, as this may result in a policy that is not pro-poor (Forsyth, 2004). To counteract these threats, momentous and on-going visual participation and contribution by local government is imperative in all aspects of the waste management business, ranging from co-ordinating and chairing the initial workshops to establishing the waste management to on-going management meetings, awareness campaigns and monitoring aspects of the process. It is vital that the presence of government in the act of service provision reinforces the legal responsibility held by the state. Although the participation of Moses Kotane local governments have progressed since tri-sector partnership implementation, the outcome of the partnership has indicated that less accomplishment was achieved in this aspect than all other aspects of the partnership. In the case of Marikana, little to no participation or involvement of local government is evident. In order to achieve increased participation by government tiers, increased capacity in terms of personnel, finance and time management needs to be implemented in state departments.

Monitoring of the partnership arrangement

Continuous monitoring and review of partnership management and the alignment with objectives comprises important aspects of partnership maintenance. It is proposed that monitoring entails on-going and frequent communication between all

three sectors of the partnership, perception surveys focusing on customer satisfaction and frequent strategic reviews by all partnerships in terms of assessing alignment with effective waste management and ultimately in terms of the objective of creating independent and self sustaining enterprises. A holistic approach to assessment enforces perspective on the partnership, identifying key strengths and potential threats, enabling realignment if required to ultimate partnership direction, perceptions, expectations and visions. Ongoing frequent assessments of partnership outcomes, provides time trend analyses which in turn allow for acute management and timeous identification of opportunities for improvement.

Generic service provision model

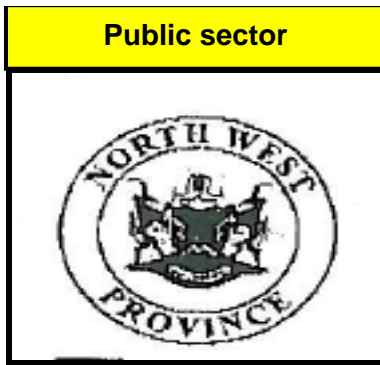
Within the scope of this dissertation, literature regarding service delivery in developing countries has been extensively reviewed particularly in terms of possible service provision models and typical socio-economic conditions and waste management strategies of townships in South Africa have been highlighted. A comprehensive analysis of the success of a case study where a public private partnership is being implemented has been undertaken and a critical review of shortcomings affecting the competency of local governments in South Africa has been provided. Finally, a large amount of knowledge has been obtained through interaction with representatives from the public sector, private sector and affected communities. This extensive knowledge and insight into service delivery in South Africa gained through the dissertation has cumulated into the formation of recommendations and key indicators for success. All these aspects have been formulated into a generic model for the provision of a waste management service through tri-sector partnership formation and enterprise development in developing countries (figure 6.2). This model is however not exclusive to waste management and may be extended to cater for the provision of other basic needs or services. This model based on the tri-sector partnership arrangement has the potential to not only positively impact on the crisis of poor service delivery in developing countries, predicaments of unemployment and skills development, lack of participation and ownership of communities, but also to impact positively towards inhibiting the degradation to water, soil and land resources and therefore minimise health impacts on resident communities.

Closing remarks

With very little improvement in service delivery since the inauguration of the ANC government in 1994 and with the presence of angry communities, increasingly marked by violent and emotive protests against futile attempts of service delivery, government, the private and the public sector require urgent solutions to hasten and enhance service delivery as a constitutional right to all South Africans. Diverse service delivery models have been investigated over the years, searching to provide

the most apt and feasible means for delivery. In recent years, immense benefit has been founded in the enhanced public participation and enrolment of local communities in the act of service provision - the spirit of the tri-sector partnership arrangements. An undoubtedly successful tri-sector partnership is the provision of a waste management service to all communities within Moses Kotane. Success has been realised not only in terms of service delivery to the communities but also in terms of socio-economic upliftment of previously disadvantaged South Africans. In light of this finding this dissertation concludes that the formation of a tri-sector partnership with the communities of Marikana is indeed, a feasible and recommended option to augment waste management practices and enhances socio-economic development in a township fraught by ineffective service provision, poverty, unemployment and environmental degradation. If the recommendations for improvement of the Moses Kotane tri-sector partnership, pertaining to decreased waste disposal, enhancement of employment opportunities and increasing sustainability and independence are incorporated into the model for waste management provision to Marikana communities, for many South Africans, the future will be brighter, hope will prevail and the constitutional rights of each and every South African has the potential to become a reality.

Figure 6.2: Generic model for service



- ❑ Lack of accountability
- ❑ Human resource limitations
- ❑ Poor skills development
- ❑ Financial limitations



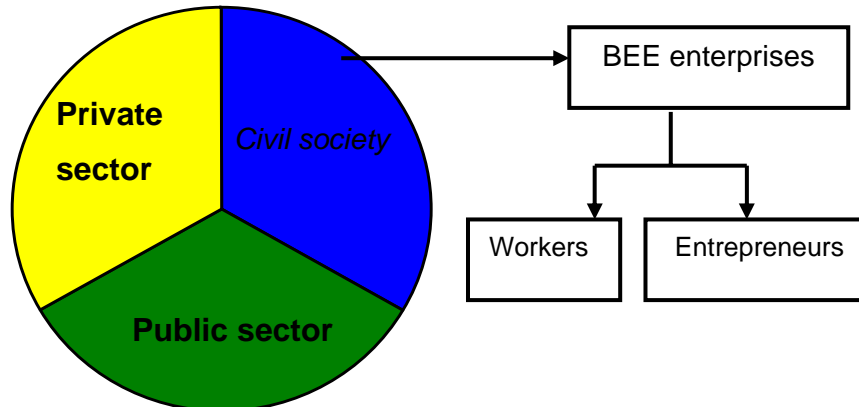
- ❑ Need for enhanced social responsibility
- ❑ Need for enhanced reputation
- ❑ Requirement for social license to operate
- ❑ Poor community and employee relations



- ❑ Lack of participation/responsibility
- ❑ Poor service delivery
- ❑ Poor skills development
- ❑ Poverty and unemployment

- Recommendations for success**
- ❑ Third party facilitation for partnership establishment.
 - ❑ Partnership establishment independent of private corporations.
 - ❑ Involvement of all key stakeholders within partners of tri-sector partnership.
 - ❑ Proceed with partnership building at a pace, which enables all partners to stay aligned with partnership implementation schedule.
 - ❑ Intensive monitoring and determination of partnership outcomes at strategic partnership milestones.
 - ❑ Should independent enterprises be developed, sustainability and independence of the enterprises should be assessed at strategic intervals.
 - ❑ Financial recovery schemes particularly in terms of service delivery rates and taxes to be established.

TRI-SECTOR PARTNERSHIPS



Final outcome
Independent local enterprises developed to deliver effective services on behalf of the public sector

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Appendix 4.1: Circumstances for corporations deemed most suitable for the establishment of tri-sector partnerships (Warner, 2000)

There are clear social or local environmental needs in society (e.g. poverty reduction, employment, basic infrastructure, health care) which coincide with aspects of the company's social and environmental management programmes, e.g. corporate sustainability policies; social impact mitigation requirements; social investment/community development projects.
The company is under pressure to deliver community and/or regional benefits that are more properly the responsibility of government.
The company is seeking to work in collaboration with local communities but lacks the 'softer' social skills needed to be effective.
The company is facing investment uncertainty (exploration, delays, suspension, down-sizing).
The company is under pressure from investors, regulators or corporate headquarters to demonstrate improvements in its social performance. (e.g. improve the 'business return' on what it spends on community development/social investment).

The company has core resources and competencies (heavy equipment, technical skills, project management tools etc) that would assist government authorities or civil society organisations in delivering community development.

As part of its core business activities, the company is providing employment opportunities or constructing physical infrastructure (water, electricity, health facilities, roads etc.) which would have a greater benefit for local society were government authorities or civil societies to be involved in their implementation and/or expansion/'rolling-out'.

Dialogue between the company and parties opposed to the project would benefit from consolidation in the form of more practical joint action.

The company wishes to minimize the risks of local hostility towards its operations and/or improve its local reputation.

Appendix 5.I: Checklists of impact indicators

Indicators for measuring the business outcomes of tri-sector partnerships (Mitchell et al, 2001)

Categories	Subcategories	Indicators of partnership outcomes for the business sector
Project/Operations Level		
Overall efficiency of production	General	<ul style="list-style-type: none"> <input type="checkbox"/> Scheduling targets/milestones met (or anticipated to be met) <input type="checkbox"/> Budget targets met (or anticipated to be met) <input type="checkbox"/> Quality and cost of suppliers, (e.g. maintenance services) <input type="checkbox"/> Management of political and social risks <input type="checkbox"/> Costs of security and criminal activity (e.g. reduced third-party deferment) <input type="checkbox"/> Costs of insurance <input type="checkbox"/> Accessibility of sites <input type="checkbox"/> Staff morale <input type="checkbox"/> Disaster management (pollution, natural disasters, violence) <input type="checkbox"/> Effectiveness of staff training <input type="checkbox"/> Quality of grievance mechanisms to contain social and political risks

	Exploration/Feasibility	<ul style="list-style-type: none"> ❑ Attainment of permits ❑ Speed and quality of procurement of human and physical resources ❑ Management of community expectations during periods of uncertainty and delay in investment decisions ❑ Dependency of community on company for social provision ❑ Foundations laid for long-term stakeholder engagement ❑ Impact on communities accurately identified and measured (e.g. scoping in EIA/SIA, impact prediction) ❑ Equitability and transparency in distribution of economic, social costs and benefits (i.e. 'packaging' of positive and negative social impacts)
	Construction	<ul style="list-style-type: none"> ❑ Sensitivity of construction workers to cultural norms ❑ Levels of employees sourced locally
	Operations	<ul style="list-style-type: none"> ❑ Production targets met or exceeded, e.g. reduced 3rd party deferment (impact of social unrest/tensions on production) ❑ Distribution of social benefits beyond project 'footprint' (i.e. beyond project affected people) ❑ Availability of partners to sustain social investment activities when projects experience delays, temporary 'down-sizing' or suspended operations due to market pressures;
	Closure	<ul style="list-style-type: none"> ❑ Community dependency on company for public service provision, economic opportunities and environmental management after closure ❑ Risk to global corporate reputation of economic (and political) vacuum following closure

Effectiveness of social investment	General	<ul style="list-style-type: none"> ❑ Cultural sensitivity of social investment programmes ❑ Effective and early resolution of disputes with communities ❑ Consistency and frequency of ‘messages’ to communities that help to manage expectations ❑ Durability (shock-resistance) of ‘social license to operate’
	Employment	<ul style="list-style-type: none"> ❑ Local sourcing/procurement of labour, products and services ❑ Opportunities for the most affected households to gain long-term employment with project ❑ Level of skills and/or transferability of skills of local employees ❑ Integration of project skills with skills needed for social or economic programmes of government and donors

	Impact Mitigation	<ul style="list-style-type: none"> ❑ Accuracy of scoping and impact predication ❑ Relevance of impact mitigation studies to household livelihoods ❑ Transferability of relationships built during consultation for ESIA's into long-term stakeholder relationships ❑ Quality and sustainability of social impact mitigation (e.g. trust built; expectations managed; responsive and meaningful consultation; on-going and culturally relevant communications established and maintained; participation of affected parties in scoping, design, implementation and maintenance of impact mitigation measures; grievances resolved; organizational capacity of local institutions adequate to sustain mitigation. ❑ 'Time-to-benefit' of interventions for affected households ❑ Effectiveness of social impact mitigation (including resettlement and management of inward migration) through alignment/integration with government, NGO and donor programmes and institutional structures, e.g. linking income restoration to government training programme, or NGOs advising on 'best practice' in micro-finance
	Community Development (ie beyond direct social impact mitigation)	<ul style="list-style-type: none"> ❑ Quality and sustainability of community development programmes (e.g. trust built; expectations managed; responsive and meaningful consultation established; on-going and culturally relevant communications established; participation of affected parties in scoping, design, implementation and maintenance of development projects; grievances resolved; organisational capacity of local institutions adequate to sustain projects).
		<ul style="list-style-type: none"> ❑ Cost burden of social programmes ❑ Risk burden of social programmes

		<ul style="list-style-type: none"> ❑ Rate of return on social investment (e.g. faster ‘time-to-sustainability’, or more cost-effective projects) ❑ ‘Shock-resistance’ of community development projects (e.g. to natural disasters or economic events) ❑ Medium- to long-term community dependency (on company) ❑ Efficiency (e.g. less replication and less gaps) in the roles and responsibilities of company, government agencies and civil society organisations in relation to public service provision ❑ Efficiency in apportioning of costs (human and capital) for public service provision between company, government and civil society ❑ Geographic and population ‘reach’ of company’s community development programmes, e.g. through alignment with government and donor programmes ❑ Impact of existing government, NGO or donors’ community development programmes coincident to project area, e.g. increased participation of communities in government local health programmes
	Development	<ul style="list-style-type: none"> ❑ Transparency in tax and royalty revenue flows ❑ Visibility of company’s contributions to the creation of long-term, sustainable, non-extractive industry dependent economic opportunities in region of operations ❑ Leverage of all oil and mining companies operating in the same region (or country) in relation to tax revenues and contributions to regional development

<p>Compliance (legal, contractual and policy requirements for social performance)</p>	<ul style="list-style-type: none"> ❑ Cost of meeting various legal, contractual and policy compliances minimised ❑ Compliance with regulatory authorities' and investors' social requirements ❑ Informed environmental and social impact assessments ❑ Informed on-going political and social risk assessment ❑ Evidence of compliance with corporate policies on community participation and external stakeholder relations ❑ Capability of senior staff to meet social investment targets embodied in 'performance contracts', 'score cards' etc ❑ Compliance with social reporting requirements.
<p>Enhancing local reputation and competitiveness</p>	<ul style="list-style-type: none"> ❑ Transferability of license and permits (i.e. absence of social tensions) ❑ Visibility and equity of regional benefits from tax and royalty revenue streams ❑ Competitive advantage in bidding for concession tenders (i.e. absence of social tensions) ❑ Meeting corporate (Group level) criteria for internal investment i.e. the 'right to growth' ❑ Co-ordination between social/community and public affairs units within company in terms of utilising stakeholder relations

Corporate (Group) Level	
Increased Shareholder Value	<ul style="list-style-type: none"> ❑ Informed country/regional risk assessment, e.g. scenario planning ❑ Demonstrable capability of portfolio of business units/operations to manage social impacts and risks, and communication of this competitive edge to financial analysts ❑ Risks of public exposure on sensitive social issues (human rights, labour conditions, indigenous peoples, biodiversity, bribery, corruption) ❑ Public credibility of social reporting and audits ❑ Risks to marketing, sales and share price associated with perceived poor management of social impacts ❑ Global competitive advantage from showing leadership in management of social issues ❑ Cross-operational learning (e.g. partnership structure and processes providing replicable 'models' for good practice).
Marketing and Sales	<ul style="list-style-type: none"> ❑ Success stories of partnerships upon which to draw for advertising and marketing strategies ❑ Sponsorship alliances with international NGOs
Staff recruitment and retention	<ul style="list-style-type: none"> ❑ Attractiveness to graduates ❑ Moral of existing staff

Indicators for measuring the community developmental impact of tri-Sector partnerships (Mitchell *et al*, 2001)

Categories	Subcategories	Community development indicators
Environment (where households exist)	Natural Resources	<ul style="list-style-type: none"> <input type="checkbox"/> Community level assets, forest and non-forest products, aquatic resources etc <input type="checkbox"/> Use made of the commons: grazing, fuel <input type="checkbox"/> Tree ownership <input type="checkbox"/> Availability of land
	Infrastructure	<ul style="list-style-type: none"> <input type="checkbox"/> Adequacy of transportation (access/seasonal reliability/sustainability) <input type="checkbox"/> Adequacy of water supply and sanitation <input type="checkbox"/> Adequacy of electricity supplies <input type="checkbox"/> Adequacy of telecommunications
	Economy	<ul style="list-style-type: none"> <input type="checkbox"/> Sustainability of income sources <input type="checkbox"/> Access to markets and employment <input type="checkbox"/> Division between on-farm and off-farm activities <input type="checkbox"/> Reliability and affordability of agricultural inputs (e.g. fertilisers) and infrastructure (e.g. irrigation)
	Culture	<ul style="list-style-type: none"> <input type="checkbox"/> Ethnic/cultural groupings <input type="checkbox"/> Propensity to social vices: drunkenness, witchcraft, violence
	Social Differentiation	<ul style="list-style-type: none"> <input type="checkbox"/> Participation in community decision-making <input type="checkbox"/> Wealth ranking <input type="checkbox"/> Vulnerability to conflict

	Institutions	<input type="checkbox"/> Effectiveness of community administrative structures <input type="checkbox"/> Evidence of community institutions taking initiative for development <input type="checkbox"/> Evidence of community institutions able to ‘tap into the organs of the state’
	Political Environment	<input type="checkbox"/> Intra-community disputes <input type="checkbox"/> Efficiency of community decision-making
Household Livelihoods	Nutritional Security	<input type="checkbox"/> Weight-for-age <input type="checkbox"/> Height-for-age <input type="checkbox"/> Type of mother and infant/child feeding practices
	Food Security	<input type="checkbox"/> Percentage of population consuming minimum standards of required nutritional intake <input type="checkbox"/> Number of meals consumed per days <input type="checkbox"/> Percentage of safety-net funded from domestic sources
	Health Security	<input type="checkbox"/> Recent illness patterns <input type="checkbox"/> Health service utilisation (distance/time/affordability) <input type="checkbox"/> Obstetric care services utilisation <input type="checkbox"/> Utilisation rate of pre-natal services <input type="checkbox"/> Average personal water consumption/use <input type="checkbox"/> Access to affordable potable water <input type="checkbox"/> Access to affordable sanitation facilities

	Economic Security	<ul style="list-style-type: none"> <input type="checkbox"/> Value of household productive assets <input type="checkbox"/> Value of household liquid assets <input type="checkbox"/> Business management skills <input type="checkbox"/> Applicability of vocational/technical skills to available employment opportunities <input type="checkbox"/> Household income earned by women <input type="checkbox"/> Percentage of small loans given to women <input type="checkbox"/> Production levels, crops, livestock <input type="checkbox"/> Dependency on 'middle men'
	Educational Security	<ul style="list-style-type: none"> <input type="checkbox"/> Primary school enrolment <input type="checkbox"/> Educational achievement of young adolescents <input type="checkbox"/> Adult literacy <input type="checkbox"/> Quality of educational services
	Environmental Security	<ul style="list-style-type: none"> <input type="checkbox"/> Access to quality land <input type="checkbox"/> Soil and biodiversity conservation practices <input type="checkbox"/> Access to and management of livelihood critical renewable natural resources <input type="checkbox"/> Rate of local deforestation
	Habitat Security	<ul style="list-style-type: none"> <input type="checkbox"/> Percentage of families with adequate housing <input type="checkbox"/> Percentage of families with adequate waste disposal <input type="checkbox"/> Crime rates

	<p>Social Network Security</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Level of active household participation in community organisations <input type="checkbox"/> Level of democratisation of community organisations <input type="checkbox"/> Mutual support of kin and friends in neighbourhood/community <input type="checkbox"/> Access to organisations/services that offer any type of social services <input type="checkbox"/> Community influence on local or regional government social programmes <input type="checkbox"/> Participation of local people in the management of “common goods”
	<p>Personal Empowerment</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Life skills enhancement (financial management, negotiating skills, time management) <input type="checkbox"/> Capability skills (interpersonal, systemic and judgmental skills)

Indicators for measuring the impact of tri-sector partnerships on public sector governance (Mitchell et al, 2001)

Categories	Subcategories	Indicators of partnership impact/outcomes on good governance
<p>‘Visibility’ of Public Office in Discharging its Civic Duties for Social Development</p>	<p>Effectiveness of social programmes</p>	<ul style="list-style-type: none"> ❑ Timely implementation of stated development policies, plans and programmes ❑ Reach of government programmes (total populations and particular groups) ❑ Long-term sustainability of government social programmes ❑ Leverage of additional resources from non-government sectors ❑ Linkage between donor-supported Poverty Reduction Strategies Papers and the social programmes actually implemented ❑ Degree of interaction/negotiation between communities and local government service providers ❑ Accessibility by the ‘poor’ to government services, e.g. health care, primary education, public radio, telecommunications, water supply, transportation
	<p>Transparency and Accountability</p>	<ul style="list-style-type: none"> ❑ Government participation/monitoring of community land and asset compensation evaluations (e.g. resettlement, Health and Safety breaches) ❑ Civil society participation in the design of government’s social and poverty reduction programmes, including Local Development Plans (e.g. evidence of government responsiveness) ❑ Physical presence of government extension staff in areas of poverty ❑ Linkage between political mandates (secured during free and fair elections) and delivery of social programmes

		<ul style="list-style-type: none"> ❑ Evidence that resource rents from extractive industry are reaching both (a) project-affected people, and (b) populations in wider region of operation ❑ Published figures on relationship between resource rents and public spending ❑ Civil society informed of changes in rules and policies governing access to social programmes ❑ Business provided with platform to express views over changes in laws or policies
Capacity of Public Office to Manage Resources	Effectiveness Resource Management	<ul style="list-style-type: none"> ❑ Capacity of regional and local government to manage large scale injections of capital from resource redistribution ❑ Bureaucratic delays to resource rent redistribution, e.g. staff management time with bureaucrats ❑ Extent of corruption, in particular extortion for contracts or the release of disbursements ❑ Loss of government civil servant capacity to extractive industries ❑ Turnover of government staff that lowers the quality of the government's personnel ❑ Incentives (political, reputational, staff promotion, financial, etc) to ensure resource rents reach affected communities ❑ Civil service free from political influences
	Effectiveness of Regulations	<ul style="list-style-type: none"> ❑ Evidence of regulators embracing 'development additionality' in concession tendering ❑ Government-related transaction costs of setting up new businesses ❑ Effective and fair regulatory framework for resource rent redistribution
		<ul style="list-style-type: none"> ❑ Efficiency of customs

		<ul style="list-style-type: none"> ❑ Implementation of tariff and non-tariff trade regulations ❑ Degree of burden on business of social and environmental regulations ❑ Effect of de-regulation policies ❑ Effects of government wage/price controls ❑ Government intervention in capital flows ❑ Government intervention in the banking system ❑ Effect of regulation/restrictions on business/equity ownership by non-residents ❑ Effect of foreign currency regulations on business development ❑ Effect of tax system on willingness of extractive industry corporations to partner with government on public service provision
<p>Effectiveness of Laws and Institutions Designed to Protect the Public Interest</p>	Rule of Law	<ul style="list-style-type: none"> ❑ Frequency and cost of crime ❑ Frequency of kidnapping (e.g. foreigners) ❑ Willingness to enforce private and public contracts ❑ Levels of corruption in the banking system ❑ Extent of 'black' market ❑ Enforcement of property and infrastructure rights (including access to 'common' resources) ❑ Predictability of judiciary, local courts ❑ Government support for 'customary' dispute and punishment systems ❑ Protection of intellectual property rights
	Assurance of	<ul style="list-style-type: none"> ❑ Fair and free elections

	<p>Political Stability</p>	<ul style="list-style-type: none"> ❑ Orderly change in government following national elections ❑ Legal system transparent, accessible and perceived as fair ❑ Civil liberties enhanced: freedom of speech, assembly and demonstration ❑ Extent of press freedom ❑ Extent of local demonstrations, road blocks, violence, riots, insurgency/rebellion, military coup, political terrorism, political assassination, civil war ❑ Evidence of reductions in ethnic tensions/divisions ❑ Presence of local government representatives as arbitrators of intra-community disputes ❑ Risk of unconstitutional government changes
	<p>Levels of Corruption</p>	<ul style="list-style-type: none"> ❑ Effectiveness of anti-corruption initiatives in government ❑ Corruption in the political system as a “threat to foreign investment” ❑ Frequency of ‘additional payments’ to ‘get things done’ ❑ Irregular, additional payments connected with import and export permits, business licences, exchange controls, tax assessments, police protection, loans applications, etc

Appendix 5.2: Questionnaires**QUESTIONNAIRE TO ENTREPRENEURS****MOSES KOTANE MUNICIPAL DISTRICT: WASTE MANAGEMENT**

Natalie Wilson, under the auspices of the Department of Geography of the University of Pretoria is currently conducting a survey to investigate the entrepreneur's perceptions on the joint venture on waste management in the Moses Kotane Municipal District. We would appreciate your time for the completion of this questionnaire. The success of the interpretation of the outcome of the partnership depends on your co-operation. All information supplied by you in this questionnaire will be treated with confidentiality. Your identity will not be made public.

1 Will you be prepared to answer a few questions about your views and experiences?

Yes

No

General information

2 Are you male or female?

Male

Female

3 What is your age?

20-30

30-40

40-50

50-60

4 How many years have you lived in the area in which you provide a waste management service?

less than 5

5 to 10

10 to 15

more than 15

Partnership objectives

5 What do you think is the main goal of the partnership between Tedcor, Moses Kotane local council and yourselves? (Choose main one)

Waste management
Reputation of local government
Employment

6 Which one to you is more important in terms of your job?

Employment
Skills development

Employment and monthly income

7 Were you employed (have a job) in the year prior to Tedcor project?

Yes
No

8 If you answered yes to the above question, how much did you earn per month (after tax if applicable)?

R

9 How much do you currently earn?

R

10 How many workers do you have in your waste management business?

11 How much do each of your workers currently earn?

Communication

12 How often do you meet with local government representatives to discuss the waste management project?

Once monthly
Once every 3 months

	<table border="1"> <tr><td>Once every 6 months</td></tr> <tr><td>Once per year</td></tr> <tr><td>Less than once a year</td></tr> </table>	Once every 6 months	Once per year	Less than once a year		
Once every 6 months						
Once per year						
Less than once a year						
13 Is local government involved in waste management in any other way?	<table border="1"> <tr><td> </td></tr> </table>					
14 Do you use your loud speaker to communicate with community on waste management?	<table border="1"> <tr><td>Every day</td></tr> <tr><td>Once per week</td></tr> <tr><td>Once per month</td></tr> <tr><td>Once every 3 months</td></tr> <tr><td>Less than every 3 months</td></tr> </table>	Every day	Once per week	Once per month	Once every 3 months	Less than every 3 months
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Once every 3 months						
Less than every 3 months						
15 Do you use your loud speaker to communicate with community on issues other than waste management?	<table border="1"> <tr><td>Every day</td></tr> <tr><td>Once per week</td></tr> <tr><td>Once per month</td></tr> <tr><td>Once every 3 months</td></tr> <tr><td>Less than every 3 months</td></tr> </table>	Every day	Once per week	Once per month	Once every 3 months	Less than every 3 months
Every day						
Once per week						
Once per month						
Once every 3 months						
Less than every 3 months						
Waste management						
16 Do you feel the improvement in waste management has been?	<table border="1"> <tr><td>None</td></tr> <tr><td>Slight</td></tr> <tr><td>Moderate</td></tr> <tr><td>Large</td></tr> </table>	None	Slight	Moderate	Large	
None						
Slight						
Moderate						
Large						
17 Do you feel community members have become more responsible in terms of waste (i.e.: not littering or dumping)?	<table border="1"> <tr><td>Yes</td></tr> <tr><td>No</td></tr> </table>	Yes	No			
Yes						
No						

Community

18 Do you feel households are happy with the waste service given?

Not happy
Slightly happy
Happy
Very happy

19 Do you feel that the community is more aware of waste management since the project started in 2003

No
Slightly more aware
More aware
Very much more aware

20 Does the community notify you of any waste problems like dumpings, people not adhering to the process and how often?

No
Once a week
Once a month
Once every 3 months

Training and Development

21 What level of education do you have?

Primary school
Secondary school
Matric (std 10)
Tertiary

22 Please list current training if any that you are currently doing?

23 Do you feel the training that you are doing at Unisa is benefiting you?

Yes
No

Local government (Moses Kotane Municipality)

24 In your opinion has the overall reputation of local government improved through this business of waste management?

No
Slightly
Moderately
Largely

Problems/concerns being experienced and recommendations

25 Please specify below any concerns or problems you are currently experiencing in your waste management business and any recommendations you can make

26 Do you have any recommendations you would like to make in terms of the future of you business with Tedcor and local government

Your future

27 Do you feel positive about being employed after contract period with Tedcor?

No
Slightly positive
Positive
Very positive

28 Do you feel that possibly in 5 years time you could be self sustaining and run your own waste management business?

No
Slightly positive
Positive
Very positive

QUESTIONNAIRE TO WASTE MANAGEMENT TEAM

MOSES KOTANE MUNICIPAL DISTRICT: WASTE MANAGEMENT

Natalie Wilson, under the auspices of the Department of Geography of the University of Pretoria is currently conducting a survey to investigate the entrepreneur's perceptions on the joint venture on waste management in the Moses Kotane Municipal District. We would appreciate your time for the completion of this questionnaire. The success of the interpretation of the outcome of the partnership depends on your co-operation. All information supplied by you in this questionnaire will be treated with confidentiality. Your identity will not be made public.

1 Will you be prepared to answer a few questions about your views and experiences?

Yes
No

General information

2 Are you male or female?

Male
Female

3 What is your age?

20-30
30-40
40-50
50-60

4 How many years have you lived in the area in which you provide a waste management service?

less than 5
5 to 10
10 to 15
more than 15

Partnership objectives

5 What do you think is the main goal of the partnership between Tedcor, Moses Kotane local council and yourselves? (Choose main one)

Waste management
Reputation of local government
Employment

6 Which one to you is more important in terms of your job?

Employment
Skills development

Employment and monthly income

7 Were you employed (have a job) in the year prior to Tedcor project?

Yes
No

8 If you answered yes to the above question, how much did you earn per month (after tax if applicable)?

R

9 How much do you currently earn?

R

Communication

10 How often do you meet with local government representatives to discuss the waste management project?

Once monthly
Once every 3 months
Once every 6 months
Once per year
Less than once a

	year
11 Is local government involved in waste management in any other way?	

Waste management					
12 Do you feel the improvement in waste management has been?	<table border="1"> <tr><td>None</td></tr> <tr><td>Slight</td></tr> <tr><td>Moderate</td></tr> <tr><td>Large</td></tr> </table>	None	Slight	Moderate	Large
None					
Slight					
Moderate					
Large					
13 Do you feel community members have become more responsible in terms of waste (ie: not littering or dumping)?	<table border="1"> <tr><td>Yes</td></tr> <tr><td>No</td></tr> </table>	Yes	No		
Yes					
No					

Community					
14 Do you feel households are happy with the waste service given?	<table border="1"> <tr><td>Not happy</td></tr> <tr><td>Slightly happy</td></tr> <tr><td>Happy</td></tr> <tr><td>Very happy</td></tr> </table>	Not happy	Slightly happy	Happy	Very happy
Not happy					
Slightly happy					
Happy					
Very happy					
15 Do you feel that the community is more aware of waste management since the project started in 2003	<table border="1"> <tr><td>No</td></tr> <tr><td>Slightly more aware</td></tr> <tr><td>More aware</td></tr> <tr><td>Very much more aware</td></tr> </table>	No	Slightly more aware	More aware	Very much more aware
No					
Slightly more aware					
More aware					
Very much more aware					
16 Does the community notify you of any waste problems like dumpings, people not adhering to the process and how often?	<table border="1"> <tr><td>No</td></tr> </table>	No			
No					

Once a week
Once a month
Once every 3 months

Training and Development

17 What level of education do you have?

Primary school
Secondary school
Matric (std 10)
Tertiary

18 Please list current training if any that you are currently doing?

Local government (Moses Kotane Municipality)

19 In your opinion has the overall reputation of local government improved through this business of waste management?

No
Slightly
Moderately
Largely

Problems/concerns being experienced and recommendations

20 Please specify below any concerns or problems you are currently experiencing in your work of waste management and any recommendations you can make

21 Do you have any recommendations you would like to make in terms of the future with the entrepreneurs, Tedcor and local government

Your future

22 Do you feel positive about being employed in waste management?

No
Slightly positive
Positive
Very positive

Appendix 5.3: Community development, public sector governance and business impacts of the tri-sector waste management partnership, Moses Kotane (October 2003 – April 2005)

Community development impacts of the tri-sector waste management partnership, Moses Kotane

Benefits of partnerships	Indicator of benefit	Impact of partnership on indicator	Assumed most likely alternative strategy to partnership
Adequacy of waste management service	<p>Communities in project areas of Moses Kotane satisfied with service provision in waste management.</p> <p>Impact determined by waste records, perceptions regarding adequacy from community members, sub contractors and business workers.</p>	<p>All service points within project areas of Moses Kotane are serviced, thus rendering 100% of households serviced. Ward councillors confirm this with principle consultants on a monthly basis³⁰.</p> <p>According to questionnaires completed by sub contractors:</p> <ul style="list-style-type: none"> □ 100% of sub contractors perceive a 'large' improvement in waste management □ 67% of sub contractors believe community is 'very happy' with service provision and 33% perceive communities are 'happy' with service provision. <p>According to interviewed community members, communities generally expressed notions of immense satisfaction with waste management</p> <p>Due to the increase in efficiency of waste management, legal compliance in terms of environmental management has improved significantly. Associated</p>	<p>Continuation of contracting companies to limited extents, as was the situation prior to October 2003. Records indicate that 7.8% of households experienced waste management services.</p>

³⁰ Personal communication with Mr Roelof van Rooyen, Manager Human Resources Development of Tedcor Pty Ltd, June 2005

Benefits of partnerships	Indicator of benefit	Impact of partnership on indicator	Assumed most likely alternative strategy to partnership
		with this increase in compliance, is a decrease in environmental pollution and improvement in living conditions.	
Employment opportunities	<p>Enhanced employment realisations and increased potential for future employment opportunities.</p> <p>Enhanced employment opportunities determined through attribute employment realisation and potential opportunities determined by perceptions of sub contractors.</p>	<p>In terms of employment realisations (information obtained through questionnaire assessment):</p> <ul style="list-style-type: none"> ❑ 50% of sub contractors obtained employment through project implementation ❑ 100% of workers obtained employment through project implementation ❑ 100% of sub contractors felt positive in terms of future employment opportunities, particularly in terms of operating a self sustaining waste management business in the post contract period, although this cannot be guaranteed. 	Continuation of contracting prior to October 2003 would contribute very limited opportunities for local community employment as contractors made use of their own existing employees. Few personnel were employed due to the limited extent of the services.
Life skills enhancement	Enhancement of skills of the sub contractors	<p>The following accredited training at UNISA is undertaken by the sub contractors aiming at deeming self sufficient waste management businesses on completion:</p> <ul style="list-style-type: none"> ❑ Practical training on waste service provision ❑ Liaison skills for community participation 	Continuation of contracting companies prior to October 2003 would result in minimal life skills development or opportunity for development, restricted to practical experience on the act

³¹ Personal communication with Mr Roelof van Rooyen, Manager Human Resources Development of Tedcor Pty Ltd, June 2005

Benefits of partnerships	Indicator of benefit	Impact of partnership on indicator	Assumed most likely alternative strategy to partnership
		<ul style="list-style-type: none"> ❑ First aid training ❑ Business management ❑ Personnel and procurement management ❑ Administrative and financial management ❑ Marketing management. <p>83% of sub contractors enrolled at UNISA passed their first year of training focusing on business management with some sub contractors exceeding 80%³¹, thus proving that skills development has already taken place. In 2006, sub contractors to commence second year of training.</p> <p>100% of the sub contractors perceive that after the elapse of the contract in 2008, they will be capable of managing a self sustaining and independent waste management business</p> <p>Effective waste management services provided by the sub contractors indicate that waste provision skills have already been realised.</p>	<p>of waste management due to nature of contracting companies.</p>
Enhancement of communication	Enhanced communication between community	Communication to the community mainly takes place through councillors and through	Minimal communication regarding waste

Benefits of partnerships	Indicator of benefit	Impact of partnership on indicator	Assumed most likely alternative strategy to partnership
between service providers and community.	<p>members and sub contractors.</p> <p>Communication enhancement is determined through investigating means and effectiveness of communication as perceived by the community.</p>	<p>scheduled forums. Communication takes the form of awareness and training around waste management.</p> <p>In addition to formal forums, loud speakers are erected on each truck and are used by the sub contractors to communicate to the community as follows:</p> <ul style="list-style-type: none"> ❑ 50% of the sub contractors utilise their loud speakers every day for communication on waste management aspects. ❑ 33% of the sub contractors utilise their loud speakers once per month for communication on waste management aspects. ❑ 50% of the sub contractors utilise their loud speakers on a monthly basis for communication on issues other than waste management. ❑ 33% of the sub contractors utilise their loud speakers on a weekly basis for communication on issues other than waste management. ❑ All community members interviewed perceived an increase in communication on waste management aspects during the past two years. 	<p>management. Firstly due to the limited extent and nature of the service in the district and secondly, contracting companies were not associated with the community and thus no invested interest existed with regards to enhancing communication within community. No communication regarding issues other than waste management.</p>
Participation of	Enhanced	The nature of the project in terms of	Minimal participation

Benefits of partnerships	Indicator of benefit	Impact of partnership on indicator	Assumed most likely alternative strategy to partnership
local people in the management of 'common goods'.	community participation and increased level of ownership regarding waste management.	<p>utilising local community members for the provision of this service lends to enhanced participation and ownership by local people in terms of the management of waste. Evidence of this is illustrated by the following responses to questionnaires:</p> <ul style="list-style-type: none"> □ According to the sub contractors, 66% of the community are 'very much more aware' of waste management since the year 2003. □ According to the sub contractors, 33% of the time they are notified by the community of non-compliance to waste management procedures on a weekly basis, 33% of the time on a monthly basis and 33% of the time, the community does not notify the service providers. □ According to the sub contractors, 100% of the community has become more responsible in terms of waste management. □ Community members generally perceive that waste management practices are their responsibility. 	of community in management of waste, firstly due to limited extent of the service delivery in the district and secondly, due to the nature of contractors.

Business outcomes of the tri-sector waste management partnership, Moses Kotane

Benefits of partnerships	Indicator of benefit	Impact of partnership on indicator	Assumed most likely alternative strategy to partnership
Community (represented by sub contractors) dependency on principle consultants for public service provision, economic opportunities and environmental management after cease of five year contract	Significant evidence of potential for self sustainability of waste businesses	<p>100% of the sub contractors are 'very positive' regarding their future in waste management and believe that they would be capable of managing a self-sustaining waste management company after expiry of the five year contract.</p> <p>Although the realisation of this cannot be assessed due to infancy of the project, similar case studies in the waste management business³² indicate dependency on principle consultant after contract expiry after five years in terms of financial management. Case studies indicate that operational management of the businesses become independent of the management by principle consultants post five year contract.</p>	Dependency on principle consultants is not a possibility due to nature of the contractor operations.

³² and ¹⁴ Personal communication with Mr Clarence Hamman, Director of Tedcor Pty Ltd, April 2005

Benefits of partnerships	Indicator of benefit	Impact of partnership on indicator	Assumed most likely alternative strategy to partnership
Level of skills of sub contractors and/or transferability of skills from principle consultants to sub contractors	Effectiveness of waste and business management	<p>Waste services provided to community members is deemed satisfactory by interviewed community members, representatives of local government and by the principle consultants, this indicating that sub contractors are perceived as competent in terms of waste management and business management.</p> <p>Business management undertaken by sub contractors deemed 'good' by principle consultants. Principle consultants have indicated that the field of financial management in terms of responsibility presents the greatest concern to enterprise development and sustainability³⁴.</p>	Minimal skill transfer due to nature of contractor. Skill transfer predominantly experienced in terms of operational aspects due to job specific tasks undertaken by workers.

Public sector governance impact of the tri-sector waste management partnership, Moses Kotane

³⁴ Personal communication with Mr Roelof van Rooyen, Manager Human Resources Development of Tedcor Pty Ltd, June 2005

Benefits of partnerships	Indicator of benefit	Impact of partnership on indicator	Assumed most likely alternative strategy to partnership
Cost-effectiveness of public spending in waste management	Decreased cost to local government of the provision of a waste management service to stipulated areas within the Moses Kotane district.	The service of one service point (household) costs local government R14.66 per month, this cost inclusive of a holistic waste management service, which entails indiscriminate waste disposal and litter management. The majority of revenue obtained through this service provision by local community members is re-invested in the resident community.	The service of one service point (household) at a cost of R14.24 to government per month, which does not extensively include the disposal of litter or indiscriminately disposed waste. Revenue generated is not re-invested in resident communities.
Degree of interaction between sub contractors and local government.	Increased interaction between local government and sub contractors, thus contributing to enhanced accountability of and participation by local	Meetings are held with sub contractors and local government on a monthly basis although no contractual agreement binds any form of communication between the parties.	Minimal interaction on an ad hoc basis with contractor manager and local government.

Benefits of partnerships	Indicator of benefit	Impact of partnership on indicator	Assumed most likely alternative strategy to partnership
	government in waste management.		
Accessibility by the poor to services of waste management.	Improved waste management services based on statistical evidence.	All service points within areas of project implementation in Moses Kotane are serviced, both informal and formal residential areas, independent of status of payment of service rates.	Statistics in 2001 reflect 7.8% of households within Moses Kotane were serviced in terms of waste management (Statistics South Africa, 2001), with all serviced areas constituting formal residential areas characterised by higher income population groups.