URBAN GREENING IN SOUTH AFRICA

AN ANALYSIS OF PRESENT TRENDS AND RECOMMENDATIONS FOR THE FUTURE

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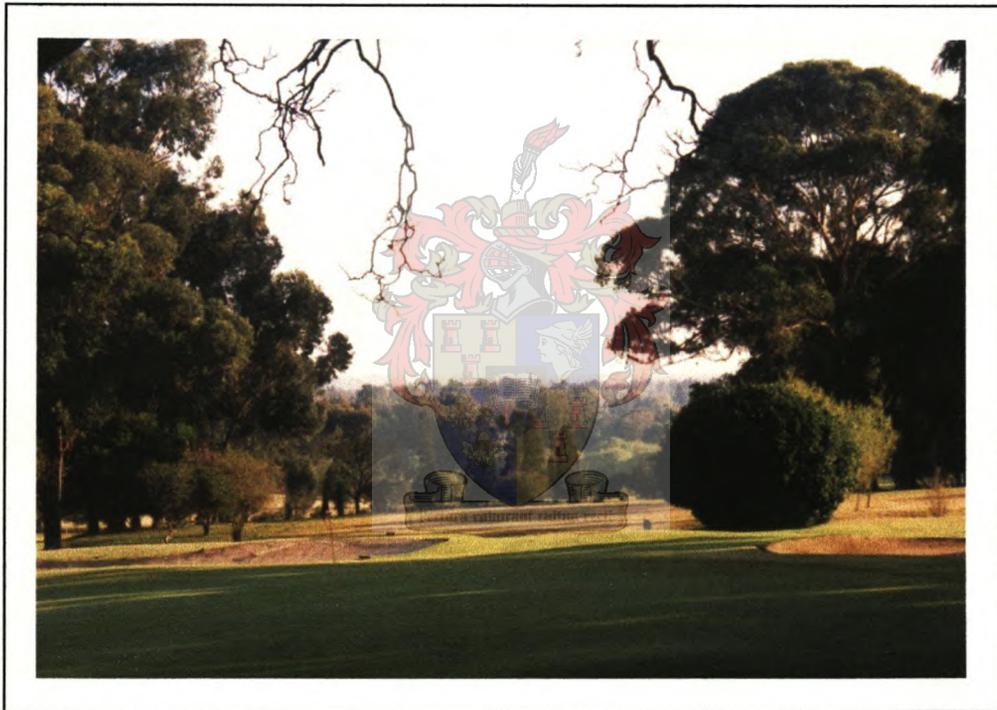
Declaration

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted it at any other university for a degree.

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Abstract

The abolishment of Apartheid and the transition to a democratic political dispensation has ushered in a new era for urban development in South Africa. This change implies a range of challenges for managing urban areas which also includes the urban environment. Urban environmental creation (defined as activity to green the urban environment) holds the potential to mitigate the consequences caused by Apartheid to South Africans and in addition, if planned properly and applied sensibly, can contribute significantly towards social and economic prosperity in this country.

Relatively few attempts to date have been made to research urban greening within the so-called new South African context. Currently a lack of vision exists regarding strategy development for future urban greening and dissension regarding the objectives of urban greening has been identified as a key problem area. This makes it particularly difficult to take decisions at project execution level. From the outset, the aims of this research were two-fold, namely to measure progress at project co-ordination level and further to conceptualise a theoretical framework for future decision making.

The literature review documents the agendas for urban greening, both past and present. An analysis of various urban planning and design strategies, together with South African central government policies which refer to urban environmental management, has shown that a paradigm shift is occurring within the urban greening discipline. This shift is characterised by a movement away from urban greening which focuses on secondary social needs of people, and a shift towards urban greening which is more sensitive to the primary social and economic needs of cities' inhabitants.

This research uses a case study approach to measure progress gained in urban greening practise and to determine the current state of affairs. A sample of projects for analysis was obtained from four organisations. Information gathered was then analysed in terms of selected characteristics. In addition, the execution processes (planning, implementation, construction and maintenance) of four urban greening development projects, which were selected randomly from the sample, are described.

The research is concluded with a synthesis of findings and recommendations into a conceptual framework for future decision making.

Key words: Urban environmental management, urban greening, urban greening development, paradigm shift, strategy, and future vision.

Abstrak

Die beëindiging van Apartheid en die oorgang na 'n demokratiese politieke bestel het 'n nuwe era vir stedelike ontwikkeling in Suid Afrika ingelui. Hierdie verandering hou 'n reeks nuwe uitdagings vir stedelike bestuur in, wat onder andere ook die bestuur van die stedelike omgewing insluit. Stedelike omgewingsskepping, wat gedefinieer kan word as aktiwiteit om die stedelike omgewing te vergroen, besit die potensiaal om skade wat Apartheid aan Suid Afrikaners berokken het te temper en kan voorts, indien dit deurdag beplan en aangewend word, bydra tot sosiale en ekonomiese welvaart in Suid Afrika.

Tot hede, is daar nog betreklik min navorsing oor stedelike vergroening binne die sogenaamde Nuwe Suid Afrika konteks onderneem. Daar bestaan tans groot leemtes aangaande die gedaante wat stedelike vergroening binne 'n post-Apartheid konteks behoort te verbeeld, weens twee-spalt wat heers met betrekking tot doelwitte. Gepaardgaande hiermee, bestaan daar ook geen aanvaarbare strategie vir die toekoms nie. Al hierdie probleme tesame bemoeilik sinvolle besluitneming op grondvlak. Hierdie navorsing stel dit dus breedweg as mikpunt om die konteks van stedelike vergroening in Suid-Afrika te bepaal, vordering wat sedert demokratisering in die veld bereik is te meet en verder om 'n raamwerk vir die toekoms daar te stel.

Die agendas vir stedelike vergroening (soos wat dit in die verlede was en hoe dit tans uitsien), word in die literatuuroorsig gepeil. 'n Ontleding van 'n verskeidenheid van stadsbeplannings en - ontwerp strategieë tesame met 'n ontleding van Suid Afrikaanse sentrale owerheidsbeleid wat betrekking het op stedelike omgewingsbestuur, bevestig meegaande 'n hipotese wat gestel is, naamlik dat 'n paradigma verskuiwing besig is om plaas te vind in die stedelike vergroenings veld. Hierdie paradigma verskuiwing word gekenmerk deur 'n beweging weg vanaf stedelike vergroening wat gefokus is op die sekondêre sosiale behoeftes van mense en 'n beweging na stedelike vergroening wat fokus op die primêre sosiale en ekonomiese behoeftes van stedelinge.

'n Navorsingsprojek is onderneem ten einde die huidige stand van geköördineerde stedelike vergroenings ontwikkeling, aldus stedelike vergroening wat spesifiek gemik is op die ontwikkeling van gemeenskappe wat deur die vorige politieke stelsel in Suid Afrika benadeel is, te meet. 'n Steekproef vir analise is verkry, deur 'n vraelys ondersoek te loods onder vier organisasies wat as gevallestudies deel neem. Stedelike vergroenings ontwikkelingsprojekte wat deur hierdie organisasies gelys is (die steekproef elemente) is dan aan die hand van geselekteerde

kenmerke en eienskappe vergelyk en ontleed. Gepaardgaande hiermee volg daar ook 'n prosesbeskrywing van vier stedelike vergroenings ontwikkelings projekte wat subjektief uit die vier gevallestudies geselekteer is. Die doel hiervan is om gedetailleerde insae te verskaf tot die wyse hoe stedelike vergroenings ontwikkelings projekte tans tot uitvoering gebring word.

Die navorsing word saamgevat deur 'n sintese van bevindings en aanbevelings in 'n teoretiese raamwerk vir toekomstige besluitneming.

Sleutelwoorde: Stedelike omgewingsbestuur, stedelike vergroening, paradigma verskuiwing, toekoms visie, strategie.

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AB: Abalimi Bezekhaya

CT: Cape Town Metropolitan Local Council

DC: District Council

DWAF: National Department of Water Affairs and Forestry

GGC: Greater Germiston Transitional Local Council

GP: Gauteng Province

LG: Local government

MLC: Metropolitan Local Council

NGO: Non-governmental organisation

RDP: Reconstruction and Development Programme

SMME: Small, Medium or Micro Enterprise

TFA: Trees for Africa

TLC: Transitional Local Council

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Glossary of Terminology and Meanings

In order to explain the meanings of a number of terms and concepts relevant to or used in this research, a glossary has been included. Whereas references are used to support a number of explanations, descriptions and definitions; some of the terms and concepts are described as perceived through the experience and reference framework of the researcher in the particular field and thus have a meaning created by the researcher.

African Renaissance: A culturally and racially inclusive vitalising, reinforcing and mobilising concept to encourage the empowerment of the entire African continent. The brainchild of Thabo Mbeki (President of the Republic of South Africa from 1999 to date) (Boloka, 1999; Buthelezi, 1998; Cleary, 1998; Venter, 1999).

Apartheid: For the greatest part of the twentieth century, the Republic of South Africa and its inhabitants have suffered under the Apartheid ideology. The Apartheid ideology has promoted geographic, institutional and social separation based on principles of racial segregation. During 1948, the ruling National Party transformed this ideology into official government policy. A major criticism of this policy is that it has favoured a small so-called white (Euro-african) minority with negative consequences to the development of the rest of the nation, the so-called non-white groups classified as blacks (Africans), browns (Coloureds) and indians (Asian-africans). Apartheid as an official government policy lasted until the late 1980s when the Group Areas Act (the cornerstone on which this policy was executed) was abolished (Gelderblom & Kok, 1994; White Paper on Local Government, 1998).

black urban areas: During Apartheid, urban areas reserved for those people classified as black/African. In the context of this research, urban areas where these people are still in the majority.

co-ordinated: The use of the word co-ordinated, together with the words urban greening, urban greening development or any of the demarcated categories that urban greening consists of (for example urban agriculture), in the context of this study means that the particular activity is

formally or informally controlled or managed directly or through intervention by either a governmental, semi-governmental or non-governmental organisation.

co-incidental: The use of the word co-incidental, together with the words urban greening or any of the categories that urban greening consists of, in the context of this thesis means that the particular activity takes place as a result of the initiative taken by an individual, groups of individuals or organised groups within a community without control, management or intervention by a governmental, semi-governmental or non-governmental organisation (Furedy, 1990).

coloured urban areas: During Apartheid, urban areas reserved for those people classified brown/Coloured. In the context of this research, urban areas where these people are still in the majority.

development: The use of the word development, together with the words urban greening or any of the categories that urban greening consists of (for example urban agriculture or urban forestry), indicates that the particular activity is aimed or focused at community development. In the context of this thesis it also includes greening activity in less affluent areas (usually residential areas where people previously classified as African, Coloured or Asian-african are in the majority/areas where the ravages of the Apartheid political ideology are significantly evident).

execution process: In the context of this study and in terms of an urban greening project, the evolutionary conditions (*exempli gratia* design and planning), implementation/construction, management/maintenance and evaluation.

GEAR: (Growth, Employment and Redistribution). The official macro-economic strategy for the Republic of South Africa since 1996 (Adelzadeh, 1996; Biggs, 1997; Khanye College, 1997).

general residential developments: In the context of this research as used in the survey questionnaire and in Chapters 4 & 5, urban areas with standard urban infrastructure and provision of municipal services. Houses are built with conventional materials and are of a permanent nature.

grey (mixed) urban areas: In the context of this research, generally urban areas which were reserved for those people classified as white/European/Euro-african during Apartheid and which have became mixed race areas after the Group Areas Act was abolished.

asian urban areas: During Apartheid, urban areas reserved for those people from Indian or Asian descent. In certain areas, no distinction was made between Coloured and Asian groups and residential and business areas were shared. In the context of this research, urban areas where these people are still in the majority.

informal settlements: In the context of this research as used in the survey questionnaire and in Chapters 4 & 5, urban areas (residential) which have developed as a result of the shortage of proper housing in South Africa. Whereas the vast majority of these types of residential developments were regarded as illegal in the past (through illegal land occupation or squatting), the current government has accepted this situation as a problem which needs to be addressed. Because of the manner in which these types of settlements have developed, normal urban infrastructure and services are absent. In isolated cases, only basic infrastructure exists. Dwellings are generally constructed with unconventional building materials (Gelderblom &Kok, 1994).

non-governmental organisation: A company incorporated under Section 21 of the Companies Act of 1973. In the context of this research, organisations such as Abalimi Bezekhaya and Trees for Africa which are co-providers to local government of co-ordinated urban greening service in South Africa.

paradigm: A coherent and mutually supporting pattern of concepts, values, methods and action, amenable or claiming to be amenable, to wide application (Chambers, 1997).

project versus programme: In a study conducted by Madams (1998), it was established that urban greening needs to be planned and implemented in an integrated manner. This research further found that, in order for urban greening to be successful, projects must form part of a coherent programme. For the purposes of this research, a programme implies a series of projects. This does not necessarily mean that urban greening cannot be successful as isolated lone-off interventions

RDP: (Reconstruction and Development Programme). An integrated, coherent policy framework developed by the African National Congress, which attempted to articulate the main aspirations of the liberation movement in South Africa, namely growth, development, redistribution and reconstruction. The RDP was not a macro-economic strategy (Adelzadeh, 1996; ANC, 1994).

social forestry/community forestry: Forestry where programmes focus on the role of forest-dependant communities in managing resources and in sharing the benefits that flow from these resources. Individual countries use terminology reflecting their own social and historical contexts. Other terms often used include: joint forest management, co-management forestry, rural development forestry, community-based forestry and forestry for sustainable rural development (Ford Foundation, 1998).

subsidised/low-cost residential areas: In the context of this research as used in the survey questionnaire and in Chapters 4 & 5, relatively poor areas where people are living in small dwellings built with conventional materials and which are of a permanent nature. Generally these areas have only basic urban infrastructure and services, or sometimes even less. Often, these communities have only recently gained access to this standard of living, as the current government has through a national housing programme availed millions of rands to subsidise this group of people.

township: That part of a South African town or city (during Apartheid) reserved for those classified as non-white (African, Coloured or Asian). Often referred to as locations. Where possible this part of the town was separated by means of a physical (such as a main road) or natural barrier (such as a river) from the rest of the town or city which was governed by the white local authority.

transitional councils: During the interim period (1994 to 2000) the following models of local government existed in South Africa, which apply to this research:

- Metropolitan Councils with Metropolitan Local Councils (MLCs) – a two-tier system was established in six areas of South Africa, of which four were in Gauteng Province (Greater Johannesburg Metropolitan Council, Vaal/Lekoa Metropolitan Council, Pretoria Metropolitan Council and Khayelami Metropolitan Council), one in the Western Cape Province (Cape Metropolitan) and one in the Kwa-Zulu/Natal (Durban Metropolitan). There

is variation in the size of the areas of jurisdiction of Metropolitan Councils and MLCs, and the number of MLCs within each metropolitan area. Mechanisms for intra-metropolitan redistribution have over the past five years not proved to be optimal.

- Transitional Local Councils (TLCs) – a model which was applied to most urban areas, ranging from major cities (of which some existed within metropolitan areas) to small rural towns, with diverse economic and social realities.

- District Councils (DCs) – a system built on the previously employed model used by the old Regional Services Councils. The roles of DCs varied considerably and they operated within diverse contexts. DCs were responsible for providing services to areas ranging from dense settlements (for example peri-urban areas on the East Rand, which are of metropolitan nature) to vast, sparsely populated areas (for example rural areas in the Northern Cape Province) (White Paper on Local Government, 1998).

(A new system of local government will take effect as from beginning 2001, whereby the majority of DCs will be phased out. Municipalities will take over these services and metropolitan areas [which currently consist of MLCs, TLCs and DCs] will be transformed into a limited number of so-called Megacities).

urban agriculture: A collective term for all types of agriculture (horticulture, agronomy, viticulture, stock-breeding etcetera) that are practised within an urban area and/or in the immediate surroundings of an urban area on private and/or public land. In addition, it also includes commercial and/or subsistence forms of agriculture.

urban beautification: A term which includes all types of urban greening activity aimed at improving the aesthetic quality and visual character of the urban area in order to create a pleasant living, working and relaxing environment.

urban environmental management: In the context of this research, consists of the two main divisions, urban environmental creation (urban greening) and urban environmental conservation (preservation of the natural environment in an urban or peri-urban area).

urban forestry: A term which includes the planting, care and management of trees within an urban area and/or in the immediate surroundings of an urban area on private and/or public land. Forestry may take place for commercial and/or social and/or environmental improvement and/or beautification purposes (National Forestry Action Plan, 1997).

urban greening: A collective term for all greening activity that takes place within an urban area and in the immediate surroundings of an urban area. It includes both co-ordinated and co-incidental forms of greening activity on public and private land. Consists mainly of the sub-groups or categories: urban beautification, urban outdoor recreation and sports facility provision, urban forestry, urban agriculture and supportive systems.

urban greening supportive systems: Projects or initiatives which support the urban greening industry and which assist in building awareness within communities of the environment and the benefits of urban greening. Nurseries, garden centres, community nurseries, environmental education and various others fall within this category.

urban outdoor sports and recreation facilities: A term which includes all types of urban greening activity which aims to provide the sports and recreation needs of an urban community. Under this category, one will inter alia find parks (of which the purpose is not only urban beautification), sports fields specifically for soccer, rugby, cricket and golf courses etcetera.

white urban areas: During Apartheid, urban areas reserved for those people classified as white/European/Euro-african. In the context of this research, urban areas (in particular residential) where the majority of inhabitants are still white/European/Euro-african.

SECTION I

CHAPTER 1
Introduction

1.1 BACKGROUND

The democratic elections of 1994 can, in more than one respect, be regarded as a significant turning point in South African history. This event heralded the beginning of a complicated, ongoing and incomplete process of transformation that was destined to affect almost every sphere of life in South Africa. Since then, the new democratically elected ANC-led government has recognised the importance of the urban environment. In addition, the government also recognised the potential of urban greening in mitigating the consequences of Apartheid and the role it can play in enhancing socio-economic development. Urban greening is for the purpose of this study defined as a collective term for all greening activity that occurs within and around the immediate environment of an urban area. Urban greening includes both co-ordinated and co-incidental greening activities on public and private land. It consists mainly of the sub-groups: urban agriculture, urban forestry, urban beautification, the development and physical management of urban outdoor sports and recreation facilities and urban greening supportive systems. Through its respective national departments, the South African government has accepted the challenge of improving and transforming the urban environment (Department of Agriculture, 1995; Department of Housing, 1994; Department of Land Affairs, 1997; Department of Water Affairs and Forestry, 1996).

Historically, co-ordinated urban greening was neglected in South Africa and only the larger and more affluent white local authorities participated with success before and during the Apartheid years. Co-ordinated urban greening is for the purpose of this study defined as urban greening that takes place in a formal or informal manner through co-ordination and/or control and/or intervention by a governmental and/or semi-governmental and/or non-governmental organisation. In a similar context, co-incidental urban greening involves urban greening that takes place through the initiatives by individuals and/or groups of individuals and/or organised groups within a community without co-ordination, control or intervention by a governmental, semi-governmental or non-governmental organisation. Co-ordinated urban greening was regarded as a discretionary service, rendered only by local authorities in the past and the field enjoyed limited statutory recognition and support over the years.

However, as the transformation process and integration of racially segregated urban areas gained momentum, urban greening as it was known and implemented in the past, has expanded. It now includes the participation of diverse role players and has extended its ambit to the least affluent. In addition, it unintentionally broadened its support base in terms of its execution (Van der Merwe, 1998).

1.2   PROBLEM STATEMENT

1.2.1   Lack of vision

The 21st century has dawned and despite the government's commitment to an improved urban environment and the endeavour to secure a better life for everybody, South Africa is still lacking proper vision for the strategic development of future urban greening (Madams, 1998).

Van der Merwe (1998) in a paper given at the International Conference on Productive Open Space Management held in Pretoria during March 1998, has identified a number of essential requirements for the process of developing a future strategy for urban greening in South Africa. These requirements included 1) a thorough understanding of the concept itself and related benefits 2) the need for a supportive policy framework 3) the need for institutional capacity building and 4) the establishment of enabling conditions.

However, the current lack of vision is understandable by taking into consideration that strategy development is reliant on conceptualising a theoretical framework to assist in process guidance. An additional aspect that complicates the problem, is that the said framework needs to be illustrative of beneficial factors. It should be adaptable to support the unique and ever changing composition (social, ethnic, economic and demographic) of the racially integrated South African town, city or metropolitan area.

Although a strategy cannot be born overnight, it is important to realise that quick intervention in terms of policy formulation is urgently needed to lead the process. Lengthy bureaucracy will have a significant influence on the results at grassroots level and may even jeopardise the entire outcome.

1.2.2   Disagreement regarding the objectives of urban greening

One of the greatest constraints on the current situation, which dominates and has an inhibiting influence on the development of a strategy for future urban greening, is the prevailing dissension regarding objectives. Whereas certain groups (mainly political) stress the importance of social and economic objectives of urban greening, others feel in turn that policy and strategy should be focused around overall and integrated environmental management objectives to address issues such as urban deterioration more effectively. These groups (the academics) seriously doubt whether urban greening can be used as a direct resource or instrument to mend wounds caused by Apartheid. This school of thought prefers therefore a holistic approach and believes that the satisfaction of basic needs, such as social upliftment and economic empowerment, will be realised as a secondary benefit or consequence of this approach (Madams, 1998).

1.2.3   General problems at execution level and the lack of information process

As explained in section 1.1, urban greening has extended itself in recent years and a variety of urban greening projects have been implemented in those areas where people classified as non-white under Apartheid are residing. Due to the lack of research, unclarity exists today with regard to the progress that has been made and the direction role players at these levels should follow when it comes to the planning, implementation and management of projects.

Until today, it would appear that no monitoring of urban greening activity whatsoever has taken place. It is unclear whether there exist any recorded facts about which types of programmes were implemented by which role players on which land and lastly which communities have benefited mostly from development initiatives. This lack of information has resulted in a situation where people find it increasingly difficult to plan appropriately for their local councils.

In this regard, there is *inter alia* a contradiction in terms of execution of co-ordinated initiatives, between whether similar rather than past approaches should be followed or alternative methods should be pursued. The argument is based on whether urban greening should be geared towards traditional goals such as aesthetic improvements to the urban environment, sport and recreation facility provision and street tree planting or whether it should be more functionally oriented with projects such as food gardens, and woodlot management for energy.

1.3 JUSTIFICATION AND AIMS

Thus far, relatively few attempts have been made to research urban greening within the new South African context[1]. The aims of this research will be two-fold; first to investigate and measure the progress that have been made at urban greening programme and project levels in the field of urban greening development since 1994 and second to conceptualise a theoretical framework for urban greening in the future South Africa. For the purpose of this research urban greening development is defined as urban greening where community development is the main objective and focus. Urban greening in this context will include greening activities in the less affluent areas (areas where the people previously classified as non-white are in the majority which are areas where the wounds of the Apartheid political ideology are significantly evident). A study of this nature will contribute towards the advancement of the existing body of knowledge, whose origins are to be found almost entirely outside the academic environment. This study will, in addition, shed light on the underlying principles of urban greening which need to be considered. These principles, it is hoped, will provoke new interest and will serve as a foundation for the advancement of future research.

1.4 RESEARCH OBJECTIVES

Four primary objectives have been delimited for investigation in this thesis and each is briefly discussed in separate paragraphs below:

1.4.1 Literature review

The first objective of this thesis was to compare the urban greening agenda of South Africa (prior to 1995) through policy, theory and practice currently employed and to determine whether a paradigm shift has occurred.

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[1] *Most well-known works recently completed include: URBAN GREENING – a contribution to the National Forestry Action Plan, conducted by Robert Madams (1998) for the Department of Water Affairs and Forestry and AN INTRODUCTION TO SUSTAINABLE URBAN GREENING STRATEGIES for local government and partnerships with local government, a document compiled by Trees for Africa funded by the Royal Netherland's Embassy (1999).*

1.4.2 Fieldwork and Analysis

The second objective was to compile an inventory of urban greening development initiatives implemented in Gauteng and the Western Cape provinces between 1994 and 2000. The purpose of this exercise was to illustrate relationships amongst the types of projects and programmes initiated, the various role players involved in co-ordinated urban greening, the land on which projects were implemented and characteristics of communities who have benefited from projects.

1.4.3 Analysis

The third objective was to sub-sample a number of urban greening initiatives and analyse them to illustrate the execution process.[2] The execution process refers to the evolutionary conditions, governmental and/or non-governmental management and implementation situations associated with a certain project or programme.

1.4.4 Proposals

The fourth primary objective of this research was to identify major problem areas and to propose guidelines for future role players and stakeholders by conceptualising a theoretical framework for future urban greening in South Africa.

1.5 RESEARCH DESIGN

The thesis has been structured so as to reflect the dual nature of the study. The thesis was divided into four separate sections. Section I consists of the Introduction. Section II, consists of Chapters 2 and 3. Both these chapters deal with the first objective as represented in the research objectives. Section III, in turn, consists of Chapters 4, 5 and 6 and covers the second, third and part of the fourth objective described in this chapter. The last section (Section IV) consists of Chapter 7, which covers the remainder of the fourth objective and concludes the entire study.

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[2] *EXECUTION PROCESS – evolutionary conditions, governmental and non-governmental management, implementation situations and evaluation.*

1.5.1 Section II

This section provides role players and stakeholders in the field with necessary background information so as to comprehend the context of urban greening in the future South Africa.

Chapter 2 :

Chapter 2 presents a comparison between traditional and current agendas for urban greening in South Africa. It begins with an overview of traditional and current schools of thought on urban greening in South Africa by analysis of a number of well-known international urban and peri-urban planning reform movements. Chapter 2 then proceeds with an exposition of central government policy issued since 1984 that supports the field. This chapter concludes by determining whether a paradigm shift has occurred with regard to principles adopted for the future implementation of greening activities, or whether the same principles as in the past are still employed.

Chapter 3 :

Chapter 3 consists of an analysis of factors that actuate urban planning reform (within a general global context). In addition, an analysis of local (South African) factors, which influence the attitude of the South African government to urban environmental management is presented.

1.5.2 Section III

On several occasions in the past, the need for the monitoring of urban greening activity has been expressed. Section III presents a case study of urban greening development in metropolitan areas of the Western Cape and Gauteng provinces respectively for the period 1994 to 2000.

Chapter 4 :

The case study is firstly based on compiling inventories of projects that have been undertaken by selected local government and non-governmental organisations within the two selected provinces. From these inventories a number of interesting and comprehensive projects will be sub-sampled for more thorough analysis. Various types of information are available that can be used to describe urban greening development and illustrate processes involved. However, as it is

impractical to include all this information, it will be limited to that which summarised the process. The information selected for inclusion consists of:

- Information which provides insights into the various role players on different levels in the different phases in the execution process of project categories, their respective roles, responsibilities and influence;
- Information that illustrates the various types of programmes and projects within the demarcated categories; location of programmes and projects; reasons for its implementation and targets projected;
- Information that illustrates networking at intra programme / project levels;
- Information that sheds light on emerging problems and how these problems are resolved.

Chapter 4 describes the research methods and information sources used to gather and analyse this information.

Chapter 5 :

In Chapter 5 an analysis of information gathered by means of the inventories (the sample) is presented and discussed.

Chapter 6 :

Chapter 6 comprises a detail description of projects which are sub-sampled from the sample analysed in Chapter 5.

1.5.3   Section IV

Chapter 7 :

This chapter concludes the thesis with a summation of findings in Section II, a summary of the findings in Section III and a synthesis of recommendations into a conceptual framework for urban greening in the future South Africa.

SECTION II

CHAPTER 2
Urban Greening Agendas

2.1 INTRODUCTION

In Chapter 2, the urban greening agenda of South Africa, as applied under colonial governance in the 20th century, is compared with theory, policy and practices currently employed. In addition, the question of whether a paradigm shift has occurred with regard to vision, objectives, principles adopted and practices applied in urban greening is addressed.

Chapter 2 is divided into three parts. Part 1 illustrates the transition in principles adopted as well as practices applied by traditional and current schools of thought on urban greening. Part 2 explores South African government policy on urban environmental management since 1984; whilst Part 3 concludes the chapter with a general discussion based on an information analysis of parts 1 and 2. Information furnished within Chapter 2 is obtained almost exclusively from literature reviews.

Part 1

Obtaining representative information that will result in accountable interpretations and conclusions of traditional and current schools of thought on urban greening in South Africa, has proven to be a complicated process. This is due to the unique nature of the way in which urban greening functions as a science. Other disciplines and divergent sources of information focusing broader than specifically urban greening have been investigated in order to gain a meaningful body of information. The science of land-use management was identified as an appropriate solution.

A number of important and well-known international urban planning and design reform models (in an international context influential during the 20th century) have been selected and reviewed in chronological order. These planning reform models form the basis of the analysis and create a framework to illustrate movement and progression in the general development and growth process of urban greening as science. The last section of Part 1 proceeds with a discussion of the influence of these reform models on urban planning (and by implication principles adopted in urban greening practice) in South Africa.

Part 2

In order to illustrate how urban environmental management and particularly urban greening has been perceived by the governments of South Africa (colonial and liberation respectively), an outline of governmental policy as contained in national government policy documents is analysed. Policy documents are selected at random from those National Government Departments whose fields of responsibility link and relate to the chosen research subject.

Part 3

Part 3 in brief concludes the analysis of information with a number of summations.

2.2   CITY & TOWN PLANNING AND THE URBAN ENVIRONMENT

2.2.1   Origins and development of Land-use Management, Urban and Peri-Urban Planning

It is generally believed that the origins of land-use management lie in the Industrial Revolution period and that urban planning as it is understood today only became an acknowledged discipline during the 20th century (Cook, 1985; Potgieter, 1993). The Industrial Revolution is characterised by rapid urbanisation, which in turn results in high-density urban slums forming around the city core. The main objective of land-use management is the improvement of living conditions in cities as these sites are in the process of losing their vitality (Cook, 1985).

In order to remedy this situation the majority of urban planning attempts during the first half of the 20th century are focused at the decentralist and aesthetic solution (Baliso, 1998). Some of the first initiatives in this regard come from a number of industrial philanthropists (exposed to the problems characteristic of industrial towns) who emphasised the improvement of the well-being of their workers and centred attention on the development of ideal industrial villages for their workforce. The contribution of the industrialists to urban planning is foremost their belief in the separation of residential sites and workplaces. Furthermore, the opinion is held that the physical and mental health of the industrial worker is influenced by the quality of the physical environment (Cook, 1985). A large variety of urban planning reform movements evolved from these initiatives.

However, as time passed the shortcomings and disadvantages of decentralist approaches to urban planning became apparent. In contrast to the destructive impact of rural sprawl to the natural environment (of which bare hills covered with rural settlements in South Africa is an example), urban sprawl is in turn associated with high-energy consumption with concomitant environmental hazards and has become a threat to social order (Clapper *et al.*, 1999; Meyer, <u>pers. comm.</u>[1]; Trowbridge, 1998).

More recent approaches to urban and peri-urban planning and design show that no sole solution is adhered to, but a matrix of alternatives has grown as possible solutions. Whereas certain groups advocate the idea of high density living with centralised planning, others believe that the world is moving in the direction of a post-industrial era. The decrease in manufacture as a generator for job creation is a clear signal in this regard. This school thus advocates small-scale recentralised development based on bioregional economic principles (Trowbridge, 1998). However, what these approaches do have in common is the commitment to the effective and efficient functioning of the urban and peri-urban area, based on principles of sustainability, biophysical planning and reduced energy consumption.

In order to illustrate this flux, the most significant international urban planning reform models, applicable to the South African situation over the past century and of relevance for its influence on urban greening, are briefly analysed and discussed below (see Figure 2.1).

2.2.2 Urban Planning reform movements

2.2.2.1 International Post-industrial Revolution decentralist urban planning solutions

(i)   The City Beautiful

The City Beautiful movement originated from the 1890s and the early years of the 20th century in the USA through the initiatives of the middle and upper middle classes. This was a period when American cities were characterised by social unrest, economic depressions and overcrowded urban centers. With the advent of improved transportation and roadways, the upper and middle classes retreated into suburbs. They travelled to the city by day to attend to their businesses and at night they travelled back leaving the less well off to the decaying city centre (Anon, 2000).

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[1]   *T C Meyer, Architect & Urban Designer, Cape Town (February 2000).*

The middle and upper middle class reformers sought to remedy this situation with visions vested in the ideology that "a reform of the landscape will compliment the burgeoning reforms in other areas of society"(alias Burnham, a leading activist). Advocates of this movement believed that the creation of a beautiful urban centre will inspire inhabitants to moral and civic virtue.

The idiom, on which the City Beautiful movement is based, is the well-known Beaux-Arts style used for the famous Ecole des Beaux Arts in Paris, France. This architectural movement instructed artists and architects in the necessity of order, dignity and harmony in their work (Anon, n.d.; Bradley, 2000).

(ii)   Garden Cities

The Garden City tradition of urban planning derived its name from the work of Ebenezer Howard who, through his book *A Peaceful Path to Real Reform* (1898) promoted the notion of garden cities as a vehicle towards a better and brighter future (Crease,1992; Freestone, 1989). Garden Cities advocated the need for creating a balance between the communities' housing, agricultural and industrial needs. This movement is considered influential at two levels, namely: 1) its relation to low density planning and 2) its relation to planning at national, regional and local level with emphasis on decentralisation, satellite towns and green belts (Crease, 1992; Freestone, 1989).

Environmental principles that planners adopt in the planning of Garden Cities include a limitation on the maximum density of housing; private gardens (valued for social and health merits); ample provision for parks, playgrounds and open space; the planting of trees and grass along the road to establish broad promenades and lanes; and the provision of greater opportunities for social intercourse (Freestone,1989; Meyers, 1993).

(iii)   The Parks Movement

A leading protagonist of this movement was Frederick Law Olmsted, who through his ideas and initiatives during the 1920s attempted to preserve elements of nature in the city and enhance the visible contrasts of rural scenery with the noise and congestion of American cities. Followers of the Parks Movement advocated the vision of giving the city inhabitants the "equivalent of a day in the countryside" and their initiatives resulted in the creation of numerous large parks and boulevards in industrial cities such as Central Park, New York. This philosophy also lead

planners to design large garden suburbs with thickly planted streets curving in romantic fashion with residences set back from streets (Cook, 1985).

(iv)   Modernism

This movement in urban planning originated from the work of Le Corbusier in France during the beginning of the twentieth century. The modern movement was characterised by separate categories of land use (referred to as zoning), cities with vast boundaries and large multi-storey housing projects situated in green parks (high rise tower developments free most of the land area for parks and gardens which will result in green cities). (Cook, 1985; Meyer, pers. comm.[1]).

2.2.2.2 Centralist solutions to urban planning

(i)   Neo-urbanism

This movement in urban planning and design (often referred to as Neo-traditional planning) which originated in the USA, evolved as a result of the visions of Calthorpe (1993) and Katz (1994), authors of the books *The Next American Metropolis* and *The New Urbanism* respectively during the last quarter of the 20th century.

Neo-urbanism may be regarded as the modern planner's response to urban sprawl, which increasingly becomes a threat to open space and farmland. Neo-urbanism seeks to re-integrate the components of modern life into scaled yet walkable, compact cities. Characteristics of Neo-urbanism planning include: tree plantings and fence styles to identify a certain community; park and green spaces interspersed throughout the town to provide natural places of enjoyment; sidewalks which are particularly important as walkways; public transport and limited space for car-use and lastly smaller plot sizes and compact housing. Criticism of this movement comes from the Modernists who maintain Neo-rbanism is just an improvement of suburbia (Clapper *et al.*, 1999).

(ii)   Transit-oriented Development Planning

This planning approach aims at being a regional growth centre that is compact and transit supportive, pedestrian friendly, has a mix of house types and densities, is environmentally sensitive and strives to create more public life oriented to public open space (Wright, 1996).

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[1]   *T C Meyer, Architect & Urban Designer, Cape Town (February 2000).*

2.2.2.3 Non-centralist planning

(i)   Eco-Cities/Villages

The Eco-city or Eco-village Movement is part of the environmental awareness movement that has begun to emerge in the last twenty years. This approach is not usually associated with the influence of any one individual. Instead, the whole society decides to build an eco-city/village and a commitment is made to bringing lifestyle into harmony with the biosphere (Register, 1997; Wright, 1996).

The successful evolution of an eco-city/village depends on developing an understanding of the ecological systems within which humankind lives, how the village relates to them and planners' willingness to act on that information. The Eco-city/village approach to urban planning promotes a re-orientation of traditional planning and design to address more directly the preservation of land (natural and agricultural). It employs an eco-system approach to planning, pollution and energy integration of more biologically integrated industrial technology and infrastructure (Trowbridge, 1998; Wright, 1996).

The evolution of eco-cities/villages is obtained through three steps, each step being preparatory to the next. The first being the reduction step whereby people reduce the impact of their consumption-orientated lifestyle; for example using recycled water and preparing compost in backyards. The second step is the multiple use stage. During this step existing buildings, roads, open spaces, landscapes and utility networks are used in novel ways. Roofs formerly only used for weather protection become facilities for energy and water collection. Ornamental landscapes are converted into agricultural land and roadways become rights-of-way for electric trains and bicycles. The last step is the recycling stage. During this step, the city/village is developed as a system of greenbelt-framed open spaces, where the daily needs of work, recreation and shopping are brought together within walking distance. Urban villages of between 20 and 80 hectares condense around the nuclei of the densest suburban and inner city areas. Other urban areas are then restored to farms, meadows, forests and open space for wildlife (Dominsky, 1993; Dominsky, 1996; Trowbridge, 1998).

Three imperatives form the basis of eco-city/village evolution. They are social justice, prosperity and a healthy natural environment. Social justice is seen as the gateway to sustainability. Mutual trust, co-operation and narrowing gaps of socio-economic difference between people is essential for the successful eco-city. Thus environmental destruction is inevitably accompanied by a

decline in health, quality of life and ultimately a decline in the health of the economy (Dominsky, 1996).

In conclusion, the eco-city/village approach to planning advocates the development of small-scale cities, towns and villages that will satisfy certain minimum requirements. Easy access by proximity is a second principle built on the supposition that travel is not needed if a wide variety of services are available within a small area. Small-scale recentralisation is another principle, the opposite of suburban development. Proponents of eco-cities/villages believe that diversity is desirable. In the ecology theory, tendency towards complexity, and environments and situations involving diversity, is causing individuals and species to survive, grow and diversify (Register, 1997).
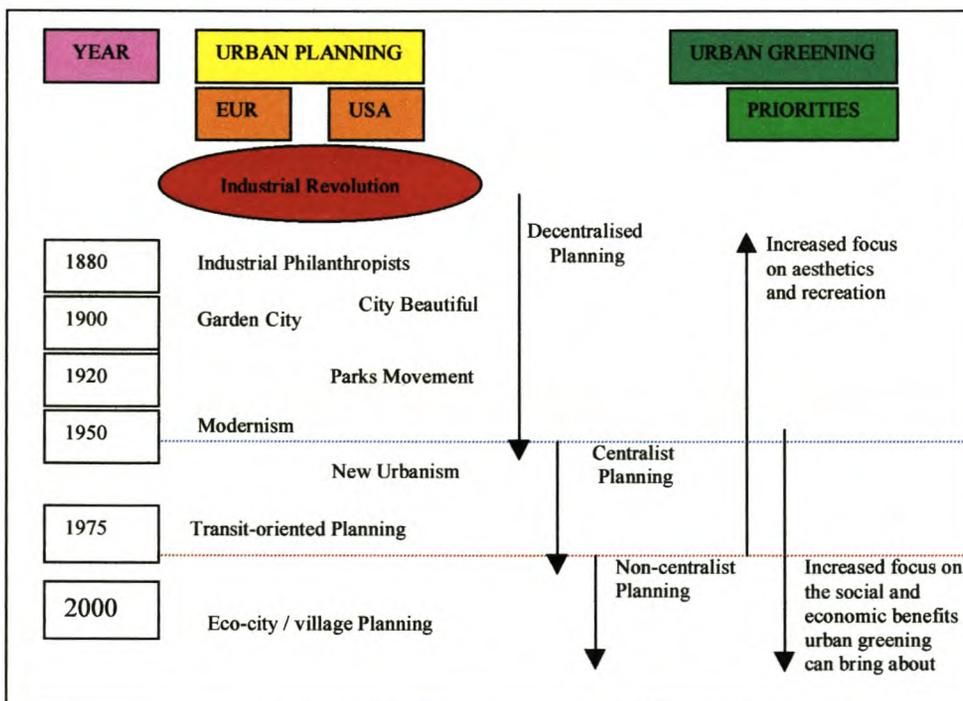
Figure 2.1 : *The relationship between Urban Planning and Urban Greening for the period 1880 – 2000. Sources : Anon, 2000; Baliso, 1998; Bradley, 2000; Clapper et al., 1999; Cook 1985; Crease, 1992; Dominsky, 1993; Dominsky, 1996; Freestone, 1989; Meyer, 2000; Meyers, 1993; Register, 1997; Wright, 1996*

2.2.3   Urban planning in South Africa

2.2.3.1 History of urban planning in South Africa

South African cities are relatively young, develop very differently from most European and North American cities and hence, are not necessarily subject to the conditions characteristic of the Industrial Revolution.

The majority of South Africans only began to urbanise after the South African War[2] and the discovery of gold and diamonds in the interior.   Before Union legislation (prior to 1910) influenced the development of towns in South Africa, urban authorities established during this period held jurisdiction.   However, in general no guidelines were given as to the physical planning of these early towns.   The Euro-centric, grid pattern lay-outs characteristic of the first towns and *Voortrekker dorps* in South Africa may then be primarily ascribed to the cultures and the Calvinistic understanding of Church and State by early settlers (Brockett, 1993).

It is only after the Transvaal Provincial Administration adopted the Township and Town Planning Ordinance in 1931 (a result of the need for control mechanisms at the time of mining rushes which made provision for town planning and related matters) that this situation changes and urban planning became a more formalised and co-ordinated activity.   This ordinance is shortly followed by a number of other similar schemes in other provinces such as Ordinance No 33 of the Cape Provincial Administration   (issued during 1934), which empowered local authorities to prepare town-planning schemes (Potgieter, 1993).

2.2.3.2 The influence of international urban planning reform models on urban planning in   South Africa

According to Cook (1985), early town planning in South Africa does not receive its initial impetus from early urban planning reform movements such as the City Beautiful or the Garden City and others, as its counterparts in America and Britain do.   The impetus comes rather from the growth of the economy, its consequential industrial agglomerations and a perceived need to borrow from zoning policy in the USA, Germany and Britain (Ramarumo, 1993).

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[2]   *Often referred to as the Anglo Boer War.*

Yet, despite the fact that South African urban planning in general does not receive its impetus from the models described in Section 2.2.2, evidence exists that all these models have an influence on the planning of South African urban areas and thus also the manner in which urban greening is implemented. In addition, various confined examples also exist where these models are explicitly implemented. A few models of relevance are discussed below.

(i)   Garden Cities in South Africa

The Garden City concept was introduced to South Africa by Richard Stuttaford during the 1920's (Meyers, 1993). The Cape Town suburb, Pinelands, is the first planned township in South Africa encompassing a full measure of space standards, amenities and social facilities and based completely on the Garden City model. Following this initiative, a few other Garden City townships such as Edgemead, M'Fuleni and Meadowridge were developed (Meyers, 1993; Meyer, pers. comm.[1]).

Figure 2.2 :   Van Buuren Road Bedfordview : A typical example of Garden City urban planning

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[1]   *T C Meyer, Architect & Urban Designer, Cape Town (February 2000).*

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However, the contribution of the Garden City concept with regards to urban planning in South Africa is not in its explicit application but rather that it later serves as model for the development, introduction and local application of many other similar concepts (Meyers, 1993; Meyer, pers. comm.[1]). In terms of urban greening then, the Garden City theoretical framework has had a major influence. Enormous amounts of urban land are reserved for public open space, parks, recreation areas and others, which today is seen as a major problem for urban management. The development and maintenance of these areas requires financial resources and manpower far in excess to what most local authorities can afford (Madams, 1998).

Yet, despite its influence on zoning for public open space, it does seem as if the Garden City concept unlike the other decentralist approaches described in 2.2.2.1 is insignificant with regards to urban beautification. Evidence shows that the trend of planting trees along streets evolved long before the development of these models. Two-hundred year old *Quercus* trees that line the streets of many Boland towns, trees along the sides of the Parade in Cape Town in 1763 (Anon, 1960), a Tree Planting Department for Kimberley in 1885 (Meyer, 1994) and the first Jacarandas planted along streets in Pretoria during 1906 (Campbell, 1974) are but a few examples. One may thus assume that urban beautification; likewise, the Euro-centric planning of early South African towns, can be ascribed to the European culture and traditions of early settlers.

(ii)   Modernism and compact Transport-Oriented Planning in South Africa

Of all international models on urban planning, the influence of the Modern movement is the most significant in South Africa (Meyer, pers. comm.[1]). The Apartheid government (1948 to 1994) adopted this planning approach (due to the provision it made for zoning) mainly as an opportunity to control land-use; and to promote and implement countrywide, politically inspired separate racial development goals (Ramarumo, 1993). Because of this approach, people classified as non-white were forced to relocate to the periphery of South African urban areas. The majority of urban planning efforts today focus on the restructuring and integration of these types of cities into compact, public transport-oriented cities (Meyer, pers. comm.[1]).

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[1]   T C Meyer, Architect & Urban Designer, Cape Town *(February 2000).*

(iii)   Eco–Cities/Villages in South Africa

The Eco-city/village concept is new to South Africa and development professionals increasingly promote this model as an appropriate countermeasure against growing poverty in both urban and peri-urban areas in South Africa (Trowbridge, 1998).

Evidence of eco-city/village planning in South Africa includes a number of the newer suburbs in the Cape Town Metropolitan area as well as the "Midrand Eco-city of the Future" initiative, launched on 2 September 1999. Although the latter can be considered as the most significant attempt in this category to date, the impact of the future integration of Midrand Transitional Metropolitan Council into the larger Johannesburg Mega City will be an interesting development to monitor.

The Midrand Eco-city is striving towards cleaner and environmentally friendly technologies in industries, green buildings, food security through the utilisation of local organic produce, the creation of a green economy where jobs and income are directly linked to environmental activities such as permaculture, re-use and re-cycle of waste, open space development by increasing the ratio of parks to urban area, thermal efficient housing and transport management (Midrand MLC 1999).

2.3   GOVERNMENT POLICY DOCUMENTS REFERING TO THE URBAN ENVIRONMENT AND URBAN GREENING

Historically, environmental management in South Africa only focused on the protection of fauna and flora, but as time passed, a broader notion became established. This notion firstly emphasises the importance of a healthy natural resource base and in addition advocates that the environment needs to be managed to benefit people. This concept later lead to the establishment of a separate national Department for Environmental Affairs during September 1984 (Department of Environmental Affairs, 1993). For the first time in South African history, there was now an independant and overall controlling and co-ordinating body, entrusted with environmental management. Following this initiative, a variety of government policy documents, relating to the urban environment and urban greening, were issued. These policy documents were not prepared by the Department of Environmental Affairs (now including the tourism portfolio) only, but also

by a number of other departments with overlapping fields of responsibility. The most significant documents issued since 1984 are analysed below.

2.3.1 White Paper on the Agricultural Policy of the Republic of South Africa

(Submitted by the Department of Agriculture to Parliament, Cape Town during 1984)

This policy document primarily stresses the importance of the optimum use of agricultural resources. It also underlines the fact that the poor use and excessive exploitation of agricultural resources will lead to a lowering in standard of living and quality of life.

The preservation of agricultural land and the concept of optimum soil use are thus accentuated as important goals towards increased levels of living standards. This paper, in addition, states that agricultural land will increasingly need to compete with other and alternative applications for agricultural land such as nature conservation, outdoor recreation, urban development, forestry and a great number of other uses in future.

2.3.2 White Paper on Urbanisation

(Issued during April 1986 by the Department of Constitutional Development and Planning, Pretoria)

In this paper, the government of the day considers the efficient functioning of local authorities to be of utmost importance and emphasises the importance of social development as a facet of sound urbanisation. The government accepts broad responsibility for the large variety of steps which contribute to the development and consequential improvement of the quality of life of communities. This document further states that the timely and sufficient provision of services such as health, recreation facilities, facilities for cultural activities and welfare are of importance for the sound functioning of communities. The White Paper on Urbanisation also requires that environmental considerations be taken into account during the process of urban design.

2.3.3 Draft Bill on Environmental Conservation

(Published in the Government Gazette 11013 on 30 October 1987)

This bill clearly stipulates a number of principles and objectives upon which policy for environmental conservation and management in South Africa should be based. However, not all

these principles and objectives have a direct application to urban greening. Those of significance include:

- The entitlement of every inhabitant of the Republic of South Africa to live, work and relax in a safe, productive, healthy and aesthetically pleasing and culturally acceptable environment.

- The moral responsibility of every human generation to act as trustee of its natural environment and cultural heritage.

- The obligation of every person and institution to consider carefully all actions that has an impact on the environment and to take practical means to protect, maintain and improve both the man-made and natural environment.

- The promotion of sustainable use of species and ecosystems and the effective application and re-use of natural resources.

- The establishment, maintenance and improvement of living environments, which contribute to a generally acceptable quality of life.

2.3.4   Council for the Environment reports

The Council for the Environment is constituted in terms of Article (2) of the Environmental Conservation Act of 1982 with the task of advising the Minister of Environmental Affairs on all matters pertaining to the environment. The Council for the Environment consists of a number of sub-committees representative of related fields. During 1989, the council issued a number of reports concerning environmental management, some of which are described below.

2.3.4.1 An approach to a National Environmental Policy and Strategy for South Africa –the built environment *(Part 2, Section 5)*

Specific aspects of the built environment, which are considered in relation to a national environmental policy and strategy, include the urban structure and its planning. In developing a built environment the following concept is emphasised: the implementation of a positive urbanisation strategy, the incorporation of environmental considerations in the urban structure and its planning, the effective creation and conservation of integrated open space systems, the improvement of visual quality, the conservation of national monuments and the promotion of community involvement.

2.3.4.2 Guidelines for the planning and management of Natural Open Space in urban areas

In this report, it is alleged that the quality of the urban environment depends to a large extent upon the provision, protection and sound planning and management of urban open space by local authorities.

This document underlines that the ad hoc provision of open space (space left over after planning) will result in space and facilities lacking meaningful functional, physical and visual integration into the overall urban structure. It is further stated that ample consideration for the protection of the physical environment and ecological systems is desperately needed. Without adequate protection, vitally important ecological processes important to both animal and humankind may deteriorate.

This report then lays down guidelines on a number of aspects considered as integral to sound open space planning and management. Aspects covered include the management of open space standards, the conservation of ecological systems, active and passive recreation, visual amenities, noise and environmental education.

2.3.4.3 Guidelines for environmental conservation and environmental creation in structure planning for the urban environment

According to this report, environmental conservation and environmental creation received varying attention in the process of structural planning for the urban environment in the past. This is due to the lack of guidelines regarding the manner in which environmental conservation and environmental creation was to be incorporated into structural planning. This was seen as a major deficiency in the system and the council therefore drew up a set of guidelines to satisfy this particular need.

General principles include:
- Planning for maximum environmental quality.
- Public involvement in the compilation and execution of structure plans.
- Incentive packages to encourage residents and businesses to allow objectives to succeed.

- The specialist involvement is important in the process, for example historical conservationists, urban designers, architects and landscape architects.

Components of the urban and town environments, which are identified as requiring attention, include the character of the town or city. This in turn should form the basis of environmental development; the cultural-historical component; visual aspects; natural elements; pollution and environmental impact.

2.3.5 White Paper on Policy for a National Environmental Management System for South Africa

(Issued during 1993 by the then National Department for Environmental Affairs)

The main objective for preparing this document was to settle the scope of government policy on a National Environmental Management System for South Africa. The document consists of three main sections.

2.3.5.1 Priorities for future environmental management

A number of priorities for future environmental management are identified for discussion by the President's Council during 1991 and are captured in this document. These priorities include:

- Environmental management needs to be accomplished in a sustainable manner based on integrated principles.
- Clearing the erroneous impression that environmental management is an elitist affair and making people aware of the fact that the future of every South African is directly dependent on the responsible use of natural resources.
- Development of a partnership between government and the public at general public level, essential for efficient environmental management and environmental ethics needs to be promoted. Sustainable and economically accountable utilisation of environmental resources will contribute substantially towards the advancement of the monetary wealth of South Africa.
- A holistic approach with regard to environmental management needs to be adopted. Ad hoc and compartmentalised approaches have proven unsuccessful in the past.

- Government will need to view effective and efficient environmental management as a priority in order to fulfill planned political and economic developments.

2.3.5.2 Goals for future environmental management

In this document, the government of the day also undertakes to strive towards a number of goals. Significant goals to this study are:

- The entitlement of every South African citizen (by means of a Bill of Human Rights) to an acceptable environment.
- Government support of population development programmes.
- All government departments (through their line-functions) give ample consideration to environmental matters in planning and practice.
- Implementation of measures and strategies with regards to land-use planning to ensure the conservation (utilisation and protection) of natural areas.
- Implementation of measures to protect high potential agricultural land.
- Development of urban areas in such a manner that citizens are ensured a healthy, safe, decent and aesthetically acceptable environment where cultural assets are protected. From an environmental management point of view the following principles are taken into account: a holistic approach in urban planning; high density, compact cities with maximum use of available land and buffer zones between residential and industrial areas; aesthetical considerations prominent and promoted; the promotion of a public open space system and the provision of green belts in urban areas.
- Measures for energy conservation supported and the development of alternatives.
- Environmental education planned and co-ordinated with extension and awareness programmes.

2.3.5.3 Responsibilities

The White Paper on a National Environmental Management system for South Africa concludes with a list of responsibilities with reference to the respective levels of government. The responsibilities of the three main levels of government briefly include:

- Central government : policy formulation and legislation, monitoring, co-ordinating and research.

- Provincial government : policy formulation and co-ordination with more emphasis on the last.

- Local government : application of national policy; regulation; the creation of pleasant living, recreational and work environments, the promotion of culture and the protection of open spaces and natural areas whilst taking into consideration local needs in co-operation and deliberation with community organisations.

2.3.6   White Paper on Agriculture

(Issued during 1995 by the Department of Agriculture of the Government of National Unity)

The White Paper on Agriculture primarily recognises the importance of agriculture in general to urban economies, household food security and quality of life of urban communities and secondly undertakes to support the full spectrum of production systems and practices found in South Africa.   These production systems include urban food gardens and small-scale agricultural practices. It is also stated in this document that productive agricultural land must be retained and protected from being used for other purposes than agriculture.

2.3.7   Draft White Paper on Urban Development Strategy of the Government of National Unity

(Published on 3 November 1995 in the Government Gazette 16679 by the Ministry in the Office of the President as a discussion document for public comment)

Government's vision for cities and towns is based upon integrated urban development strategies. Cities and towns will be developed as centres for social and economic opportunity, marked by good infrastructure, which provide access to many physical and social resources and in an environmentally sustainable manner. Strategic goals for urban development strategy are to create efficient and productive cities with less poverty which are sustained by dynamic economies. Spatial inefficiencies also need to be addressed, especially the mismatch between living and working areas. Other goals include the improvement of the quality of the urban environment and the creation of safe and secure living and working environments.

This document also identifies five "mutually-reinforcing" priority action areas for the urban strategy. These include:

- Integrating cities and managing urban growth, with emphasis on environmental management in local authority functions and prominence of environmental considerations in the development of new approaches to land-use planning.

- Investment in urban development.

- Building habitable and safe communities with regard to social development, the objective should be to make development community-based and ensuring social infrastructure in areas such as sport, recreation, education and health.

- The promotion of urban economic development through the creation of opportunities for greater economic activity, competitiveness, alleviation of poverty and maximising of employment opportunities.

2.3.8   White Paper on Sustainable Forest Development in South Africa
(Issued during 1997 by the Department of Water Affairs and Forestry of the Government of National Unity, Pretoria)

The purpose of this document is to provide the forest industry and the general public with a clear view of policies adopted by the post-Apartheid Forestry administration. This White Paper begins by indicating that the policy directions it contained clearly break with the parochial concerns of the past and that the scope of forest policy has been extended. It is stressed that forest policy, within the new South African context, cannot only be confined to matters relating to the protection of natural forest resources or the co-ordination of commercial forestry, but also needs to take into consideration the relationship between forestry and people.

The document covers the whole spectrum of forestry but the section that relates to urban greening is that of community forestry. Because of the new vision, community forestry is identified as an important sector of forestry, which has had little attention from government in the past. Community forestry is defined in this White Paper as forestry designed and applied to meet social, household and environmental needs and to favour local economic development. It is implemented by communities or with the participation of communities. The components of community forestry are then defined as: 1) farm forestry, 2) agro-forestry, 3) community or village planting, 4) woodlot management 5) tree planting in urban and peri-urban areas and

6) natural woodland management. The government recognises that community forestry can contribute to improving the environment, enrich existing resources and create income opportunities in previously disadvantaged communities in rural, peri-urban and urban environments.

This paper recognises that natural forests and woodlots play a vital role in household economies and that the benefits arising from the sustainable management of these resources should accrue to local communities. It further states that government will support communities and local authorities to develop and implement management of this kind. A second element of community forestry policy will be to encourage people to plant trees in fields and gardens, on streets and in parks and in managed plantations to improve the local resource base as a means of improving the living environment. In addition, it will include support to small-scale forest based enterprises to reserve their place in local markets and the national economy.

The government's role will be to include community forestry in a national forestry strategy contingent with rural development, urban development, energy provision and other relevant policies for South Africa. Government further undertakes to support community forestry with relevant information and technologies; stimulate development through pilot programmes and projects; identify barriers to progress; make provision in budgets for financial support; support innovation; develop skills and to support the establishment of extension services.

This White Paper makes provision for new legislation that is in line with the new constitution, recognises international norms, provides for a dynamic approach involving local interests and has a people driven approach to development.

2.3.9   White Paper on Local Government

(Issued by the Ministry for Provincial Affairs and Constitutional Development during March 1998)

Although this White Paper does not focus directly on aspects related to urban greening, it has been included so as to gain perspective on the roles and responsibilities of local government (the main provider of co-ordinated urban greening services) in the future South Africa.

This document defines the challenge for local government in South Africa as well as in the rest of the world, to create and manage viable and environmentally sustainable urban and rural systems. In addition to this, a number of other challenges facing the South African municipalities are listed. These challenges include the clearing out of huge backlogs in service infrastructure in historically underdeveloped areas; great spatial separations and disparities between town and townships; urban sprawl; the need to build relations between municipalities and the local communities they serve; extreme concentration of taxable economic resources and many others. To achieve this it is said that expenditure far in excess of revenue currently available within local government will be required. Municipalities will in addition, also have to develop strategies for spatial integration and be able to manage rapid urbanisation.

This document further states that local government has been given a new constitutional mandate to create and sustain humane, equitable and viable human settlements. However, at the same time it is questioned whether local government at present is designed and equipped to fulfill this developmental mandate.

Developmental local government

Section B of this White Paper defines a developmental local government as local government committed to working with the community to find sustainable ways to meet their social, economic and material needs and improve the quality of their lives. It establishes a series of developmental outcomes, processes and tools to assist municipalities in the process of becoming more development orientated.

Four inter-related developmental local government characteristics are identified and included in this section:

- The maximising of social development and economic growth.
- The integration and co-ordination of roles and responsibilities with regard to land-use planning, household infrastructure, environmental management, transport, health, education, safety and housing.
- Democratisation of development, empowerment of the underdeveloped and redistribution of resources.
- Creation of conditions for local solutions to development.

It is advocated that the powers and functions of local government be exercised in a way that has maximum impact on the social development of communities and on the growth of the local economy as well as meeting the basic needs of the poor. Through traditional responsibilities (service delivery and regulation), local government exerts a great influence over the social and economic well being of local communities. The inherent power of local government to promote social development through functions such as arts and culture, the provision of recreational and community facilities are in addition, acknowledged.

Developmental outcomes to be achieved by local government include:

- The provision of household infrastructure and services.
- The creation of livable, integrated cities, towns and rural areas.
- Local economic development, community empowerment and redistribution.

2.4   CONCLUSION

Part of the overall objective of this study is to source role players and stakeholders involved in urban greening with background information so as to comprehend the context of urban greening in the future South Africa. For this purpose, a comparative study has been undertaken and discussed in Chapter 2, which illustrate differences between traditional and current agendas for urban greening.

Through analysis of traditional and current schools of thought on urban greening, it becomes clear that the role and functions that urban greening fulfills and the approaches followed with its implementation within a certain community or urban area are dependant on a variety of factors.

One significant factor, emphasised throughout this thesis, is urban planning and design and the influence it exerts on urban greening. An analysis of diverse urban planning and design models suggests that the approach taken by (urban) management, in terms of urban planning, might have a directing but not determining influence on 1) the form of urban greening (as delineated in Chapter 1) accommodated by an urban area and 2) subsequently exerts an influence in terms of possible advantages gained by cities' inhabitants.

Urban planning and design over the last century within a worldwide context is characterised by tremendous change and the development of multivarious models. This change was inspired by a desire for efficient functioning of cities and resultant well-being of inhabitants.

A majority of earlier approaches to urban planning emphasised so-called First World benefits of urban greening. These included urban beautification and recreation. Later the importance of the relationship between humankind and nature gains precedence. Currently, more advanced approaches such as the eco-city model encourage the direct social and economic value connected to urban greening.

In conclusion it may be stated that urban planning is a continuous and dynamic process that will need to conform as cities continue to grow. This in turn, will have an influence on the roles and functions that urban greening fulfills in future. In addition the possibility that urban planners will again change their vision of urban greening as time goes by cannot be ignored.

The analysis of government policy on urban environmental management has verified the following:

1)   The Apartheid government of South Africa (during the years 1984 to 1989) implicitly promulgated conventional, decentralist urban planning (2.3.4.1; 2.3.4.2; 2.3.4.3). These approaches are outdated and in sharp contrast to world trends which may be the result of the isolation imposed upon South Africa. The focus of the majority of government policy during this period was thus aimed at the provision of secondary social or community needs such as aesthetics and visual quality (2.3.4.1; 2.3.4.2; 2.3.4.3), recreation needs (2.3.2), open space standards (2.3.4.2) etcetera. According to Burkey (1998), basic or primary human needs include those things individuals must have in order to survive such as balanced food, clean water and physical and emotional security. Primary social needs in turn include those things a community must have in order to survive. In this case, Burkey refers to education, leadership, political systems, cultural security and health.

2)   The sentiment government traditionally attaches to urban greening is transcended as part of the political transformation process. The White Paper on Policy for a National Environmental Management System for South Africa, published during the period between the abolishment of Apartheid (1990) and the first democratic elections (1994),

was the only document scrutinised. In comparison to earlier documents analysed, this document indicates a deviation in approach. Although it does not completely break away from traditional approaches contained in preceding documents (2.3.5.2 refers to green belts and ample separation between workplace and residential areas), it is the first document that makes reference to sustainability, integrated environmental management and compacting of cities (2.3.5.1; 2.3.5.2).

3) Central government in South Africa only seriously changed its attitude on urban environmental management after the 1994 elections with the adoption of more human-oriented approaches. The last four policy documents analysed (2.3.6; 2.3.7; 2.3.8; 2.3.9) seem to be more advanced in theoretical approach than preceding documents. It emphasises basic needs to be derived from urban greening and the explicit appeal for sustainability as a key element for future urban development.

All of the evidence given above thus supports the hypothesis that a paradigm shift has indeed occurred.

CHAPTER 3
Motives behind the paradigm shift

3.1 INTRODUCTION

In Chapter 2, evidence for a paradigm shift in world-wide attitudes towards urban greening and its specific role in sustainability and material benefits is listed. Similarly a shift has also occurred within the wider South African context, influenced by the changing world view but aided in part by the political process. This change has occurred firstly with regard to global approaches followed in urban planning (and by implication urban greening) during recent years and secondly with regard to the vision of the South African government on the role and characteristics of the future urban environment. In Chapter 3 an analysis of motives behind this paradigm shift is made. The chapter is then divided into two sections, of which the first represents world motives and the second section comprises South African motives for change.

The first section (world motives) introduces the reader to recent global movements and trends which have played a role to actuate urban planning reform in recent years. For the purpose of the first section of this chapter, literature on urban management and development science, focussing specifically on the nature-culture dichotomy, has been consulted.

The second section (South African motives) in turn, introduces the reader to a number of factors which possibly play a role in influencing the attitude of the South African government over the past six to seven years (since 1994 when the new democratic government came into power) in order to adopt its new vision with regard to urban environmental management. For this section literature consisting mainly of political documents and governmental publications, statistical publications, research documents, conference papers and a number of books was consulted.

3.2 WORLD MOTIVES

3.2.1 Functional and sustainable urban development

Urbanisation is becoming a global phenomenon. Although statistics on urbanisation differ slightly among sources (there are variations among countries in the trustworthiness of their census data and differences in the manner in which urban areas are defined), there is consensus that the

world currently finds itself at the turning point of becoming largely an urban environment (Clark, 1996; Leff, 1990; Sukopp, 1998).

According to Clark (1996) less than 2% of the world's population lived in urban areas at the beginning of the 18th century and until the 1970s the largest part of planet earth was still untouched by urban development. Yet, this situation has changed significantly over the last three decades. Contemporary debate focuses on when the 50% mark is going to be reached or whether it already has been reached. Whichever it may be, it is clear that a major shift from rural to urban living has taken place. For all practical reasons, urbanisation can thus be considered as a feature of the last half of the twentieth century (Clark, 1996; Leff, 1990; Sukopp, 1998).

Until recently, the urbanisation process in most cities of the world was characterised by progress and economic development. Within a previously accepted context, cities represent a highly efficient use of space and are seen as places that provide opportunities for production and social intercourse, where large amounts of finite resources are consumed (Clark, 1996). As part of this process the environment has to be transformed with the purpose of creating maximum wealth and human well being. Cities thus became locales where energy and raw materials (imported from the world outside the city) are converted into commodities. Wastes produced are then exported and deposited into the natural world. Cities have also become centres where traditional values of humankind are traded for foreign cultural values (Clark, 1996; Leff, 1990). However, the emergence of an urban world, the traditional manner in which cities function within their surrounding environments, and their impact upon society has posed important questions concerning urban layout and design in recent years. Issues such as the maintenance, the long-term sustainability and the impact of cities on the global environment become key questions of the day. There is currently less doubt as to whether the contemporary city (especially those loosely organised cities whose lay-outs are based on decentralist planning theories) is properly designed and equipped to ensure the long term socio-economic well being and quality of life for its inhabitants (Van der Ryn, 1993).

Solutions to urban problems are not considered specific to individual cities or countries, and require international co-operation. In that respect, there has been an agreement among countries to work together on a common agenda to rehabilitate and protect the global environment. Sustainability principles that most nations (including South Africa) have adopted are that of Agenda 21, which imply a large amount of local measures (Deelstra, 1998; Department of Water

Affairs and Forestry, 1997). The protection of the global environment is thus widely acknowledged as a key element towards sustainable development.

Sustainable development may be defined as development that meets the needs of the present day population without compromising the needs of future generations. Development should not be seen as equivalent to growth. Urban growth involves the physical expansion of the economy. Sustainable growth is contradictory in nature, due to the fact that expansion will encounter physical limits imposed by the finite capacity of the earth's natural resources. Sustainable development is then the change of a non-growing economic system into a dynamic balance with the environment (Blowers, 1992; Daly & Cobb, 1990; Van der Ryn, 1993).

3.2.2   Alternative thinking on development at both macro and micro level

Burkey (1998) describes the field of development studies as a "veritable jungle inhabited by theories, counter-theories, approaches, paradigms and programmes of all sizes, shapes and colours". Yet, in recent years, a number of development imperatives/models have been designed, setting a trend by giving special consideration to aspects such as the binary relationship between humankind and nature, the outer limits[1], the relationship between development and socio-economic transformation, autonomy and interdependence, equity and equality in the distribution of the benefits from development and the role of women (Burkey, 1998; Chambers, 1997; Nijkamp, Lasschuit & Soeteman, 1993; Riddell, 1981; Sachs, 1976). The strategy and objectives of two such specific models correspond to a great extent with the recent global trends in urban planning and the quest for sustainability. In addition they conform with the objectives of the South African government with regard to socio-economic empowerment of the disenfranchised and the transformation of the urban environment. These two relevant models are firstly Ecodevelopment, a development strategy which can be focused at macro level or local level development (*exempli gratia*, an approach focused at the development of an entire country or of a specific region of a country such as a city or town) and secondly People First Development, which mainly focuses at micro/local level development (Burkey, 1998). In order to explain this supposition, each of the models mentioned are briefly discussed below.

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[1] *The outer limits may be defined as very definite limits set firmly by nature and theoretically determinable by man (Reference : Mathews, 1976).*

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3.2.2.1 Ecodevelopment

According to Burkey (1998) world-wide economic crises and ecological crises such as the gap in the ozone layer, the greenhouse effect and the decay of large urban areas over the last few decades initiates an increased awareness of the importance of the relationship between humankind and the environment. The inhabitants of the world are reaching the stage where they understand that human actions have ecological ramifications. As a result of this increased awareness of the environment, a school of thought on development is born, the so-called ecodevelopment.

Ecodevelopment is a development theory based on the hypothesis that 1) neither the overdeveloped Northern hemisphere countries nor the underdeveloped Southern hemisphere countries are equipped for long term sustainability, due to imbalances that occur with regard to population growth, quality of life, energy consumption and utilisation of finite resources; and 2) that those groups of the world population who live in isolation in certain parts of the Kalahari and the Amazon (who reject exogenous influences and whose lifestyles and population numbers stay fairly static) provide a healthy development alternative to the rest of the world (Riddell, 1981). In ecodevelopment, the concern is thus for self-reliance. It is neither to capture the resources of other countries, nor to relinquish resources to foreigners. Ecodevelopment demarcates the development area into eco-regions where all eco-regions function as separate entities. Each eco-region calls for specific solutions to problems that evolve within its area of responsibility, which include solutions to cultural and ecological problems as well as long term and immediate needs (thus an attempt to reach an equilibrium in terms of population numbers, local resources and culturally desired lifestyles that will fit the particular eco-region best) (Burkey, 1998; Nijkamp, Lasschuit & Soeteman, 1992; Riddell, 1981; Sachs, 1976).

The concept of ecodevelopment thus aims to define a style of development that emphasises economic equity, social harmony and environmental balance in the local pursuit of individual fulfillment, household self-sufficiency and community self-reliance (Riddell, 1981). All of its principles are prominently encouraged and currently emulated by the current government of the Republic of South Africa.

3.2.2.2 People First Development

People First Development (also sometimes referred to as bottom-up development or development from below) is an approach which advocates development as a gradual process of change over a period of time. Thus, it is a departure from the traditional perception that development consists of a number of co-ordinated projects or programmes to enure communities. According to Chambers (1997), underdeveloped people possess an inherent ability to analyse local, complex and diverse life realities, which often differ significantly from the perceptions of development professionals. With the adoption of this approach to development, development professionals need to reconsider their dominant position and in addition, they need to learn from the target community.

According to Burkey (1998), the process of change characteristic of People First Development consists of four steps, namely human development, economic development, political development and social development. Of these four components, human development serves as a foundation from which meaningful sustainable development of communities begins. During the first step of People First Development the individual has to learn self-respect and become self-confident, self-reliant and co-operative. Then, after the individual has been changed, a parallel process of economic and political development follows. For economic development to be sustainable, profitability of economic activity is seen as a key element with a re-investment of part of the surplus as a principle. During the process of political development, political structures must be developed and transformed in such a way that it responds to the needs and aspirations of the community. Social development is the last step in the process of change and it needs to take place in parallel to economic and political development. During this phase, there must be investment in services for the mutual benefit of the community, such as healthcare, education, water and energy (Burkey, 1998).

According to Grobbelaar and Croucamp (2000), within the historical South African context, participation at local level was often limited to management tasks assigned by project administrators, without input from communities as to their specific needs, aspirations, skills and knowledge. Yet, this approach has started to change in recent years. Especially the African segment (those people classified as black under Apartheid) of the South African nation today insists upon greater community involvement in local business interests which will include development initiatives (Grobbelaar & Croucamp, 2000).

3.3   SOUTH AFRICAN MOTIVES

3.3.1   The crisis in Local Government prior to 1995 and its consequential restructuring

According to the White Paper on Local Government (1998), the National Party initiated the national reform process during 1990 because of a crisis that existed within local government with regard to the lack of urban planning and service delivery in South Africa's townships.   This process of reform later lead to the restructuring of local government.   The consequent transformation took shape as a comprehensive and complicated process which consisted of two steps.   The first step was made up of an interim period for transitional local government followed by a final step to be implemented after 2000 (White Paper on Local Government, 1998).   Each of the forms of local government over the last decade have influenced urban greening activity.

3.3.1.1 The era of separate urban development

Before 1994, local government in South Africa was characterised by racial segregation and had the sole mandate to provide co-ordinated greening services in urban areas.   Due to inequalities caused as a result of this segregation, it was only in areas previously reserved for those classified as white where successes with the implementation of greening initiatives were observed.   Here urban beautification and recreation facility provision was the major focus (Van der Merwe, 1998).

3.3.1.2 The transitional period (1994 – 2000)

The first phase of local government transformation was introduced early in 1995, after the first democratic local government elections. This phase has proved complicated.   Both Apartheid South African and former homeland local government structures had to be metamorphosed into a single uniform non-racial system.   The amalgamation of racially segragated areas of Apartheid South Africa, together with the transformation of local government structures in the former homelands (in certain cases local government structures were absent and new structures had to be created) have resulted in a total of 843 transitional local governments, both rural and urban. Variations of transitional councils existed during this interim period and the main categories included: 1) Metropolitan Councils with Metropolitan Local Councils (MLCs), 2) Transitional

The majority of the larger and more affluent transitional councils which functioned within urban areas (MLCs and TLCs), during this period provided greening services over expanded boundaries (in historical context the white municipality to its adjoining non-white locations). In addition, a number of DCs (which are mainly responsible for rural areas) also become indirectly involved in urban greening. These DCs are mainly those which are responsible for peri-urban areas in and around Metropolitan areas. It is especially during this interim period that the social and economic value of urban greening became established.

3.3.1.3 The final step of transformation

The last and most recent step of local government transformation in South Africa will be introduced after the second democratic local government elections during December 2000. During this step, the 843 transitional councils that have been formed during the interim phase will be further reduced to an amount that varies between 250 and 300. A significant difference in this step is that the focus will not be racial integration but rather aimed at streamlining the economic resource base of local government. In addition local government now allows opportunity for higher levels of integrated planning.

In the major metropolitan areas this step will result in the creation of a number of megacities by grouping TLCs, MLCs and DCs together (White Paper on Local Government, 1998). In the case of smaller cities, large towns and small towns (all TLCs) which are surrounded by rural areas, units for local government will be formed by combining areas under jurisdiction of DCs of responsibility with associated TLCs of towns or cities. In various cases more than one town now falls within one local government structure. Although this approach to restructure local government may prove disasterous for service delivery for towns situated within rural areas, the principles adopted are noteworthy in its corresponding relationship with eco concepts (White Paper on Local Government, 1998; Gemfo, June 2000).

3.3.2 Urbanisation

Growing levels of urbanisation in Southern Africa are a direct result of natural population increase and rural to urban migration. In relative urbanised African countries such as South Africa and Zambia, population growth within urban communities is regarded as the primary cause

of urbanisation. In other less urbanised countries in Southern Africa, rural to urban migration is regarded as the main cause of urbanisation (Dewar, 1994).

Urbanisation and population growth will in future increasingly become problematic for the democratic government of South Africa. Huge backlogs still exist with regard to the provision of basic infrastructure and services in those parts of South African cities previously reserved for people classified as non-white, despite comprehensive initiatives since 1994 to address this problem (Ministry in the Office of the President, 1995). Further urbanisation will increase demands and additional pressure will be brought to bear upon limited natural and financial resources. In addition, the majority of South African cities are currently characterised by urban sprawl due to decentralist urban planning approaches adopted under National Party rule. The cities formed through urban sprawl demand greater financial resources to be sufficiently maintained. Through its mandate, local government will be entrusted to find solutions to these problems (Huntley, Siegfried & Sunter, 1989). Urban managers will be compelled to adopt alternative approaches to urban planning which will result in development projects that cost less to implement and infrastructure that is cheaper to maintain.

Various sources such as the Urban Foundation, HSRC, Statistics South Africa and a few private companies, forecast rapid population growth in South Africa. Each of these sources differ slightly in their estimations. Most forecast a population growth from nearly 33 million in 1985 to approximately 47 million in 2000. It is further predicted that South Africa will reach its peak capacity of 80 million people between 2025 and 2035 (Datakonsult, 1995; Gelderblom & Kok, 1994; Haldenwang & Boshoff, 1996; Huntley, Siegfried & Sunter, 1989; Madams, 1998; Urban Foundation, 1989; Venter, 1994).

This sets a clear deadline for all involved in the transformation of local government. Although evidence exists that the average urbanisation growth rate for all racial groups in South Africa has decreased, the relatively low urbanisation level of the African component is far below that of the other population groups. Whereas urbanisation levels of Whites, Coloureds and Asians have already reached peaks at 85% and higher, urbanisation levels of Africans have only reached 60% recently. Growth to saturation may put additional pressure on government with regard to the provision of infrastructure and services (Urban Foundation, 1989; Gelderblom & Kok, 1994; Huntley, Siegfried & Sunter, 1989; Venter, 1994).

3.3.3   Socio-economic transformation

3.3.3.1. The socio-economic crisis

South Africa is characterised by a disproportionate distribution in terms of socio-economic development amongst the various racial groups, between gender groups as well as between urban and non-urban communities. These disparities, resulted in variations in the skill structure and levels of education, the number of children, the number of economically inactive persons and different unemployment rates within the separate groups (Bureau of Market Research, 1994).

To illustrate this disproportionate picture, the Human Development Index (HDI) is used (Figure 3.1). The HDI (designed by the United Nations Human Development unit) is a useful instrument to measure life quality and provides indices of the level of socio-economic development of a certain group relative to another. The HDI gives an indication of people's ability to live a long and healthy life, to communicate, to participate in the community and to have sufficient means to be able to afford a decent living (CSS, 1995). Variables used include only life expectancy, level of education and income (FRD, 1995). This index which does not take subjective factors into consideration, measures relative position on a scale between 0 and 1(CSS, 1995). The most recent rendition currently available is that of 1991, issued by the Central Statistical Service during 1995. The 1991 rendition may still be relevant today due to the fact that the HDI is not an index that is sensitive to rapid change (CSS, 1995).

Table 3.1 : Human Development Indices for the RSA (1991)

HDI	Males	Females	Urban	Rural	Average
Euro African					0,901
Asian African					0,836
Coloured					0,663
African					0,500
Average	0,750	0,603	0,807	0,466	0,677

Reference :   Statistical release P 0015, Central Statistical Service, Republic of South Africa (1995).

Since 1994, the South African government has prioritised the rectification of unequal development amongst racial groups, between gender groups and between urban and rural communities. Various strategies have been implemented to reach this goal.

3.3.3.2 The macro-economic debate for development

(i)   The RDP Strategy

For a short period after the 1994 democratic elections in South Africa, socio-economic development strategy was based upon principles as contained in a policy platform, called the Reconstruction and Development Programme (RDP) (Adelzadeh, 1996). The RDP is an integrated, coherent policy framework which aims to mobilise the broader South African public and the country's resources towards the eradication of Apartheid, its associated consequences and the building of a democratic, non-racial and non-sexist future (ANC, 1994). The RDP successfully articulated the main aspirations of the liberation movement for the post-Apartheid South Africa. They were growth, development, redistribution and reconstruction in a consistent macro-economic framework (Adelzadeh, 1996).

For many people the subsequent release of the RDP White Paper (released September 1994) failed to reconcile the spirit of the initial document into a set of policy statements and recommendations. A shift occurred towards the adoption of a neo-liberal framework. The government's role is reduced to purely managing transformation, not redistribution of wealth. This in turn leads to another document which was released during February 1996, the so-called draft National Growth and Development Strategy, which was even more estranged from the RDP base document developed by the democratic movement (Adelzadeh, 1996).

(ii)   The Gear Strategy

During June 1996, the Department of Finance released yet another macro economic strategy, GEAR (Growth, Employment and Redistribution) which left little remaining of the RDP. GEAR soon provoked broad debate about its vitality within democratic organisations, businesses and government (Adelzadeh, 1996; Biggs, 1997; Khanye College, 1997). Economists' criticism is based on the argument that economic recommendations made, fail to present an "analytically sound and empirically justified strategy"(Adelzadeh, 1996). Controversial aspects of GEAR

include: strategy for sustained growth; the increased role of the private sector and decreased role of government; and public investment (Adelsadeh, 1996; Biggs,1997; Khanye College, 1997). Government decided to proceed with GEAR despite the furore raised by dissenters.

3.3.3.3 Reduction of urban poverty

In recent years, there has been an increased acknowledgement of the fact that the design and functioning of South African cities aggravates impoverishment of urban communities. According to Dewar (1984), urban systems in South Africa influence various income groups differently, with the poorest (which has a racial dimension) being in the most disadvantaged position. Evidence hereof includes the correlation found amongst inadequate shelter, degraded quality environments, disease and poverty; the spatial correlation found between urban facilities and opportunities forcing the poor to travel long distances on a daily basis (which in turn has secondary negative consequences impacting on household finances, productivity; and family and social life) and the lack of correspondence between needs of the poor and urban budget allocations (Dewar, 1984). This awareness of poverty related problems that arise from the functioning of urban systems based on discarded theories, has inevitably led to protest for the adoption of alternative urban management policies and practices by both experts and affected communities. However, despite this increased awareness of the negative influence of discarded urban management theories and practices on life quality and the need to experiment with alternative theories at central government level in South Africa, it is doubted whether local government has accepted the responsibility that is imposed on them to plan and manage in this regard in future.

3.3.3.4 The role of urban greening on urban poverty alleviation

Concomitant with the global movement towards more sustainable cities (discussed in 3.2.1) the list of benefits that urban dwellers derive from urban greening has expanded in recent years. Where in the past, environmental, aesthetic and amenity benefits were valued as the pivotal axis of urban greening, it is now also socio-economically valued for its potential material benefits (Madams, 1998; Grobbelaar & Croucamp; 1999). Alternative approaches to urban planning and management, which dispose a potential augmentation of the role and functions of urban greening (to include the provision of these new set of benefits), can be instrumental towards alleviating urban and peri-urban poverty in South Africa. Both experience and research abroad and a number of studies conducted locally have revealed that both the agricultural and certain aspects of

the forestry components of urban greening illicit unprecedented economic, health and environmental potentials and benefits. According to Cosgrove (1998), urban cultivation produces waves of popularity during times of war and recession in many European, American and Asian countries and in many instances is promoted by governments as a means towards household food security. A study conducted by Karaan & Mohamed (1998) on the Cape Flats also supports this. This study indicates that the most important reasons people engage in cultivating urban open space are the associated food security, savings on household budgets and additional income it provides. In a number of studies conducted in the United States (Funches, 1993 ; Lipkis & Lipkis, 1993) it is revealed that these forms of urban greening can significantly contribute towards increased nutrition levels which in turn may have a positive impact on general productivity (fewer missed days from school and work) and will help to reduce the drain on over-burdened health care systems.

Figure 3.1 :   _Food gardening for food security in an informal residential area_

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3.3.4   The notion of an African Renaissance

Since 1996, the notion of an African Renaissance has taken centre stage at many conferences and subsequent misinterpretations of the idea have followed. President Thabo Mbeki, the architect of the notion, has however articulated the African Renaissance as a culturally and racially inclusive vitalising, reinforcing and mobilising concept towards empowerment of the whole African continent (Boloka, 1999; Buthelezi, 1998, Cleary,1998; Venter, 1999). The African Renaissance has been included as a last motivating factor which might have influenced government attitude on the future development of the urban environment. Within South Africa the concept is seen as a definite measure towards the augmentation of the new South Africa ideology and the unleashing of creative problem solving (Lange,1998). The analysis of government policy on future urban environmental management and the opportunities it provides for urban greening today attests to this.

SECTION III

CHAPTER 4
Research Methods

4.1   INTRODUCTION

In Chapter 4, the research methods used to investigate and measure progress at project co-ordination level in the field of urban greening development since 1994 will be discussed. This chapter begins with a discussion of procedures set out for the selection of an appropriate research strategy as well as the necessary research networking which has preceded this process. The chapter then continues with a section detailing the methods followed to monitor urban greening. This includes the specific methods employed to gain a sample for analysis, how the study area for research was demarcated and the selection process of an appropriate survey method to obtain a reliable sample for analysis. Profiles of selected organisations used as case studies are also provided in addition to the relative management profile of the respondents within their respective organisations. Under the third section of Chapter 4, methods for selecting projects for thorough analysis are described. The chapter concludes with a concise discussion of the procedures followed to analyse data generated through the above processes.

4.2   THE RESEARCH STRATEGY AND PROCEDURES

4.2.1   The problem

On several occasions in the past, the need for monitoring co-ordinated urban greening activities has been expressed, but it was especially at a number of urban greening workshops conducted on behalf of the Department of Water Affairs an Forestry in 1998 (held in Pretoria, Cape Town and Durban) where this need was strongly emphasised (Madams, 1998). The majority of urban greening role players and stakeholders who attended these workshops considered the monitoring of activities as essential to measure progress within the industry of co-ordinated urban greening, despite the complicated nature of such an initiative. Even the Department of Water Affairs and Forestry, which is seen by most role players as responsible, considers itself ill-equipped to co-ordinate such a comprehensive process with success (Madams, 1998). Notwithstanding this attitude, the decision was taken to continue as the monitoring of urban greening projects is regarded as indispensable to describe the current state of affairs.

Various problem areas are identified in the process of selecting a proper monitoring method and pre-research planning and networking is crucial if scientifically justified results are to be realised. Typical problem areas that were identified at the commencement include: 1) the limited scale of this research in comparison to the capacity of large institutions to undertake comprehensive research on urban greening activities, 2) the transition process in which local government in South Africa finds itself during the execution period of the research and 3) the uncertainty which exists with regards to the capacity of selected case studies to generate sufficient data for analysis.

4.2.2 Strategies selected

Researchers in various disciplines have developed a large number of methodological approaches. Over many years, several of these methodological approaches have proven to be efficient standard research strategies. Prospective researchers are confronted with a decision on selection from this variety when planning their research. The decision seldom proves an easy task. Often, however, the need exists for these researchers to amend and implement one or more of these methodological strategies to develop a unique systematic approach that will best fit the specific research problem at hand. Clark and Causer (1991) suggest that the key to successful research lies in combining a flexibility of response to changing circumstances with the maintenance of a coherent overall strategy. The following research strategies have been utilised and its relevance to this research is discussed below.

4.2.2.1 Explorative Research

Selltiz *et al.*(1965), emphasise three specific methods when undertaking explorative research. These methods include reviews of applicable literature, surveys employing the knowledge of people working in the particular field or people with specific experience regarding the problem and an analysis of stimulating examples which will shed light on the problem. The explorative approach was chosen as the overall strategy for this study.

4.2.2.2 Case Study Research

For the comparative study of urban greening projects, a decision to do case study research was taken. According to Goode and Hatt (1952), " the case study approach is a way of organising data so as to preserve the unitary character of the social object being studied" (quoted in Rose,

1991). An inventory of urban greening development initiatives as undertaken by the two most important role players involved in co-ordinated urban greening, within two leading provinces of South Africa, chosen for its significant social, economic, political, demographic and environmental differences, as well as a thorough analysis of some of these projects, was thought to be sufficient to gain some indication of progress to date.

4.2.2.3 Qualitative Research

A qualitative approach was selected to generate data for discovering the current state of affairs, measuring progress and comparing the different role players in urban greening activities. Qualitative interviewing usually refers to in-depth, semi-structured forms of interviewing where thematic, topic-centred approaches are followed instead of a structured list of questions (Mason, 1997).

4.2.2.4 Descriptive Research

A descriptive approach was then used to explore and illustrate the execution process of projects that were sampled from within the selected case studies. This approach allows a comparison of the characteristics of projects undertaken by local government on the one hand and non-governmental organisations on the other.

4.3   INVENTORY OF URBAN GREENING DEVELOPMENT PROJECTS

4.3.1. The demarcation of the study area and the selection of case studies for research

According to Rose (1991), in case study research it is considered more appropriate to treat representativeness in terms of a qualitative logic for the selection of cases for study, rather than a quantitative logic of sampling from a population. Since it is not possible to accommodate a large variety of organisations within this research (for example 5% or 10% of the total 843 local governments and another large variety of non-governmental organisations), the parameters have to be limited to the smallest possible number of case studies that will give a trustworthy reflection of progress in recent years. Only four organisations were thus selected as case studies for investigation (4.2.2.2). These four case studies represent two provinces namely, Gauteng and

Western Cape Province and two types of organisations which provide co-ordinated urban greening services in South Africa (two non-governmental organisations and two local governments). It is assumed that the approach followed by the two local governments will differ in application of urban planning theories to design and the manner in which they manage their cities.

The two non-governmental organisations which have been selected are Abalimi Bezekhaya, which only operates within the Western Cape Province and Trees for Africa, which operates countrywide. In the case of Trees for Africa, only programmes and projects implemented within the Gauteng Province were examined. The two local authorities which were selected as case studies are the Greater Germiston Transitional Local Council on the East Rand and the Cape Town Metropolitan Local Council in the Cape Peninsula. It is thus clear that the composition of case studies selected will allow numerous possibilities for cross comparison and examination.

Table 4.1 :   Organisations selected as case studies

	WESTERN CAPE PROVINCE	**GAUTENG PROVINCE**
Local Government	Cape Town MLC	Greater Germiston TLC
Non-Governmental Organisations	Abalimi Bezekhaya	Trees for Africa (operates country-wide but only researched provincially

4.3.2   Survey questionnaire

Information from the respective case studies was gathered using qualitative methods, employing a survey in the form of an inventory (see Appendix I for an example of the survey questionnaire). The survey questionnaire was designed as a semi-structured project schedule and makes provision for categories of information. The questionnaire consisted of ten sections which respondents were asked to complete.

4.3.2.1 Open-ended questions

The first four sections and the last section of the questionnaire are sections with open-ended questions. These sections deal mainly with project identification and can be regarded as supportive information to the research. Within the open sections respondents were requested to provide the years when projects were executed, the project name and the programme with which the project is affiliated, the location of the project (the city and suburb where implemented) and additional role players who are involved in the execution process.

4.3.2.2 Fixed-alternative questions

The other five sections in the survey contain fixed-alternative questions. Within these sections respondents have to select certain options in order to describe the characteristics of the project or situation relevant to the project. It is mainly the sections with fixed-alternative questions that will shed light on progress in the field of co-ordinated urban greening development since 1994 and the various problem areas and vaguenesses that still occur.

4.3.2.3 Distribution of the questionnaire (inventory schedules)

The inventories were distributed to the various participating organisations after exploratory visits were paid to each. This step was imperative to identify reliable respondents who carry relevant experience of what was expected of them and additionally to explore interesting projects for thorough description and analysis. After various follow-up telephone conversations in order to explain the scope of the survey, the inventory schedules were faxed to some and e-mailed to others. The surveys were then collected personally and where not possible, respondents had to post the forms.

4.3.2.4 Information required

People oppressed during the Apartheid era (people which recent urban greening development initiatives aim to benefit) come from diverse backgrounds and today live in a wide variety of residential areas with divergent characteristics. Often the co-ordinators of urban greening development projects are confronted with difficult decisions such as the location of a specific

project or to determine the need for a particular kind of project in a certain area. For this reason the sections with fixed alternative questions in the survey must document the settlement styles of target communities; give insight to specific characteristics of communities which have benefited from development project; and give an indication of the main aims and objectives of projects as well as the types of land that were used for the implementation of these co-ordinated projects by the respective institutions since 1994. The fixed-alternative questions were as follows:

1: Settlement style of target communities

This question was included to determine how projects functioned relative to the different residential types which exist in developmental areas. Answers to this question would give an indication of the different styles of residential developments preferred by co-ordinators of urban greening development when selecting locations for projects. For the purpose of this question, all the different types of residential areas were roughly divided into three categories (general residential developments, low cost/subsidised residential developments and informal residential developments), which were used as attributes for selection.

A large number of variables (such as educational status, number of children, etcetera) can be used to describe the characteristics of communities which have benefited from co-ordinated urban greening development initiatives since 1994 (target communities). However, the majority of these variables are of little value to this research. Only two variables were included in order to determine community characteristics. They are: 1) the socio-economic status of target communities, thereby determining the relevant living standards and life quality and 2) the racial composition of target communities. The relevance of such a variable is clear because of its influence over destiny in life and the quality of services a person received from the South African government in the past. Unfortunately, little has changed in South African residential areas since 1994 and it could prove interesting to further research the impact on such communities.

2: Socio-economic status of target communities

Five attributes ranging from low socio-economic status to high socio-economic status are provided. For the purpose of decision-making, the inventory does not provide any guidelines upon which respondents may base their decisions. It was also not expected that respondents will employ any scientific methods in this regard. Decisions are solely based on the perceptions of the respondents.

employ any scientific methods in this regard. Decisions are solely based on the perceptions of the respondents.

3: *Racial characteristics*

Due to the fact that this study is only interested in the progress with regards to urban greening development (see Glossary) only four attributes are provided. They are: African, Coloured, Asian-African and mixed.

4: *Project aim*

The purpose of this question is to determine the nature of co-ordinated urban greening development projects since 1994. The literature review has indicated that a paradigm shift has occurred within urban planning and how it influences urban greening; this shift has also occurred in relation to the perceptions of central government in South Africa on the nature of urban environmental management for the future. Respondents were asked to classify each listed project according to the categories that constitute co-ordinated urban greening. These categories were provided by the author, as defined in Chapter 1, and include:

- urban beautification
- urban outdoor recreation and sports facilities
- urban forestry
- urban agriculture
- urban greening supportive systems.

5: *Owner status of the land on which the project is implemented*

The aim of this section was to establish the land-use patterns of the respective organisations used as case studies. Co-ordinated urban greening development projects can be implemented on land varying in ownership and thus, each listed project needed to be classified accordingly. Five options were available. They included local government land, provincial government land, central government land, private land and other land.

4.3.3   Profiles of selected case studies and the respective respondents

4.3.3.1 Abalimi Bezekhaya

Abalimi Bezekhaya (initially called "Farming in the City") was launched during 1983 by the Catholic Welfare and Development as an organisation with the brief to co-ordinate and promote food gardening as a measure to alleviate problems such as malnutrition amongst poor communities in the Cape Metropolitan area. However, as the needs of people have grown over the years, Abalimi Bezekhaya has expanded its horizons and activities accordingly to provide a more efficient service. Today, Abalimi is involved in a wide variety of urban greening projects. Abalimi Bezekhaya employs in addition to a full-time staff also a number of voluntary workers (mainly people from overseas) to assist with activities (Karaan & Mohamed, 1998).

Abalimi Bezekhaya was visited during February 2000 and discussions were held with the two most senior employees of the organisation. They included the Chief Executive Officer and the Field Programme Co-ordinator. A wide variety of projects in the Langa, Guguletu and Nyanga suburbs which fall under the jurisdiction of the Cape Town MLC, were visited as well as projects in Khayelitsha which fall under jurisdiction of the Tygerberg MLC. The Field Programme Co-ordinator who is responsible for the day to day management of operations acted as respondent for Abalimi Bezekhaya in the questionnaire survey.

4.3.3.2 Trees for Africa

Trees for Africa was established during 1990 as the first community-based, non-government, greening organisation specifically dedicated to promote tree planting and environmental awareness in areas reserved for those classified as non-white under Apartheid (Trees for Africa, 2000). Within its first ten years of existence, Trees for Africa grew from an organisation employing only two people to an organisation with a staff complement in excess of ten. Similar to Abalimi Bezekhaya, Trees for Africa has extended its ambit since its launch. The organisation has built an excellent track record to alleviate problems of the urban poor and to improve the living and working environments of these communities. Significant differences between the two

selected non-governmental case studies include: 1) the lack of voluntary employees at Trees for Africa and 2) The national focus of Trees for Africa compared to the provincial focus of Abalimi.

Networking with Trees for Africa mainly took place with three employees who included the Executive Director, the Urban Forester and the Green Trust Programme Manager. Last mentioned acted as respondent on behalf of Trees for Africa.

4.3.3.3 Cape Town Metropolitan Local Council

The Cape Town Metropolitan Local Council was the only Western Cape based local council which was included as a case study in this research. As explained in 4.2.1 and 4.2.2, case studies were selected for its potential to provide a trustworthy reflection of the status quo, through sufficient number of projects that would generate satisfactory data for analysis. Within the Cape Metropolitan area, the Cape Town MLC is the largest local council, with the potential to generate sufficient information. The department responsible for urban greening within the Cape Town MLC is the Parks and Bathing Department. This department currently has a staff complement of approximately 1200 employees (Bischoff, pers.comm.[1]).

At the Cape Town MLC, three employees of the Parks and Bathing Amenities Services Department participated in discussions regarding the vision for future urban greening. They include the Head of the Department, his direct subordinate the Chief : Horticultural Maintenance and lastly the Section Head : Horticultural Maintenance for the Ikapa region which includes the township areas Langa, Nyanga and Guguletu. The person who acted as a respondent was the Chief: Horticultural Maintenance.

4.3.3.4 Greater Germiston Transitional Local Council

Within the Greater Germiston TLC, the Directorate of Community Services is the responsible department for urban greening. The divisions of the Directorate of Community Services which are responsible for urban greening include the Environmental Services division which employs about 600 people and the Sports and Recreation division which employs an additional 150 people. The Greater Germiston TLC has been selected not only for its important role in the

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[1] *Dr Freddie Bischoff, Head : Parks and Bathing Amenities Services, Cape Town MLC (February 2000).*

implementation of arguably the most significant RDP project completed in South Africa (Katorus Special Presidential Project), but also due to the fact that information for this research would be readily obtainable.

Three respondents employed within the Directorate of Community Services assisted with information. They included 1) the Chief: Environmental Services, 2) one of his direct subordinates, the Chief Horticulturist for the southern region and 3) the Chief Horticulturist for the Sports and Recreation division who is responsible for sportsfield management throughout the city.

4.4   THE ANALYSIS OF URBAN GREENING DEVELOPMENT PROJECTS

4.4.1   The sub-sampling of projects

One project of each of the four case study organisations was selected for more thorough investigation, in order to explore the project execution processes. These projects were mainly selected for their conspicuously interesting characteristics, such as the roles they played in improving the urban environment and human lives. In the majority of cases, these projects are better documented in reports, magazine articles and other literature sources than other less interesting projects. This was particularly helpful, taking into consideration the limited scope of the research.

There were no specific criteria to which selected projects had to adhere except that sufficient information had to be available about the project in order to generate data for analysis. Projects were selected to be representative as far as possible of the categories of urban greening, as demarcated in Chapter 1.

4.4.2   The gathering of information on sub-sampled projects

Information on sub-sampled projects was mainly obtained from project reports completed by project co-ordinators and managers. These reports included progress reports, completion reports and financial reports. Additional sources of information included planning documents such as

spatial development frameworks, environmental planning reports and a number of articles which were published on some of these projects of the project sites was also visited personally.

4.5   DATA ANALYSIS

Survey data were manually transferred into a number of tables. The tables were then amalgamated into graphic presentations, which aided in trend analysis, shortcomings and conclusions relating to the case studies.

Data generated from the sub-sample were studied carefully and then accordingly grouped to indicate areas of concern and those in need of clarity.

CHAPTER 5
The status quo of urban greening development

5.1 INTRODUCTION

Chapter 5 presents an analysis of the data that were generated by distributing surveys to respondents at the selected organisations. The sample of projects obtained is analysed according to the five categories with fixed-alternative questions on the questionnaire survey. As indicated in Chapter 4, case studies were selected in such a manner that various possibilities for cross-examination exist. Thus, in addition to the fact that the study contains a comparative analysis of case studies, it further aims to compare various combinations (by grouping case studies together) with each other. A legend for the various organisations (case studies) and combinations as it is used in tables and figures in this chapter, is provided below:

Table 5.1 :   Abbreviations for research units and sample totals as used in tables and figures in Chapter 5

	Organisations used as case studies	
AB	Abalimi Bezekhaya	
TFA	Trees for Africa	
CT	Cape Town MLC	
GGC	Greater Germiston TLC	
	Case studies grouped together according to organisation type	
NGO	Non-governmental Organisations (Abalimi Bezekhaya + Trees for Africa)	
LG	Local Governments (Cape Town MLC + Greater Germiston TLC)	
	Case studies grouped together according to provincial location	
WCP	Western Cape Province (Abalimi Bezekhaya + Cape Town MLC)	
GP	Gauteng Province (Trees for Africa + Greater Germiston TLC)	
	Sample	
Total	Total number of projects recorded per category as part of single case study sample, organisation type or province.	
TOTAL	(AB + TFA + CT + GGC) or (NGO + LG) or (WCP + GP)	
PERM	Permutations	

5.2   THE SAMPLE

From the surveys that were distributed to respondents at the selected organisations, an initial sample of projects was obtained.   After editing erroneous, contradictory and missing data, a reduced final sample of 109 projects was obtained.   The distribution of projects within the edited sample were as follows:
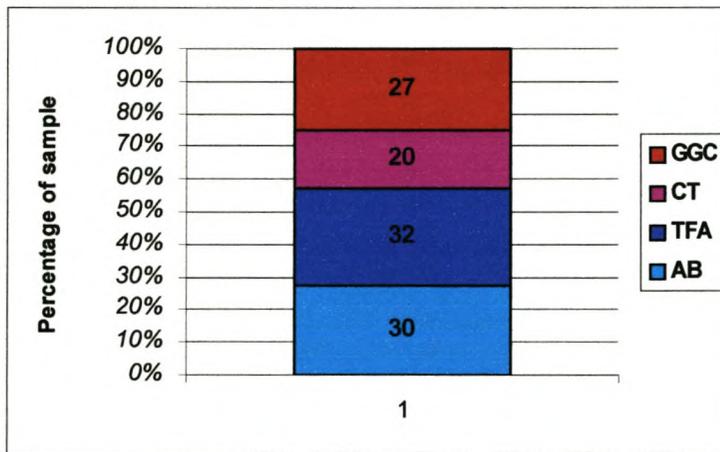
Figure 5.1:   *Sample distribution in terms of projects analysed per case study (n = 109)*
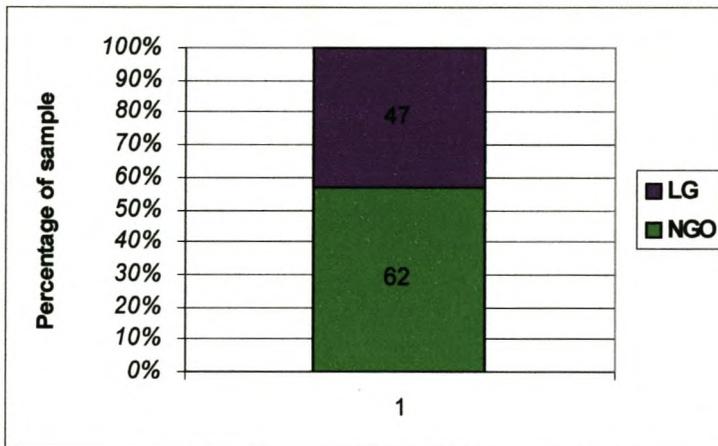
Figure 5.2 :   *Sample distribution in terms of projects analysed per organisation type (n = 109)*

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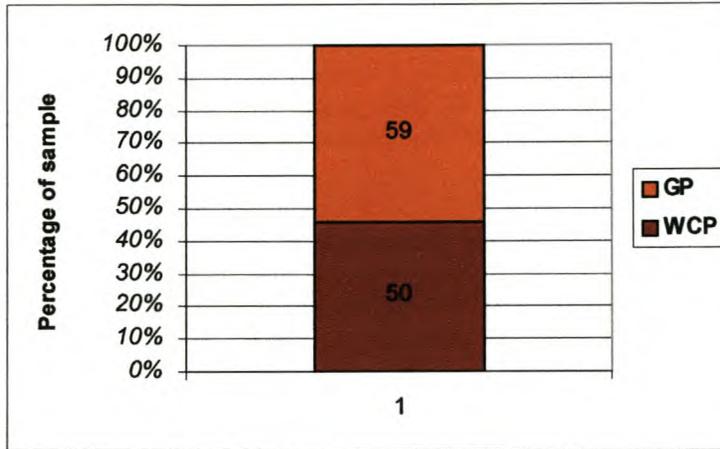
Figure 5.3 : *Sample distribution in terms of projects analysed per province (n = 109)*

5.3   ANALYSIS OF THE SAMPLE

The data were analysed using the following independent variables: settlement style of target communities, socio-economic status of target communities, racial characteristics of target communities, categories of urban greening and ownership of land for urban greening development. Results are presented according to the variables used.

5.3.1   Settlement style of target communities

5.3.1.1 Methods

Three fixed-alternatives were provided in order to describe the settlement styles found in areas which have benefitted from urban greening development initiatives between 1994 and 2000. They included A: general residential urban areas (urban areas with proper or standard urban infrastructure and permanent building structures), B: low cost/subsidised residential developments (relatively poor communities living in small but permanent houses, often people who only very recently gained access to permanent housing situated in areas with just adequate urban infrastructure or even less), C: informal residential developments (developments situated on land where normal urban infrastructure such as tarred roads, electricity, running water and sewerage systems are minimal or absent, with only make-shift housing). Respondents had the freedom to use one or more attributes to describe the situation. All permutations used by

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respondents are presented in brackets in Table 5.2 and Figures 5.4 – 5.7; this variable does not imply a total for single variables. Figures have been rounded for presentation purposes.

5.3.1.2 Results

Table 5.2 :   *Distribution of projects according to the settlement style of target communities.*

A: general residential areas, B: low cost residential areas, C: informal residential areas

	A	B	C	(A+B)	(B+C)	(A+B+C)	Total
AB	4	23	0	0	0	3	30
TFA	5	16	1	0	5	5	32
CT	6	5	1	3	5	0	20
GGC	5	1	1	5	2	13	27
NGO	9	39	1	0	5	8	62
LG	11	6	2	8	7	13	47
WCP	10	28	1	3	5	3	50
GP	10	17	2	5	7	18	59
TOTAL	20	45	3	8	12	21	109
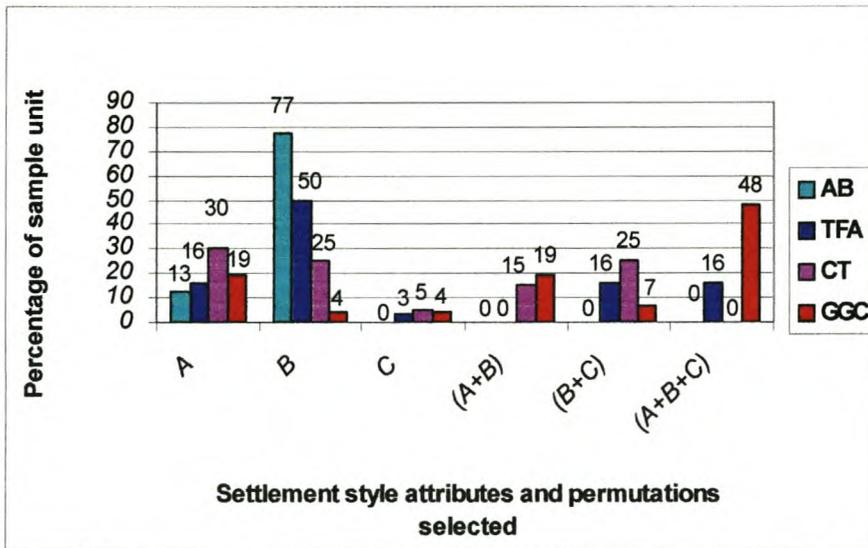
Figure 5.4 :   *Sample distribution in terms of settlement styles of target communities as recorded per case study organisation.*

A: general residential areas, B: low cost residential areas, C: informal residential areas

As Figure 5.4 illustrates, both Abalimi Bezekhaya and Trees for Africa have devoted their resources to co-ordinating projects in areas with low cost/subsidised housing, 77% and 50% respectively with less co-ordination of projects in areas with other housing characteristics. The Greater Germiston TLC has rather decided on a strategy where the highest number of projects (48%) were focused at areas which consist of a variety of residential styles. Cape Town MLC has decided to spread projects more evenly across the various existing styles of residential developments.
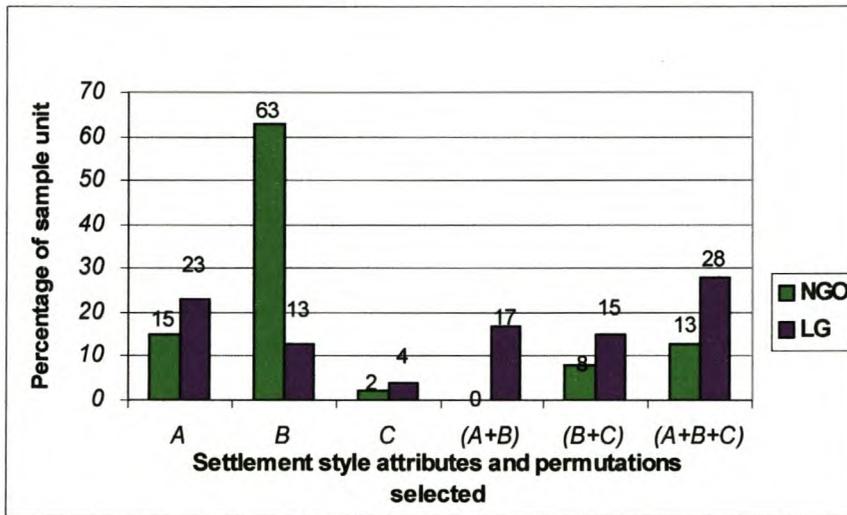
Figure 5.5 :   *Sample distribution in terms of settlement styles of target communities as recorded per organisation type*

A: general residential areas, B: low cost residential areas, C: informal residential areas

Figure 5.5 shows that non-governmental organisations prefer to select low cost/subsidised residential developments (63% of projects) for the implementation of urban greening development projects, whilst local government has chosen its projects more evenly across the spectrum of existing residential developments. Larger numbers have been recorded by local government in all the categories displayed, except for attribute B (low cost residential areas). In nearly 80% of the projects that were co-ordinated by non-governmental organisations a specific style of residential development, and not a spectrum of styles was targeted. For local government projects, however, this was true for only 40% of the sample projects.
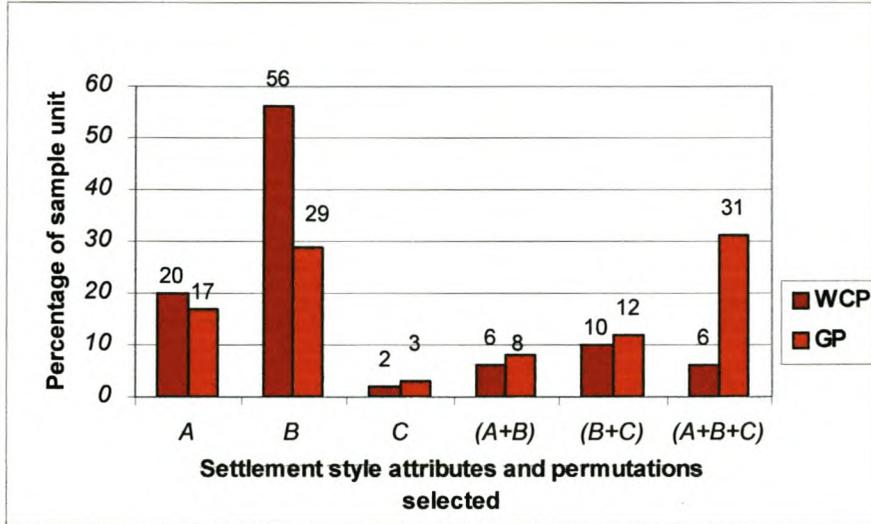
Figure 5.6 :   *Sample distribution in terms of the settlement styles of target communities as recorded per province*
A: general residential areas, B: low cost residential areas, C: informal residential areas

At provincial level, the distribution of projects across development types is the same (Figure 5.6), namely that the majority of projects focused at low cost/subsidised residential developments. (56% and 29% for the Western Cape and Gauteng Province respectively). In Gauteng Province, a significant number of projects (31%) were co-ordinated in areas which consist of a variety of residential styles.
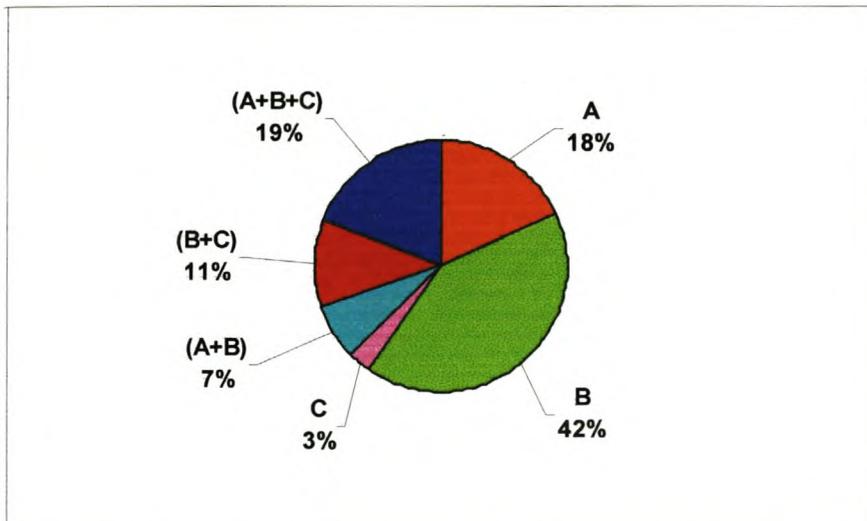
Figure 5.7 :   *Sample distribution in terms of the settlement styles of target communities (all projects)*
A: general residential areas, B: low cost residential areas, C: informal residential areas. (n = 109)

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From Figure 5.7 the following observations were made:

- Fourty-two percent of the sample of projects were implemented within low cost/subsidised housing residential areas.

- Two-thirds (67%) of all projects were targeted at permanent settlements [A + B + (A+B) = 86 of 109 projects].

- Less than 3% of the sample were co-ordinated in urban areas which consist exclusively of informal residential developments.

- Thirty percent of the sample of projects [(A+B+C) + (B+C)] were aimed at either the broader community or low-cost and informal settlement communities combined. Respondents selected permutations within this category of the survey questionnaire to describe projects which provide sport and recreation facilities (for example stadia) which in the majority of cases are physically situated within a planned environment with infrastructure, but which serve a larger part of the city's inhabitants.

5.3.1.3 Discussion

The analysis of the results has indicated that non-governmental organisations adopt a strategy whereby projects are almost exclusively co-ordinated in low cost/subsidised housing areas. Local government in contrast has spread its projects more evenly across the spectrum of residential development areas. The agenda of local government remains unstated, but it may be speculated that a causal relationship exists with its perceived legal responsibility to provide a service to the broader community and its tax-based financial support. Non-governmental organisations in turn are not bound by these responsibilities, their funding is derived from alternative sources and consequently not obligated to co-ordinate projects in this way. Further analysis of the results within this section indicates that permanent and planned settlements are preferred during selection of areas for urban greening development projects. Reasons for this tendency remain unresearched, however, the temporal nature of these urban areas may prove a major contributing factor.

5.3.2 Socio-economic status of target communities

5.3.2.1 Methods

Five fixed alternatives were provided to describe the socio-economic status of communities which have benefited from co-ordinated urban greening development projects between 1994 and 2000. They included A: lower class, B: lower-middle class, C: middle class, D: upper-middle class and E: upper class. Respondents had the freedom to select only one or a combination of attributes to describe the relevant situation. All permutations used by respondents are presented in brackets in Table 5.3 and Figures 5.8 –5.11 and, these variables do not imply totals for single attributes. Figures have been rounded for presentation purposes.

5.3.2.2 Results

Table 5.3 :   *Distribution of projects in terms of the socio-economic status of target communities*
A: lower class, B: lower-middle class, C: middle class, D: upper-middle class, E: upper class

	A	B	C	D	E	(A+B)	(B+C)	(C+D)	(A+B+C +D+E)	Total
AB	19	8	0	0	0	0	0	0	3	30
TFA	22	4	0	0	0	1	0	0	5	32
CT	8	2	0	0	0	7	2	1	0	20
GGC	2	2	1	4	0	1	16	0	1	27
NGO	41	12	0	0	0	1	0	0	8	62
LG	10	4	1	4	0	8	18	1	1	47
WCP	27	10	0	0	0	7	2	1	3	50
GP	24	6	1	4	0	2	16	0	6	59
TOTAL	51	16	1	4	0	9	18	1	9	109
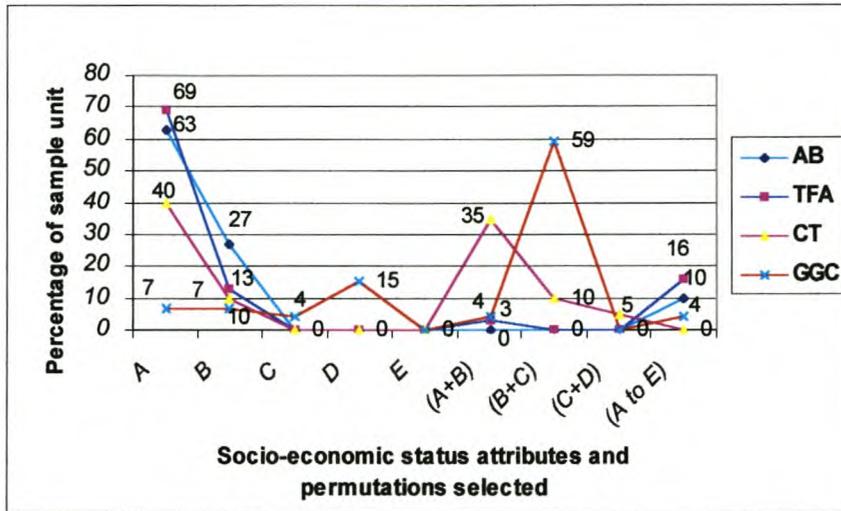
Figure 5.8 : *Sample distribution in terms of the socio-economic status of target communities as recorded per case study organisation*

A: lower class, B: lower-middle class, C: middle class, D: upper-middle class, E: upper class

Figure 5.8 indicates that a strong positive correlation exists in the greening activities of the non-governmental organisations in the sample. Both Abalimi Bezekhaya and Trees for Africa have selected communities with a relatively low socio-economic status for the majority of their projects. Percentages for these two organisations in terms of attribute A (lower class) were: Abalimi Bezekhaya (63%) and Trees for Africa (69%). The figures for attributes [A (lower class) + B (lower-middle class) + (A + B) (lower class and lower-middle class combined)] are: Abalimi Bezekhaya (90%) and Trees for Africa (85%). Numbers recorded by these two organisations were very low for the rest of the attributes provided as well as for all the permutations and in most instances lower than the numbers recorded by the two local governments. The only clear exception is found at the permutation (A to E) or (A+B+C+D+E). Here numbers recorded are slightly higher than those of the two local governments. The graphs for the two local governments in turn show no clear correlation. Whereas slightly more than 59% of the projects co-ordinated by the Greater Germiston TLC focused at middle class and lower-middle class communities combined (B + C), 75% of the projects co-ordinated by the Cape Town MLC focused at either low class communities or low class and lower-middle class communities combined [A + (A+B) = 15 of 20 projects].
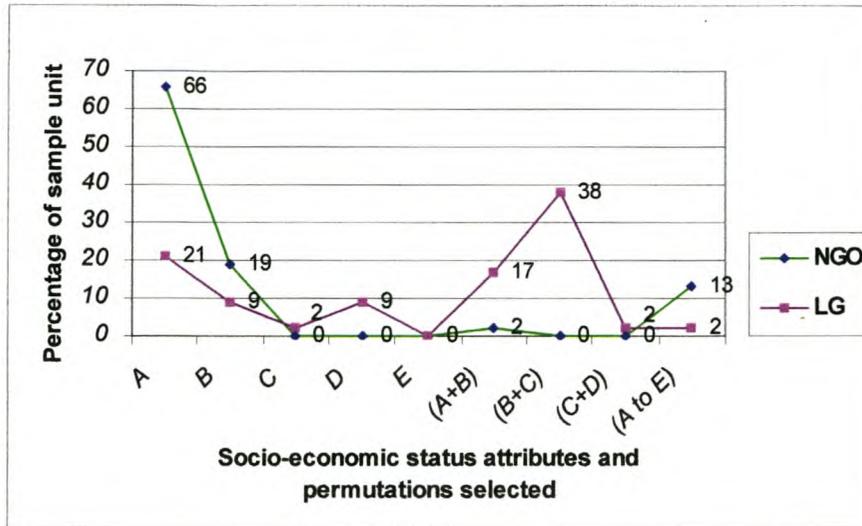
Figure 5.9 : **Sample distribution in terms of the socio-economic status of target communities as recorded per organisation type**

A: lower class, B: lower-middle class, C: middle class, D: upper-middle class, E: upper class

Figure 5.9 confirms the findings that were shown in Figure 5.8, that in the case of non-governmental organisations the majority of projects were focused at communities with a relatively low socio-economic status [A+B+ (A+B) = 87%]. In the case of local government again, a relatively more equal distribution across the spectrum of different socio-economic groups is noticeable. The graph of local government reaches a high at permutation (B+C) (projects focusing at lower-middle class and middle class together) which may be ascribed to the greater number of projects recorded by the Greater Germiston TLC.
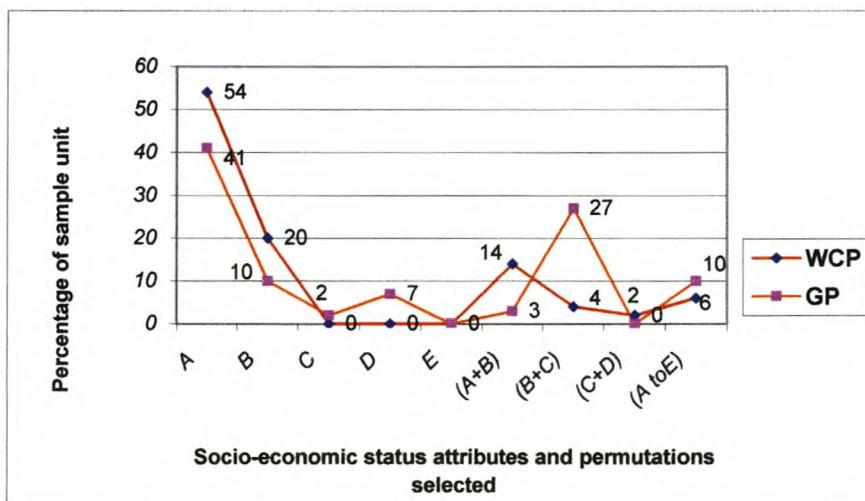
Figure 5.10 : **Sample distribution in terms of the socio-economic status of target communities as recorded per province**

A: lower class, B: lower-middle class, C: middle class, D: upper-middle class, E: upper class

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From Figure 5.10 it is clear that there is greater similarity in greening programmes within provinces than between organisation type. Whereas 88% of the projects in the Western Cape Province were focused at communities with a relatively low socio-economic status, only 54% of Gauteng Province projects were focused at these communities.
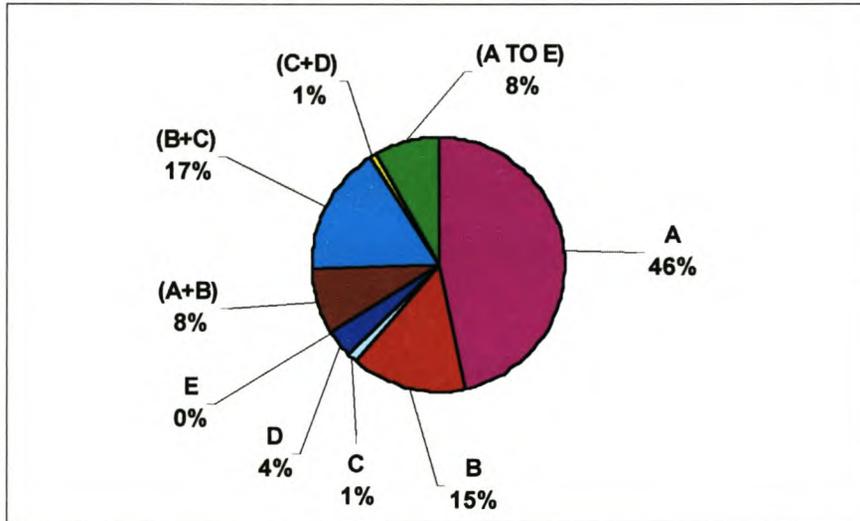
Figure 5.11 : Sample distribution in terms of the socio-economic status of target communities (all projects)
A: lower class, B: lower-middle class, C: middle class, D: upper-middle class, E: upper class
(n = 109)

On analysis of Figure 5.11, the following observations were made:

- The majority of projects focused on communities with a relatively homogenic socio-economic status. Seventy-two projects (66%) were described by the use of single attributes.

- More than two-thirds (69%) of all projects listed, focused on communities with a relatively low socio-economic status.

- No recordings mention urban greening development projects which focus exclusively on homogeneously high socio-economic status communities.

- Only four of 109 projects (4%) were focused on communities from the upper-middle class.

5.3.2.3   Discussion

The research has indicated that more than two-thirds of urban greening development projects were focused at communities with a relatively low socio-economic status. However, care should be taken not to assume a direct correlation between benefits gained and the respective projects. This finding supports the idea that urban greening programmes generally aim to contribute to the improvement of human lives without considering consciously aspects such as the direct social or economic benefits which urban greening can provide. Primary human and social needs are satisfied by some, yet not all aspects of the inclusive urban greening concept; in turn secondary benefits of a socio-economic nature are gained as a direct consequence from those aspects. Such a finding or any further assumptions might only be hazarded after further analysis in this chapter and after analysis of the sub-sample in Chapter 6.

5.3.3   Racial characteristics of target communities

5.3.3.1   Methods

Four fixed-alternatives were provided to respondents in order to describe the racial composition of communities which have benefited from urban greening development initiatives between 1994 and 2000. They are A: African communities (urban areas where the majority of inhabitants are of native African descent or people classed as so-called Black during the Apartheid regime, B: Coloured communities (communities or urban areas where the majority of inhabitants are classed within the coloured/brown racial group), C: Asian-african communities (communities where the majority of inhabitants are from Asian descent) and D: grey urban areas (a term used by local authorities to describe mixed race urban areas). Respondents had the freedom to use one or a combination of attributes to describe the situation relevant to the project. However, none of the survey questionnaires were returned with combinations for this section. Figures have been rounded for presentation purposes.

5.3.3.2   Results

Table 5.4 :   Distribution of projects in terms of the racial characteristics of target communities
A: African, B: Coloured, C: Asian-african, D: grey

	A	B	C	D	Permutations	Total
AB	30	0	0	0	0	30
TFA	30	0	1	1	0	32
CT	14	6	0	0	0	20
GGC	23	0	0	4	0	27
NGO	60	0	1	1	0	62
LG	37	6	0	4	0	47
WCP	44	6	0	0	0	50
GP	53	0	1	5	0	59
TOTAL	97	6	1	5	0	109
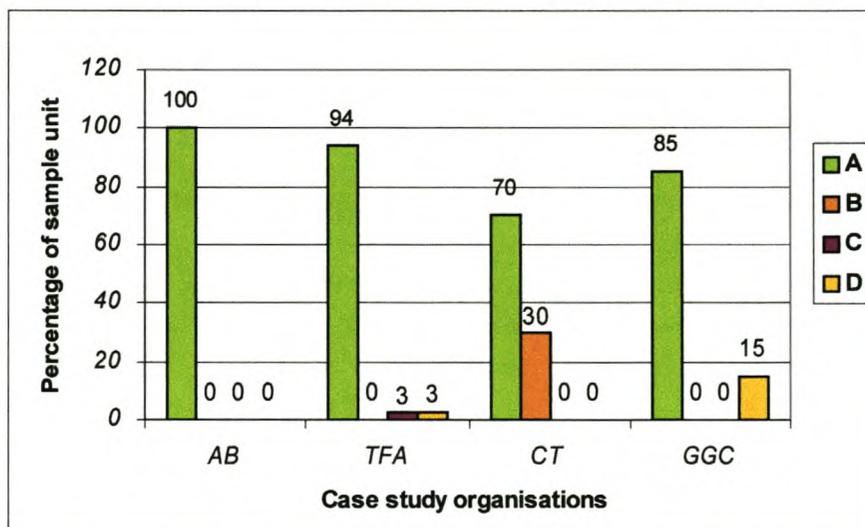
Figure 5.12 :   Sample distribution in terms of racial characteristics of target communities as recorded per case study organisation
A: African, B: Coloured, C: Asian-african, D: grey

The survey indicated that each of the four organisations involved in co-ordinated urban greening development situate the majority of their projects within communities where Africans are the dominant racial group. Percentages in this regard were as follows: Abalimi Bezekhaya (100%), Trees for Africa (94%), Cape Town MLC (70%) and Greater Germiston TLC (85%). Communities where other racial groups are dominant were not prioritised. The only exception is projects co-ordinated by the Cape Town MLC. In this case, 30% of urban greening development projects focused on urban areas where the majority of the community consists of coloured people.
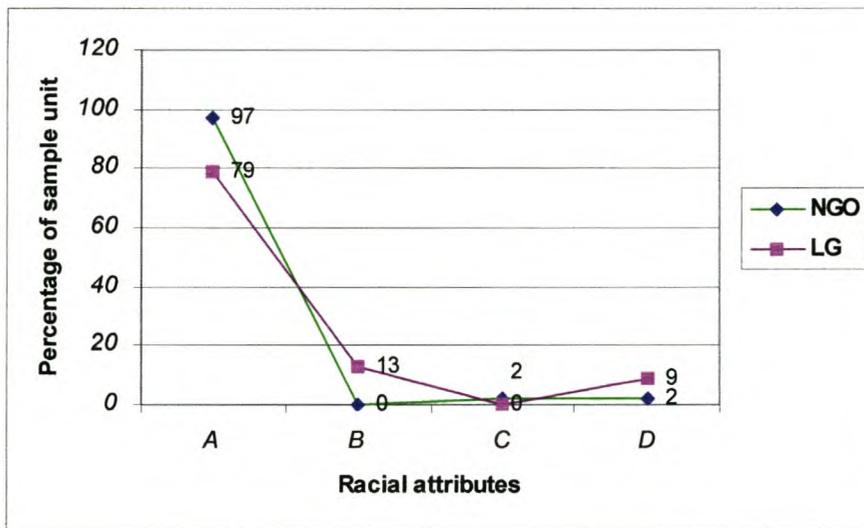
Figure 5.13 : Sample distribution in terms of the racial characteristics of target communities as recorded per organisation type

A: African, B: Coloured, C: Asian-african, D: grey

The graphs of non-governmental organisations and local government in Figure 5.13 correlate closely. Nearly 97% of all projects co-ordinated by non-governmental organisations were focused on urban areas where Africans are the dominant racial group. In the case of local government slightly less than 79% of projects were aimed at urban areas where African people are in the majority and the rest slightly better distributed across the other racial groups than non-governmental organisations.
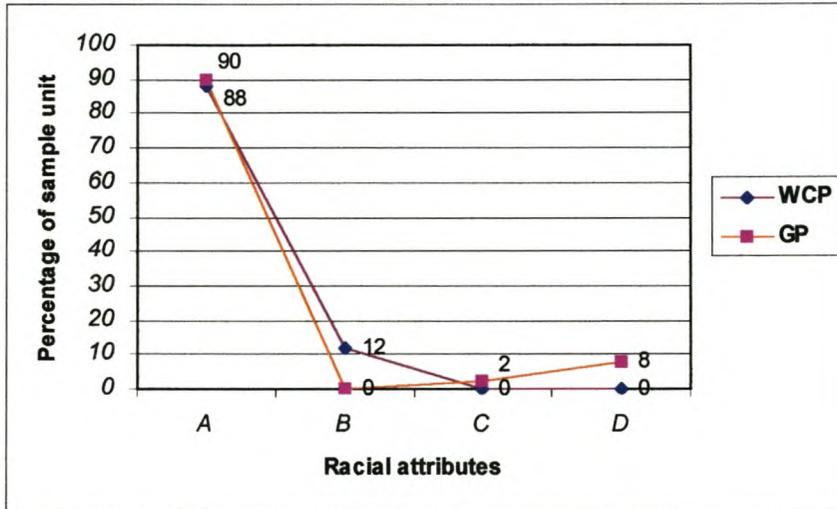
Figure 5.14 : Sample distribution in terms of the racial characteristics of target communities as recorded per province
A: African, B: Coloured, C: Asian-african, D: grey

The graphs representing the racial distribution of the sample per province are (as in Figure 5.13) positively correlated. The Western Cape and Gauteng Provinces have respectively co-ordinated 88% and 90% of their projects within urban areas where the dominant racial group is African. In the Western Cape Province the rest of the projects (12%) were co-ordinated in areas where the dominant racial group is Coloured.

Although this group deserves more demographically in the Western Cape (as their numbers are much greater than Africans), this graph does indicate that the needs of Coloured communities in the Western Cape still carries weight when it comes to the planning and implementation of projects. In Gauteng Province only 2% of the projects were implemented within Asian-african communities and the rest (8%) in mixed race areas.
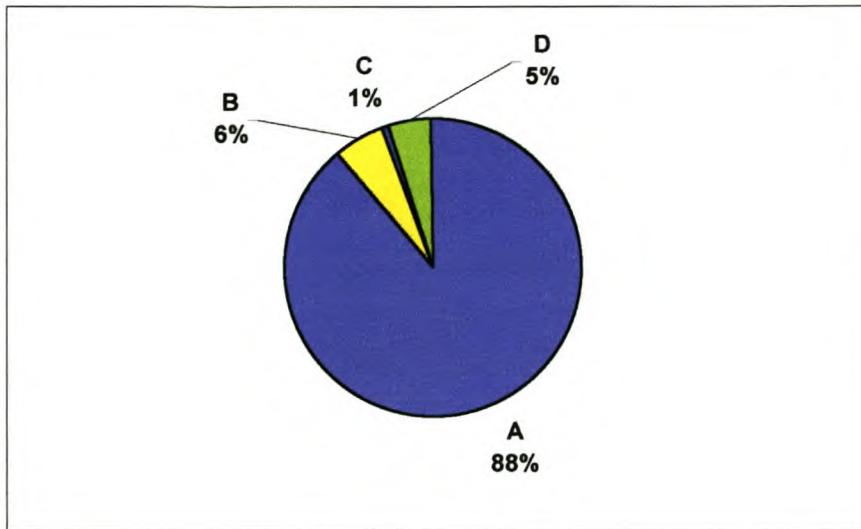
Figure 5.15 :   Sample distribution in terms of the racial characteristics of target communities (all projects)
A: African, B: Coloured, C: Asian-african, D: grey (n = 109)

Figure 5.15, which summarises the situation, indicates that more than 88% of the sample of urban greening development projects were implemented in areas where Africans are the dominant race grouping. Communities of Asian descent have largely not benefited from governmental or non-governmental greening projects since 1994.

5.3.3.3   Discussion

The African racial grouping has benefited overwhelmingly over other disenfrenchised racial groupings from co-ordinated urban greening development between 1994 and 2000, due particularly to the policy of non-governmental organisations to focus on these areas. From this, it appears as if these organisations consider themselves as service providers exclusively to communities of African descent. Their agenda remain undefined, but their argument might probably be based on the first of three *raison d'être* dealing with this contentious issue:

❖ The African racial grouping is demographically dominant in South Africa and they feature lower than all other racial groupings in terms of the HDI (Human Development Index) (Table 3.1).

❖ The above information represents a disproportionate distribution in terms of population figures. Urban greening development needs to be co-ordinated according to a quota system or even with more circumspection.

❖ South Africa aims to become a non-racial and democratic country. As racial integration becomes more prevalent, issues of race will become irrelevant to a study such as this, and greening programmes will simply be situated according to need.

5.3.4 Classification of projects according to urban greening categories and combinations

5.3.4.1 Methods

Five fixed-alternatives were provided on the survey questionnaire which respondents could use to describe the nature of projects co-ordinated between 1994 and 2000. They included A: urban beautification, B: urban outdoor sports and recreation facilities, C: urban forestry, D: urban agriculture and E: urban greening supportive systems. Respondents had the freedom to use one or more attributes to describe the nature of each project. All permutations selected by respondents are presented in brackets in Table 5.5 and Figures 5.16 – 5.19 and does not imply totals for single attributes. Figures have been rounded for presentation purposes.

5.3.4.2 Results

Table 5.5 : Distribution of projects in terms of urban greening categories

A: urban beautification, B: urban outdoor sport and recreation facilities, C: urban forestry, D: urban agriculture, E: supportive systems

	A	B	C	D	E	(A+B)	(A+C)	(A+B +C)	(A+B +D)	Total
AB	5	0	3	11	8	1	0	2	0	30
TFA	1	0	16	5	7	1	2	0	0	32
CT	0	5	0	0	0	14	0	0	1	20
GGC	1	5	1	0	0	16	2	1	1	27
NGO	6	0	19	16	15	2	2	2	0	62
LG	1	10	1	0	0	30	2	1	2	47
WCP	5	5	3	11	8	15	0	2	1	50
GP	2	5	17	5	7	17	4	1	1	59
TOTAL	7	10	20	16	15	32	4	3	2	109
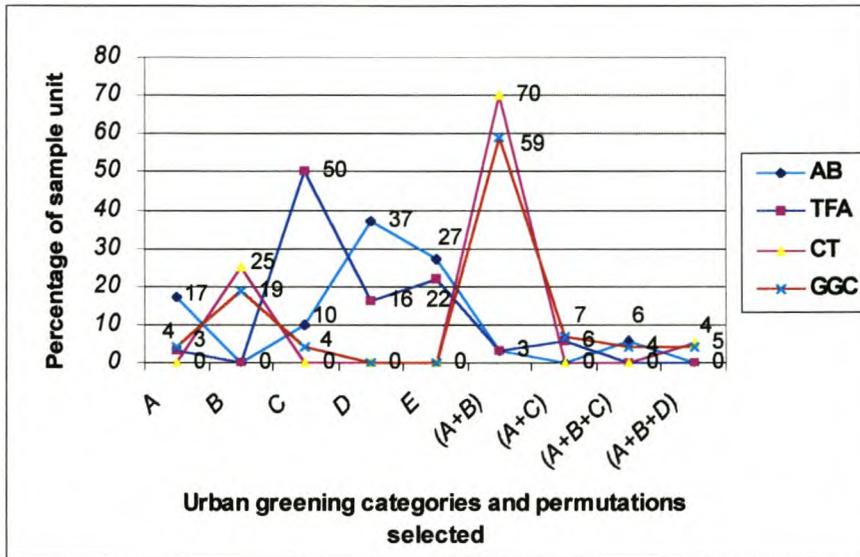
Figure 5.16 :   Sample distribution in terms of urban greening categories as recorded per case study organisation
A: urban beautification, B: urban outdoor sport and recreation facilities, C: urban forestry,
D: urban agriculture, E: supportive systems

An analysis of Figure 5.16 indicates that a clear and definite positive correlation exists between the two local governments (Cape Town MLC and the Greater Germiston TLC) with regard to the nature of the projects they have co-ordinated between 1994 and 2000. This correlation is not only with regard to projects described by the use of one attribute, but also for those with more than one attribute. These graphs illustrate clearly that both the Cape Town MLC and Greater Germiston TLC have directed the gross amount of their resources towards projects which either exclusively focused on urban outdoor sport and recreation facility provision (B) or projects which focused on urban beautification and urban outdoor sport and recreation facility provision combined [(B+C)]. In the case of the Greater Germiston TLC these projects amounted to 78% of all projects co-ordinated. In the case of the Cape Town MLC, these projects amounted to 95% of all the projects co-ordinated. It is thus evident that both local governments have shown little interest in projects such as urban agriculture, urban forestry and urban greening supportive systems.

The graphs for Abalimi Bezekhaya and Trees for Africa in turn, shows some correlation in the majority of categories (single attributes and permutations thereof). Yet, a negative correlation is noticeable in terms of attribute C (urban forestry) and attribute D (urban agriculture). This

reiterates that Trees for Africa is more focused on urban forestry (50% of projects) and Abalimi Bezekhaya is more focused on urban agriculture (37% of projects).
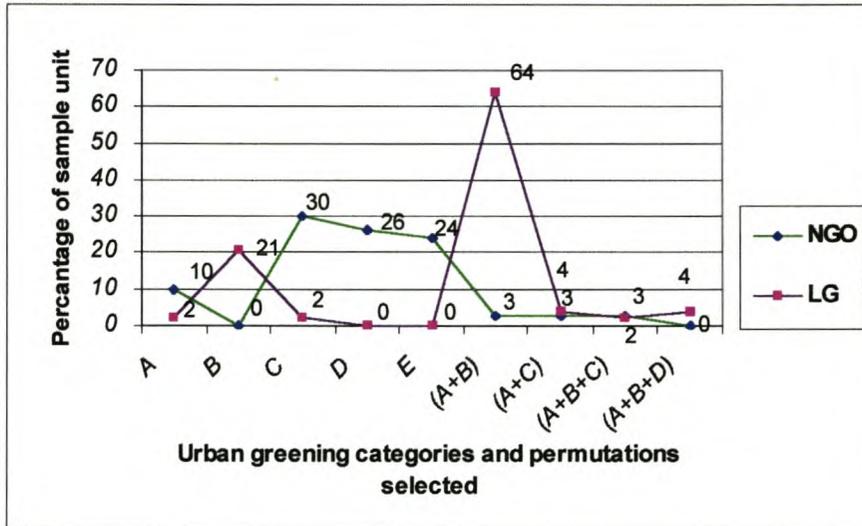
Figure 5.17 : ***Sample distribution in terms of urban greening categories as recorded per organisation type***
A: urban beautification, B: urban outdoor sport and recreation facilities, C: urban forestry, D: urban agriculture, E: supportive systems

Figure 5.17 indicates that for 91% of all projects, non-governmental organisations and local governments do not duplicate each other with regards to the nature of the urban greening development projects co-ordinated between 1994 and 2000. Their efforts have in effect complemented each other in terms of realising the broader, inclusive urban greening concept.

Whereas the focus of urban greening development projects co-ordinated by the two local governments was centred on urban beautification and outdoor sports and recreation facility provision (85%), the majority projects of the two non-governmental organisations (81%) were rather aimed at urban greening initiatives such as urban forestry, urban agriculture and urban greening supportive systems.
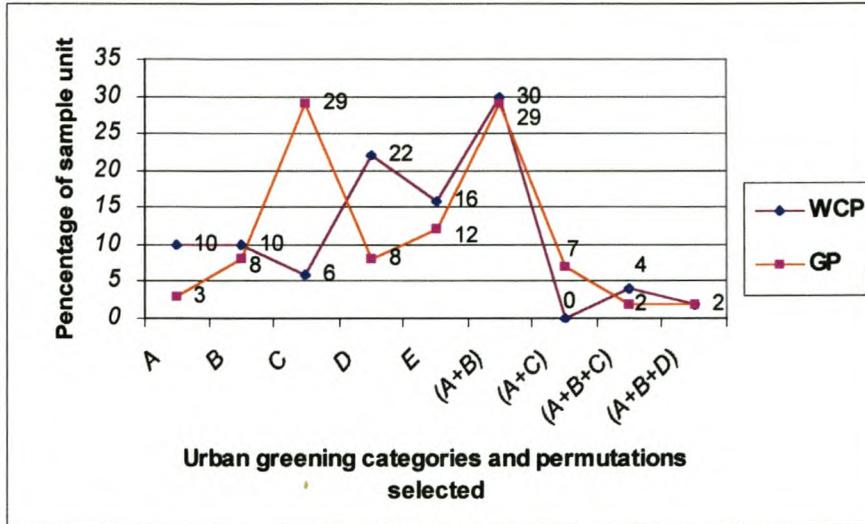
Figure 5.18 : *Sample distribution in terms of urban greening categories as recorded per province*

A: urban beautification, B: urban outdoor sport and recreation facilities, C: urban forestry,

D: urban agriculture, E: supportive systems

The graphs illustrating the distribution of the sample as recorded per province (Figure 5.18) are like the graphs of the NGOs in Figure 5.16 very indefinitely positively correlated. These two graphs, however, show significant differences in terms of projects focussing solely on urban forestry and urban agriculture due to the different foci of the two non-governmental organisations
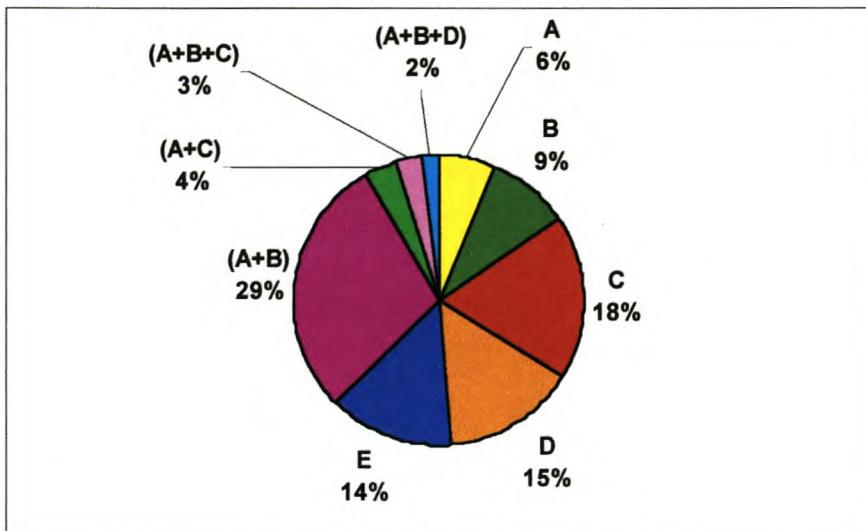
Figure 5.19 : *Sample distribution in terms of urban greening categories (all projects)*

A: urban beautification, B: urban outdoor sport and recreation facilities, C: urban forestry,

D: urban agriculture, E: supportive systems (n = 109)

The analysis of Figure 5.19 produces the following:

- Projects which were described by the use of single attributes counted 62% of the sample of 109 projects. Projects which were described by the use of two attributes amounted to 33% of the entire sample and projects that were described by the use of three attributes amounted to 5%.

- Projects which focused exclusively on urban beautification and urban outdoor sport and recreation facility provision [A + B + (A+B)] (described in Chapter 2 as types of urban greening more related to First World needs) totalled more than 44% of the entire sample. Projects focusing exclusively on either urban forestry, urban agriculture or urban greening supportive systems (described in Chapter 2 as types of urban greening relating more to primary human and social needs and which have the potential to provide directly social and economic benefits) totalled 47% of the sample.

- By extension, should only single attributes be taken as a sample (thus 68 projects = 100%), the picture changes as follows: [A+B = 17 of 68 projects = 24%]; [B+C+D = 51 of 68 projects = 76%].

5.3.4.3   Discussion

The following conclusions may be drawn :

- The majority of projects co-ordinated between 1994 and 2000 (62%) were focused on a particular component of the inclusive urban greening concept. Apart from permutation (A + B), which accounts for 29% of the sample, it may be assumed that multi-purpose projects were less popular. A large number of projects listed by respondents were normal urban parks. All the respondents have classified these facilities as urban beautification-cum-urban sport and recreation facilities. From there the 29% recorded for attribute (A + B).

- This study has indicated that 1) for the full sample of 109 projects there is approximately an equal distribution in terms of urban beautification/urban outdoor sport and recreation facility projects on the one side and urban forestry/urban agriculture/ urban greening supportive system projects on the other and 2) for the single attributes (if only single attributes are taken as a sample) emphasis has fallen upon urban forestry/urban agriculture/urban greening supportive system projects.

- The majority of components of urban greening, (urban beautification, urban outdoor sport and recreation facility provision, urban agriculture and urban greening supportive systems) are specific with regard to the benefits it provides to humankind. However, urban forestry is the only component which exhibits a duality in terms of its benefits, thus either satisfying first world needs or directly generating socio-economic benefits.

- As this research 1) has only a limited scope, and 2) does not make provision for a distinction between "urban forestry for beautification/environmental improvement purposes" and "urban forestry for social and commercial purposes" (see Glossary of Meanings) it is unsound to take a decision on whether a paradigm shift has occurred at execution level from a traditional First World needs approach to that of a social needs approach. This shortcoming crystallised only on analysis of data obtained by means of the survey questionnaire. Continued research with regard to the above is necessary, however, it is likely that a shift has occurred. In this regard, the discussion on Figure 5.19 and specifically the latter points in the discussion may lead the way.

5.3.5   Ownership of land for urban greening development projects

5.3.5.1   Methods

Five fixed alternatives were provided. They included A: local government owned land, B: provincial government owned land, C: central government owned land, D: privately owned land and E: other land. Respondents had the freedom to select one attribute or combinations of attributes to describe the situation relevant to the project. For the purpose of this section, all permutations used by respondents were grouped together under a single heading or label called "Permutations". Figures have been rounded for presentation purposes.

5.3.5.2 Results

Table 5.6 : *Distribution of projects in terms of ownership of land (number*- number of projects of which land was transferred)*

A: local government owned land, B: provincial government owned land, C: central government owned land, D: privately owned land, E: other land

	A	B	C	D	E	Permutations	Total
AB	2	22	0	5	0	1	30
TFA	8	3	0	16	2	3	32
CT	20	0	0	0	0	0	20
GGC	26 +1*	0	0	0	0	0	27
NGO	10	25	0	21	2	4	62
LG	46 +1*	0	0	0	0	0	47
WCP	22	22	0	5	0	1	50
GP	34 +1*	3	0	16	2	3	59
TOTAL	56 +1*	25	0	21	2	4	109
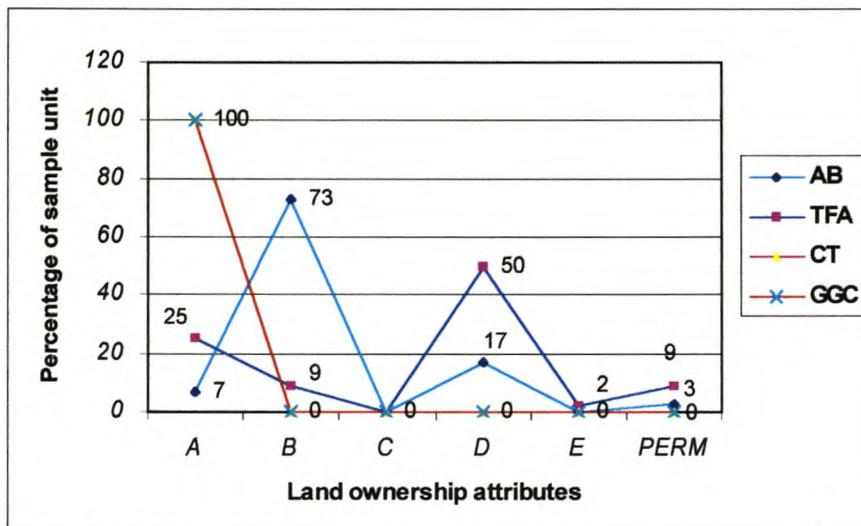
Figure 5.20 : *Sample distribution in terms of ownership of land for urban greening as recorded per case study organisation*

A: local government owned land, B: provincial government owned land, C: central government owned land, D: privately owned land, E: other land, PERM: permutations

On analysing the graphs of the respective organisations, it becomes evident that a strong positive correlation exists between the two local governments in terms ownership of land for their urban greening projects. Figure 5.20 shows that local government has almost exclusively co-ordinated urban greening development projects on land belonging to local government, with the only exception of one project which has been implemented on provincial government land. This particular piece of land was later transferred to the local authority within which area of jurisdiction it is situated, Greater Germiston TLC (see 1* Table 5.9 onwards). The graphs that illustrate the land ownership patterns for projects implemented by Abalimi Bezekhaya and Trees for Africa, show no definite correlation and a clear difference in locale is noticed in terms of attribute B, which represents provincial government owned land and attribute D, which represents private land. These differences in locale appear as a result of the fact that Abalimi Bezekhaya directs a considerable amount of its resources towards the greening of schoolgrounds on the Cape Flats (50% of projects) and Trees for Africa co-ordinates a large number of so-called "A Tree for a House" projects in Gauteng Province (73% of projects). No projects were allocated on central government land by any of the organisations.
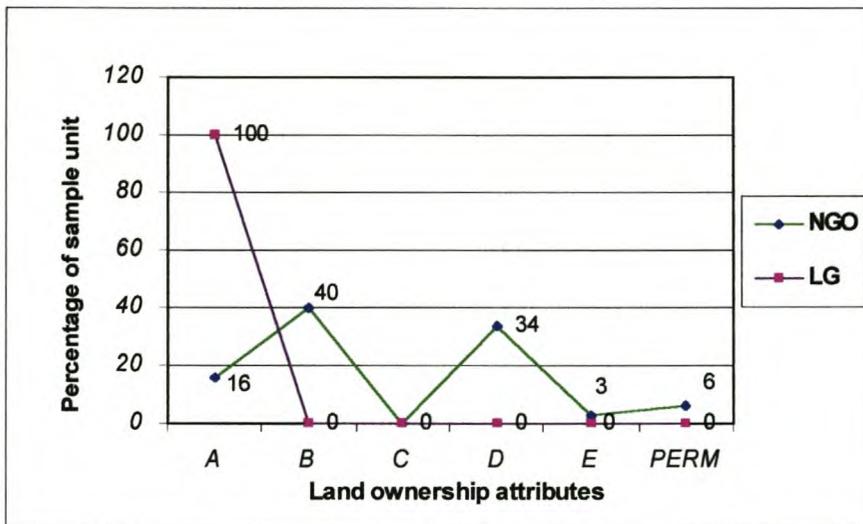
Figure 5.21 : *Sample distribution in terms of ownership of land for urban greening development as recorded per organisation type*

A: local government owned land, B: provincial government owned land, C: central government owned land, D: privately owned land, E: other land, PERM: permutations

Figure 5.21 confirms findings in Figure 5.20 quite explicitly as graphs of local government and non-governmental organisations indicate sharp contrasts in terms of ownership of land for co-ordinated urban greening development projects. Figure 5.21 shows clearly that local government co-ordinates urban greening development projects exclusively on land that belongs to local government. An analysis of Figure 5.21 further indicates that non-governmental organisations have co-ordinated nearly three quarters of all its projects (74%) on land belonging either to provincial government or land which belongs to private owners. Non-governmental organisations have co-ordinated only 16% of their projects on local government owned land, which amounts to nearly 18% of all projects co-ordinated on local government land.
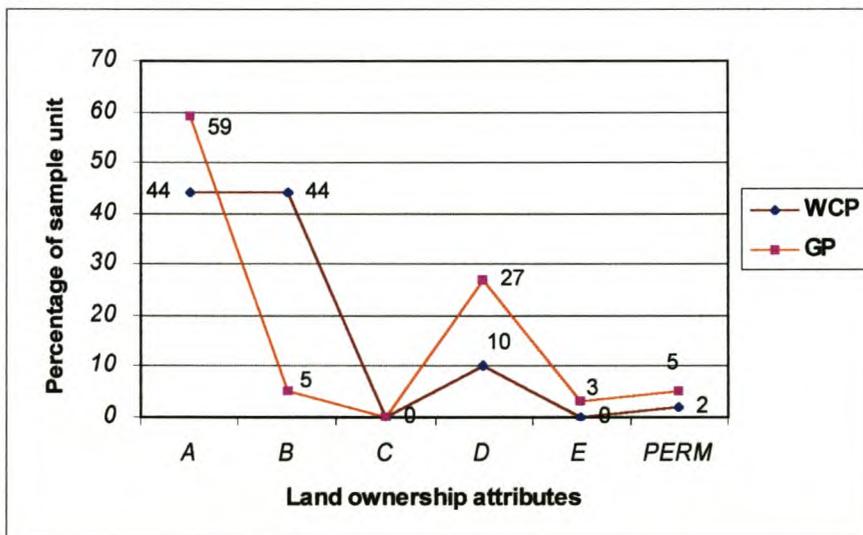
Figure 5.22 : Sample distribution in terms of ownership of land for urban greening development as recorded per province

A: local government owned land, B: provincial government owned land, C: central government owned land, D: privately owned land, E: other land, PERM: permutations

The graphs for the two provinces displayed in Figure 5.22 show no clear correlation, which indicates that there is little correspondence found in terms of land ownership for co-ordinated urban greening development between the two provinces. Figure 5.22 points out relatively significant differences in locale that exists between the two provinces in terms of attribute A (local government owned land), B (provincial government owned land) and D (privately owned land). Another aspect that Figure 5.22 highlights is the equal amounts of projects co-ordinated on both local government (44%) and provincial government land (44%) in the Western Cape

Province. Together it amounted to 88% of all projects recorded for the Western Cape Province. Projects co-ordinated on both local government and private land in Gauteng Province accounted for 86% of the total recorded. The differences that exist can mainly be ascribed to the differences in strategy which exists between the two non-governmental organisations examined.
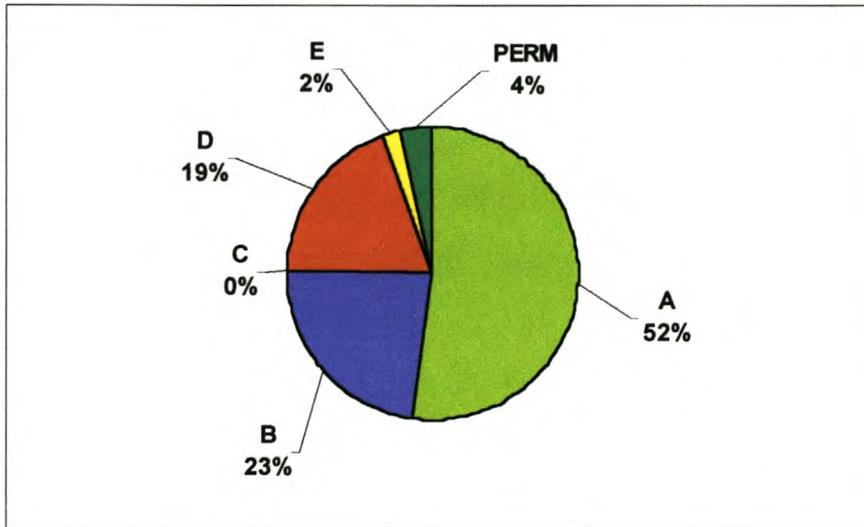
Figure 5.23 :   Sample distribution in terms of ownership of land for urban greening development (all projects)
A: local government owned land, B: provincial government owned land, C: central government owned land, D: privately owned land, E: other land, PERM: permutations (n = 109)

The analysis of Figure 5.23 presents the following :

- More than 52% of the total sample of projects were co-ordinated on land which belongs to local government (local government projects represented only 43% of the sample).

- Nearly a quarter of all projects (23%) were co-ordinated on land which belongs to provincial government.

- Slightly less than a fifth of all projects (19%) were co-ordinated on land which belongs to private owners.

- Together, these three land types accounted for 94% of the sample.

- None of the projects were co-ordinated on central government land.

5.3.5.3   Discussion

This section of the research revealed:

- Local government land, provincial land and private land may be considered as the most important destinations for co-ordinated urban greening development projects.

- From the three variables, local government owned land featured with the highest number of projects, representing 52% of all land uses. The number of projects recorded for local government land was more than double the combined number recorded for provincial land and private land. It is indicative that local government land remains the prime land type for co-ordinated urban greening.

- The data has further indicated that local government and non-governmental organisations compliment each other in terms of their land uses. It appears as if each of these organisation types operates within its own ambit or project co-ordination environments and only in combination complete the picture of urban greening.

CHAPTER 6
Descriptive analysis of Urban Greening Development projects

6.1 INTRODUCTION

Chapter 6 describes a sub-sample of urban greening projects in detail. Four projects of the 109 original projects in the sample were selected, representing each of the four organisations which participated as case studies in this research. The selection of these projects from the strata was done subjectively and without the application of scientific measures. Projects were mainly selected for its conspicuously interesting characteristics. The only desiderata included proper documentation available and representivity in terms of the various categories that the inclusive urban greening concept embraces.

6.2 ANALYSIS OF THE SUB-SAMPLE

Even though the findings in section 5.3.4.2/3 have indicated that the majority of urban greening development projects focussed on only one of the categories of urban greening; three of the four projects selected for analysis within this chapter were multi-purpose projects.

The project that was selected from Abalimi Bezekhaya is the Manyani Peace Park on the Cape Flats which is an urban beautification/urban outdoor sport and recreation facility. From Trees for Africa, the growth and development of the Umphakathi Community Nursery in Orange Farm will be discussed. This project falls under the category urban greening supportive systems. The two projects which represents local government are both projects which were undertaken as part of the country-wide Reconstruction and Development Programme (RDP) (see 3.3.3.2) and in particular the Special Integrated Projects on Urban Renewal. A number of multi-million rand Special Integrated Projects on Urban Renewal were identified in May 1994 by the then President Nelson Mandela in his State of the Nation address as key priorities of the RDP (Ministry in the Office of the President, 1995). Areas that were earmarked for these projects mainly included those which were severely devastated by violence and neglect during Apartheid.

These projects were:

- the Katorus Special Presidential Project, East Rand, Gauteng

- Duncan Village, East London, Eastern Province

- Ibhayi, Port Elizabeth, Eastern Province

- The Serviced Land Project, Cape Metropolitan, Western Cape Province

- Cato Manor, Durban, Kwa-Zulu Natal

- Botshabelo/Thabong, Freestate (Ministry in the Office of the President, 1995).

The project selected from the Cape Town MLC is Park NY133.134 (also known as Guguletu Park). This Serviced Land Project is an urban beautification/urban outdoor sport and recreation/urban agriculture facility. The project selected from the Greater Germiston TLC is the Spruitview Entrance Development, a sub-project of the Katorus Greening Initiative which in itself was a division of the Katorus Special Presidential Project. This project is an urban beautification/urban forestry initiative.

6.2.1. The Manyani Peace Park, Khayelitsha

6.2.1.1 International Peace Trees Programme

The Manyani Peace Park (developed between 1994 and 1996) was the 18th initiative with which the worldwide Peace Trees Programme had become involved (Abalimi Bezekhaya, 1996). The Peace Trees Programme has its origins in the international Earthstewards Network which was established during 1980 as a citizen diplomacy and conflict resolution organisation specialising in people-to people exchanges. Peace Trees Programmes aim to bring people from various cultural backgrounds together in areas of conflict to work towards the common goal of healing the planet by means of projects to improve the natural environment such as tree planting. In doing so, Earthstewards Network believe, people in conflict are aided to think and act beyond stereotypes and as a result prove to be more successful in conflict resolution. All Peace Trees Projects are implemented similarly and according to a fixed plan or recipe. Projects are generally divided into two sections. The first being initiatives to improve the natural environment and second, a camp where role players live together during the implementation period of the project to share ideas, skills and life experience (See Appendix III) (Abalimi Bezekhaya, 1996).

6.2.1.2 Peace Trees in South Africa and Abalimi Bezekhaya

The Peace Trees concept was introduced to South Africa (and in particular to Abalimi Bezekhaya) by a young South African from a disadvantaged background who relocated to the USA during the Apartheid era in search of a better life. As a person concerned about the environment which had nurtured him (the Cape Flats), he wrote a letter during 1993 to Abalimi Bezekhaya (citing a book by Parry, *Warriors of the Heart* (1989) on the international Peace Trees Programme) requesting them to become involved in a similar initiative (Peace Trees South Africa, 1996).

6.2.1.3 Role players and their responsibilities

With the execution of Peace Trees Khayelitsha, all role-players have worked within specific categories. These functional categories are:

(i)   Earthstewards and International Participants

The role of Earthstewards in the execution process includes the provision of international participants and experience of past Peace Trees projects.

(ii)   Local Organising Group (LOG)

The LOG is responsible for organising and funding all on-site needs. The Local Organising Group consisted of local government (represented by Lingulethu Town Council and the Come and Play Section of the then Cape Town City Council), provincial government (represented by Cape Nature Conservation), research and educational institutions (the Land Development Unit and Environmental Education & Resource Unit of the University of the Western Cape), non-governmental organisations (Abalimi Bezekhaya as the main role player and various others such as Trees for Africa, Quaker Peace Centre and Media Peace Centre) and various associations and service organisations (for example the Fairest Cape Association, Botanical Society of South Africa and the Khayelitsha Environmental Action Group).

As indicated in 6.2.1.1, all Peace Trees projects are implemented according to a formulaic procedure. Thus, with all Peace Trees initiatives the responsibilities of the LOGs are also more or less the same. These responsibilities include fund-raising and seeking of donations to support the initiative; the completion of an application package for a Peace Trees project which includes a business plan for approval by Earthstewards; the appointment of full time adult co-ordinators to work on the project for the entire three weeks; the appointment of a project co-ordinator to communicate with Earthstewards office and the submittance of a detail financial report and programme evaluation after completion (Abalimi Bezekhaya, 1996).

Instead of allocating specific tasks to each of the various role players in the LOG, the LOG decided to divide itself into three tasks groups which were each responsible for a certain component of the execution process. They were the HEAD-committee, the HAND-committee and the HEART-committee. The responsibilities were divided as follows amongst these three task groups:

The HEAD-committee was responsible to manage, administrate and co-ordinate the project with activities that included fundraising, financial management and media releases. The HAND-committee was responsible for choosing an appropriate site for approval by the LOG and the community, assessing community needs, designing the park and the physical construction of the park. The HEART-committee was responsible for the camp as well as all the supportive services needed. Specific activities included the campsite, transport, food, the daily programme and planning cross-cultural activities and entertainment (Abalimi Bezekhaya, 1996).

(iii)   The Community

Community support and participation is considered essential to the successful execution of all Peace Trees initiatives. The community was represented by a Park Committee of which members were elected from streets in the area surrounding the park. The Park Committee was consulted in all major decisionmaking concerning the park, this included overall approval from the community. The chairperson of the committee served on the LOG forming a liaison with it. Specific activities of the park committee included the organising of local volunteer labour, the catering for the opening day celebration and control over activities taking place in the park.

(iv)   <u>Private Sponsors</u>

Various donors were also involved in the process. Some of them directly as part of the LOG and others only indirectly. Donors who were involved as part of the LOG included several non-governmental organisations and the Botanical Society of South Africa which assisted with plant materials as well as finance through its outreach programme. Private sponsors which were indirectly involved included private businesses from Cape Town and surrounding areas, corporate companies, social service organisations, central government (Department of Water Affairs and Forestry) and a number of embassies and high commissions. Donors assisted with the provision of transport, food, finance, playground equipment, plant materials as well as finance.

6.2.1.4 Planning, implementation and maintenance

(i)   <u>The Business Plan</u>

The Manyani Peace Park has been laid out on a rectangular piece of vacant local government owned land. The design of the park provides opportunity for both active and passive recreation. The active recreation area features a playground with contemporary playground equipment, a basketball court, a grassed open space for ball games which is currently used for soccer as well as an ablution facility-cum-clubhouse. The passive recreation area features an amphitheatre with a stage as well as many trees planted on the slopes surrounding the stage.

(ii)   <u>Maintenance and Control</u>

The task of maintenance was handed over to the newly formed Tygerberg MLC after completion. The standard of maintenance however was not satisfactory to the community and negotiations amongst the community, Abalimi Bezekhaya and the Tygerberg MLC have followed. During these negotiations, the community requested to be able to maintain the park by themselves, as it would result in higher quality work and job creation. These groups have agreed upon a strategy whereby the Tygerberg MLC will pay over a monthly amount of money to Abalimi Bezekhaya to employ two community members (selected by the community) to maintain shrubs and trees, to clean the facility and to report vandalism. Council would still do the grasscutting. A noticeable

improvement resulted from this agreement since implementation (Wright, <u>pers</u>. <u>comm</u>.[1]). Control over the park lies with the community committee. This committee also regulates all the activities in the park (Abalimi Bezekhaya, 1996).

6.2.2   Umphakathi Community Nursery, Orange Farm

6.2.2.1 The Trees for Africa Community Nursery Programme

Since 1994, Trees for Africa has established a large number of community or partnership nurseries countrywide. These nurseries fulfill an important role in promoting greening awareness amongst communities which have suffered under Apartheid in South Africa. Apart from the fact that these nurseries propagate plant material for supply to Trees for Africa to undertake greening programmes in their areas, the majority of these nurseries are also open to the public. As they are becoming economically viable, the nurseries increasingly meet government's goals of employment, empowerment and upliftment (Trees for Africa, 1999b; Keartland, <u>pers</u>. <u>comm</u>.[2]).

6.2.2.2 Background to the Umphakathi Community Nursery

The Umphakathi community nursery is situated in the informal settlement Orange Farm on the southern outskirts of Greater Johannesburg, Gauteng. Orange Farm originated as a result of spillover from the nearby Soweto township. To date it houses a large community of people living in makeshift houses. Trees for Africa has facilitated and co-ordinated tree planting initiatives in the area for many years. Since enough stock for planting remained a constant problem, a nursery was established in November 1995 as a joint venture between Trees for Africa and the Ananda Marga Mission (AMART) on ± 5 acres of land belonging to the mission. Apart from the nursery, the mission grounds also house a school, a hostel for community workers and a clinic (Keartland, <u>pers</u>.<u>comm</u>.[2]).

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[1]   *Ms L Wright, Field Programme Manager, Abalimi Bezekhaya, Cape Town (February 2000).*
[2]   *Ms F Keartland, the Trees for Africa Green Trust Programme Manager, Johannesburg (July 2000).*

Figure 6.1   *Umphakathi Community Nursery, Orange Farm*

This fully operational nursery has been expanded more than once in the past (1997 and 1998). The nursery grows its own stock in seedling beds and the current capacity of the nursery is about 60 000 trees of one metre in height. Since its establishment, this nursery has been the supplier of more than 10 000 trees in this environmentally unfriendly area. In addition, the nursery has also recently supplied grass for the development of a sport and recreation facility on the particular mission school grounds. The aim of this project is to broaden the influence of the existing nursery and its activities. Recent expansions included a vegetable garden, a fruit orchard, a park and bird sanctuary and an environmental education resource centre (Keartland, pers. comm.[2]; Trees for Africa, 2000).

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[2]   *Ms F Keartland, the Trees for Africa Green Trust Programme Manager, Johannesburg (July 2000).*

Figure 6.2   Limited Urban green provided by fruit trees in Zonkezizwe, Katlehong. A situation very similar to Orange Farm

6.2.2.3 Role players and their responsibilities

(i)   Missionary

The Ananda Marga Indian Mission is responsible for the day to day management of the nursery with activities that include plant propagation, nursery administration and sales, extra fundraising for improvements to the nursery as well as the conducting of courses at the environmental education resource centre. People working in the nursery are mainly community members employed by the mission (Deva, pers. comm.[3]).

(ii)   Non-Governmental Organisations

Although Trees for Africa was involved from its inception with physical and financial support to establish the nursery; currently the roles and responsibilities of Trees for Africa are restricted to workshopping and the facilitation of environmental awareness activities. Trees for Africa assists

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[3]   *Mr D Deva, Project Co-ordinator, Umphakathi Nursery, Orange Farm (Johannesburg 2000).*

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the staff of the mission by procuring relevant educational materials for the environmental education resource centre. Staff from Trees for Africa still visit the nursery on a monthly basis to evaluate progress and serves as an important customer (Trees for Africa, 1999).

(iii)   Private Sponsors

Private sponsors were approached for donations to pay for erecting the initial shadehouse structure as well as the expansions of the nursery. A well-known petrol supply company sponsored the original nursery structure. The assistance with the sponsorship of seedlings was later requested from a nearby large steel-manufacturing corporation which employs a number of people from the community (Keartland, pers. comm.[2]).

(iv)   Central Government

The responsibilities of central government were restricted to the Department of Water Affairs and Forestry (DWAF). DWAF assisted with sponsoring some of the expansions to the nursery. Currently DWAF also serves as an important customer of the nursery.

(v)   The Community

Although Trees for Africa and the Department of Water Affairs and Forestry (DWAF) are the main customers of the nursery, its doors are also open to the general public. This nursery is in the process of becoming economically viable as sales figures are constantly improving. Although fruit trees are popular with customers, Trees for Africa encourages the propagation of indigenous *Rhus* and *Celtis* species.

(vi)   SANA

The South African Nurserymen's Association (SANA) stands in a supportive capacity to the project as they resource valuable advice to management (Keartland, pers. comm.[2]).

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[2]   *Ms F Keartland, the Trees for Africa Green Trust Programme Manager. (July 2000).*

6.2.2.4 Problems

The Umphakati Nursery is situated in an area which is crime-ridden. Theft is a major problem for the nursery but arrangements are underway to improve security (Trees for Africa, 1999).

6.2.3   Guguletu Park (Park NY 133.134), Guguletu

6.2.3.1 Background to Park NY 133.134

Park NY 133.134 was developed during the period 1996 to 1998. This park is situated in a semi-informal residential area in the Guguletu township on the Cape Flats. Park NY 133.134 is a multi-purpose park consisting of a recreational area as well as a foodgarden. The Cape Flats is well known for its harsh environmental conditions, which makes the implementation of urban greening troublesome.

6.2.3.2 Role players and their responsibilities

A large number of role players were involved in the process of developing Park NY 133.134 which differs from the Khayelitsha Peace Park as each of these role players were responsible for a number of tasks. Role players involved in the execution process of this park include:

(i)   <u>Local Government</u>

The Parks and Bathing Amenities Services Department of the Cape Town MLC was responsible for the overall co-ordination of the execution process. Specific activities included the preceding planning process, the convening of the various role players, financing part of the project with its capital budget, drawing of tender documents for the appointment of a project manager (landscape architect) and contractor, the supply of some of the plant material needed (propagated in the council nursery with departmental operational budget funds) and the maintenance from year two (Burgess, 1999).

(ii)   Provincial Government

The involvement of provincial government included funding by the Department of Public Works and the provision of guidelines for the implementation of RDP projects (Burgess, 1999).

(iii)   Central Government

The involvement of central government (Department of Water Affairs and Forestry) was restricted to funding the project, sponsoring the launch and the supply of trees in accordance with the Waterwise Campaign (Burgess, 1999).

(iv)   Non-Governmental Organisations

Although the Cape Town MLC acknowledges urban agriculture as part of urban greening, the implementation of the foodgarden project stands apart from the rest of the Guguletu Park project. The Cape Town MLC does not consider urban agriculture as a core function of its Parks and Bathing Amenities Services Department. According to the management of this Department, urban greening initiatives such as urban agriculture, food gardens and community forestry are aimed at social upliftment and economic empowerment which are not compatable to its legal responsibility to the broader community (Bischoff, pers.comm.[4]). Because of this approach, the implementation of the organic food garden on approximately 2000 m^2 land became the primary responsibility of a non-governmental organisation, the Quaker Peace Centre. The Cape Town MLC availed the land, but a lease contract had to be drawn up to ensure safety of land tenure. The purpose of the organic food garden is to serve as a centre where community members can obtain training in the growing of their own vegetables (Burgess, 2000).

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[4]   *Dr F Bischoff, Director of Parks and Bathing Amenities Services, Cape Town MLC (February 2000).*
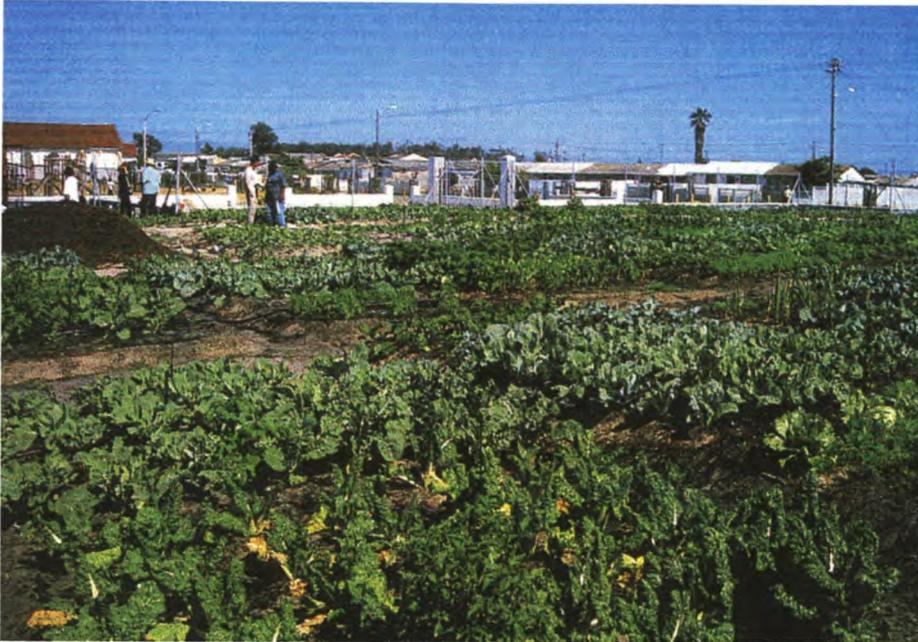
Figure 6.3 :   ***Guguletu Park food garden***
                 Reference : Facade 2000

(v)   Professional Bodies

The Western Cape branch of the Institute of Landscape Architects of South Africa was requested to become involved in the design of the park. A competition was held amongst members to produce concept designs for various public open spaces. The community eventually selected the design for stand NY 133.134. Further involvement included the appointment of a landscape architect to co-ordinate and facilitate the construction process (Burgess, 1999).

(vi)   Private Contractors and Sub-Contractors

The responsibility for the full on-site implementation of the project (construction) was awarded to an established contractor (main contractor). This main contractor (Top Turf) was contractually obliged to appoint an emerging contractor (sub-contractor). The sub-contractor had to employ his own labour and skilled artisans for construction but the main contractor managed the sub-contractor on a day-to-day basis as the contract between council and the main contractor provided for a training programme. The construction of the park took place over a period of 17 weeks.

After construction was complete, the main contractor was contractually obliged to maintain the park for twelve months (Burgess, 2000).

(vii)   Private Sponsors

In addition to the financial assistance provided by the various levels of government, a few private sponsors also contributed. They included a public member, the National Botanical Institute, a soil additive company and the non-governmental organisation Quaker Peace Centre which co-ordinated the food garden (Burgess, 1999).

(viii)   The Community

A park committee which consisted mainly of voluntary community members was established. This committee was consulted throughout the whole process which included a needs assessment and the approval of the design. The committee employed one member on a full-time basis to administer the process (Burgess, 1999).

6.2.3.3 Planning, implementation and maintenance

(i)   The Business Plan

The park was designed by a landscape architect. The conceptual plan divided the total surface area into four parts. A food garden, a walkway, an area set aside for conventional playground equipment which included a multi-purpose hardcourt and a grassed area for passive recreation. Plant materials used in the area set aside for urban beautification and outdoor sport and recreation were obtained from the Department of Water Affairs and Forestry (provided in accordance with its Water-wise Campaign) and the Cape Town MLC nursery. The Water-wise Campaign promotes the use of indigenous and endemic plant materials which are resistant to water restrictions and harsh environmental conditions. Plant materials used had to be properly hardened off and large specimens were used to obtain instant effect (Burgess, 1999). Large specimens are also usually used as they are more resistant to vandalism and theft.

(ii)   Tendering Procedures

Standard local government tendering procedures (best proposal-best price) which make provision for affirmative action, were used.

(iii)   On Site Co-ordination and Project Management

The Cape Town MLC appointed another private landscape architect (on a contract basis) to co-ordinate the on-site construction process.

(iv)   Maintenance

The construction contract was drawn up with the proviso that the contractor is responsible for the maintenance of the park for the first year after completion. The Cape Town MLC has only taken over responsibility from the second year onwards. Since then the quality of maintenance has deteriorated which raises doubts about the long-term sustainability of this facility (Burgess, 1999).

6.2.3.4 Problems

The execution process of this urban greening project was characterised by the occurrence of many problems which included demonstrations against the project, various forms of crime on-site and the over-use of facilities since the project has been completed. Many of these problems could have been avoided by proper planning which can only be attained as experience grows in terms of service provision in these areas.

Demonstrations against the implementation of the project with concomitant intimidation occurred most likely due to superficial community involvement and poor project awareness campaigns) which caused concerns about the safety of construction workers. Crimes that were reported included theft of cellphones, tools and equipment, plant material and continuous vandalism of trees, walls, paving and the automatic irrigation system. The completion report (Burgess, 1999) referred to two very important aspects of crime solving which is worth mentioning. This included

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1) the erection of a fence around the construction site and 2) the rescheduling of the timing of the automatic pop-up irrigation system, as vandalism only occurred during irrigation sessions.

The over-use of the park and its facilities has been of major concern to park administrators. Playground equipment is continuously in disrepair and youngsters playing ball games frequently damage gardens. The overuse of parks in this type of residential areas is not unusual, as similar occurrences have been noted in Gauteng. The over-usage can only be remedied by erecting more recreation facilities in areas where the need seems obvious.

6.2.4   Spruitview Entrance Development, Katlehong

6.2.4.1 Background to the Katorus Special Presidential Programme, the Katorus Greening Initiative and the Spruitview Entrance

The Katorus Special Presidential Project covered four main functional areas: Engineering Services, Security, Housing and Social Services (Gauteng Department of Housing and Land Affairs, 1999; Katorus Greening Initiative Planning Document, 1998). Key indicators which facilitated the measurement of the performance of this programme were financial control, training, job creation, local business development, sustainability, community priorities and participation (Gauteng Department of Housing and Local Government, 1995). The main aim of the Katorus Greening Initiative was to improve the general state of the environment which resided under the overall Social Services portfolio (Katorus Greening Initiative Planning Document, 1998). The Spruitview Entrance was developed during the period May 1997 to February 1998. The goal of this project was to improve the aesthetic quality of a major entrance from a national highway into a middle to high income black residential suburb, Spruitview, in the Katlehong area under jurisdiction of the Greater Germiston TLC.

6.2.4.2 Role players and their responsibilities

The development of the Spruitview entrance was characterised by the involvement of a variety of role players and stakeholders. Prescriptions in this regard were provided in the Gauteng Provincial Administration RDP Guidelines. Unlike the execution of Guguletu Park, the execution process and composition of role players was relatively simple. The Greater Germiston TLC

decided upon a strategy where internal expertise was used rather than sourcing certain aspects of the execution process out to private consultants and contractors. Key role players included:

(i)   <u>Local Government</u>

Within the scope of the broader Katorus programme, local government bodies had to act as the implementing agency of projects within their specific areas of jurisdiction. The leading Departments of the Greater Germiston TLC which were instrumental in the process was the Directorate Planning and Development and the Directorate Finance, which were responsible for the overall co-ordination of the process. Other Directorates which are focused on a daily basis on physical service delivery were then utilised for the direct co-ordination of identified initiatives within their respective fields. The Environmental Services Division of the Directorate Community Services has made use of internal expertise to compile a business plan (detail design and budget proposal) instead of appointing an external consultant as is provided for by the Provincial RDP Guidelines (Appendix VI).

(ii)   <u>Provincial Government</u>

The Department of Housing and Local Government (later transformed to the Department of Housing and Land Affairs) was responsible for the RDP in Gauteng. The responsibilities of this Department included the approval of business plans, preliminary designs, tender reports and completion reports as well as handling of reimbursement claims from local authorities (Gauteng Department of Housing and Local Government, 1995).

(iii)   <u>Non-Governmental Organisations</u>

Only one non-governmental organisation, Shanty Industries, participated. Shanty Industries facilitated the execution process and formed the link between provincial government and local government.

(iv)   Private Contractors and Sub-Contractors

Private contractors were used for the landscape construction process where it was not possible to use local government employees. Similar to the implementation of Guguletu Park by the Cape Town MLC, affirmative action procedures were followed with the procurement of construction contractors. Prescriptions on affirmative action were provided by the Provincial RDP guidelines. These guidelines allowed for the appointment of Small, Micro, Medium Enterprises (SMMEs), emerging contractors or partnerships between established contractors and similar type of enterprises as well as labour intensive construction with training.

(v)   The Community

An action area/ward committee officially represented the community. Meetings with this committee were held regularly in order to determine community needs and to get approval for the subsequent business plan. Meetings between the project manager (local government employee) and the committee were organised by the action area/ward co-ordinator of the particular committee who formed the link between local government and the community. The action area/ward co-ordinator is also an employee of the Greater Germiston TLC (Greater Germiston Transitional Local Council, 1995). In addition, a number of non-compulsory information sessions were also held with other community groups such as the South African National Civics Organisation (SANCO) and local street committees (See Appendix V).

6.2.4.3 Planning, implementation and maintenance

(i)   The Business Plan

The Provincial RDP Guidelines lays down specific guidelines regarding the quality and maintenance of planned projects as inferior standards and poor service delivery was characteristic of past developments. The landscape plan thus featured low maintenance, high visual impact landscape design principles (low-maintenance does not imply inferior landscaping but rather cost-effective, sustainable landscaping) which made provision for the use of indigenous, endemic and drought resistant plant materials and ballast stone. With declining provision of financial resources towards those departments dealing with the environment in local authorities, low maintenance principles become increasingly important.

Figure 6.4   The Spruitview Entrance Development during winter

(ii)   Tendering Procedures

Standard local government tendering procedures (best proposal/best price) which made provision for affirmative action were followed with the appointment of construction contractors and where possible the appointment of stock and material suppliers.

(iii)   On-site Co-ordination and Management

On-site co-ordination and management of the project was the responsibility of the project manager (a council employee and author of this thesis), who was also responsible for the concept design and budget estimates of this project (Appendix VII).

(iv)   Maintenance

Unlike Guguletu Park (6.2.3.3), the maintenance of this project was not outsourced to a private contractor for a period after completion. The Directorate Community Services has included this facility from the outset in its operational budget maintenance programme. Although the Manyani Peace Park was initially handed over to the Tygerberg MLC for maintenance, it seems as if it is

currently general practice in the Cape Metropolitan area that developers of facilities take control over maintenance for a certain period after completion. Abalimi Bezekhaya, for instance, maintains all the school grounds they develop for a period of three months after completion before it is handed over to the school (Wright, pers. comm.[1]).

6.2.4.4 Problems

The execution process of the Spruitview Entrance Development in general proceeded fluently without serious problems that could encumber the outcome. Theft of plant material and vandalism was exceptionally low. Possible reasons may include the success of the system used to involve the local community; that the community developed a sense of pride and ownership; that the socio-economic status of the target community diminished the likelihood of theft or that a deep rooted need existed within the community for beautification of their living environment.

Some problems were faced in the training and experience levels of emerging contractors. However, established contractors have given assistance to these emerging contractors which helped to smooth the process.

6.3   CONCLUSION

The manner in which the projects were selected does not conform to scientific method; despite this a number of points remain salient as characteristic of development oriented projects.

They include:

- Each of the projects described was characterised by a relatively wide composition of role players, which makes it clear that in these cases successful urban greening development initiatives are perceived as a joint venture amongst a selection of stakeholders.
- Three of the four projects (Peace Park, Guguletu Park and Umphakathi Nursery) have sought resources (financial and other) beyond normal channels as in the past. Private sponsorships and donorships seem to be an important resource in actuating urban greening development. In addition, it also appears as if private enterprise (whether small

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[1] *Ms L Wright, Field Programme Manager, Abalimi Bezekhaya, Cape town (February 2000).*

or large) in South Africa is realising its social responsibility towards the people of this country.

• Each of the projects has indicated commitment towards community involvement. However, these commitments differed in degree and have ranged from superficial consultation during the planning phase to thorough liaison, which included involving the community even in management of facilities. Even though no mandate exists to draw comparisons between the degree of community involvement and the success with which projects were executed, there might exist a direct correlation (see 6.2.3.4). This might prove a fertile study area in the future.

• Each of the projects has shown a degree of commitment towards social upliftment and economic empowerment of underprivileged communities. These objectives were obtained through one or more of the following characteristic projects presented:

❑ Projects served as instruments for capital investment into target communities (the use of local labour and the upgrading of degraded urban areas which may have an influence on real estate values).

❑ Projects created access of opportunity to people denied business under a previous political dispensation or who did not have capacity and/or capability (the use of SMMEs and emerging contractors).

❑ Facilities created centres for education and resources for learning life skills and values (directly in the case of Umphakathi Nursery and indirectly in the case of the other three projects).

❑ Projects provided directly and/or indirectly sustenance security to the underprivileged.

SECTION IV

CHAPTER 7
Conceptual framework for the future

7.1   INTRODUCTION

Research on urban greening within a new South Africa context is almost non-existent and little is known about the realisation of urban greening within a post-Apartheid dispensation. The only trace of the future scope of urban greening found during the commencement of this research is the need for urban greening to contribute towards the creation of well being within this country. Therefore, this research aimed to determine the current status quo of urban greening in South Africa and in addition attempted to make proposals and recommendations for the future. Chapter 7 concludes this thesis with a summary of findings in the literature review, a summary of the findings of the research project and the development of a theoretical framework for the future.

7.2   SUMMARY OF FINDINGS

7.2.1   The Literature Review

The aim of the review was to investigate past and present urban greening agendas and to investigate a hypothetical paradigm shift in the field. The review consisted of two phases. The first phase contained an analysis of schools of thought on urban greening and the second phase included an analysis of South African central government policy on urban environmental management.

Attempts to obtain information that would result in reliable conclusions on the different schools of thought on urban greening have proven problematic. This is mainly due to the unique manner in which urban greening functions as a science and therefore other disciplines had to be investigated. The field of land-use management was identified as an appropriate vehicle and an analysis of urban planning and design theories which were prominent within a word-wide context during the 20th century, followed.

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This exercise indicated that, whereas earlier urban planning and design models increasingly promoted urban greening associated with typical First World needs such an urban beautification and sport and recreation facility provision, later models rather promoted urban greening which directly contribute to the social and economic well-being of cities' inhabitants. This trend occurred due to the fact that later models increasingly gave recognition to the relationship that exists between humankind and nature as well as a continuous endeavour towards sustainable urban development.

The review of South African central government policy on urban environmental management clarified a corresponding relationship existing between progress in urban planning and design within a worldwide context on the one hand and South African central government policy on the other.

This corroborated the hypothesis that a paradigm shift had occurred in urban greening policy in South Africa and that patterns of concepts, values, methods and action associated with urban greening in the past, have changed. This change comprises a shift away from a secondary social needs approach and a shift towards a primary social and human needs approach.

The review is concluded with a discussion on a number of issues proffered as possible motives or reasons behind the paradigm shift.

7.2.2 The Research Project

The research project was initiated to determine the current state of affairs at co-ordinated urban greening development project level (see Glossary of Meanings and Terminology for definition of the term) and to measure progress that has taken place in the field between 1994 to 2000. Like the review, the research project consisted of two phases. The first phase of the research project comprised the analysis of a sample of urban greening development projects, using a number of independant variables and the second phase consisted of a thorough analysis of sub-sampled projects to illustrate the execution process.

The most salient findings of the sample analysis included:

- The majority of urban greening development projects were found in low cost residential areas, yet few in informal settlements; leading to the assumption that more permanent and properly planned areas were preferred.

- Most urban greening development projects focused at communities with a relatively low socio-economic status.

- The African racial grouping has largely benefited from co-ordinated urban greening development initiatives between 1994 and 2000. In contrast to this, the research has cogently indicated that the urban greening needs of the other previously disenfranchised racial groupings, were neglected. Various reasons can be given for this. However, racial inequalities remain sensitive problems in South Africa, which require prudent management.

- The research project did not succeed in indicating whether the paradigm shift noted in urban planning and South African central government policy on urban environmental management, has gained acceptance at urban greening project level. This situation occurred because of shortcomings in the research methods used to analyse the sample in terms of the components of urban greening. Therefore, the results obtained, impeded the meaningful conclusions ascertained.

- The research has revealed that local government owned land seems to be the main destination for co-ordinated urban greening development, with provincial government land and private land as new important destinations.

The most significant findings of the analysis of the sub-sample included:

- Co-ordinated urban greening development is a venture enjoying input from a variety of stakeholders.

- Co-ordinated urban greening development considers, besides traditional resources also alternative resources (funding and others) for the implementation of projects.

- Co-ordinated urban greening development shows commitment to community involvement, social upliftment and economic empowerment.

7.3   A CONCEPTUAL FRAMEWORK

The conceptual framework (Figure 7.1), which strives to illustrate the future direction for urban greening as an integral part of sustainable urban development, is presented in the form of a flow diagram and gives an indication of:

❖   The position of key role players and stakeholders and their responsibilities in the development of a future urban greening dispensation. Until now, the concept has been fairly dis-organised, with key role players functioning separately and formulating policy in isolation. Therefore, this framework makes provision for functional units between selected key role players, for example, the central government departments of Local Government and Constitutional Development on the one hand and Environmental Affairs and Tourism on the other hand which, when combined should act as the drivers of the process.

❖   Essential networking and liaison, which needs to take place in order to ensure that the urban greening for sustainable urban development message is carried over effectively.

❖   The conceptual framework makes provision for extreme options with reference to possible scenarios that may occur at urban greening project level. These extreme options represent to the left on the framework a scenario where the roles and responsibilities of local government have increased and those of non-governmental organisations have decreased, and to the right a complete contraposition.
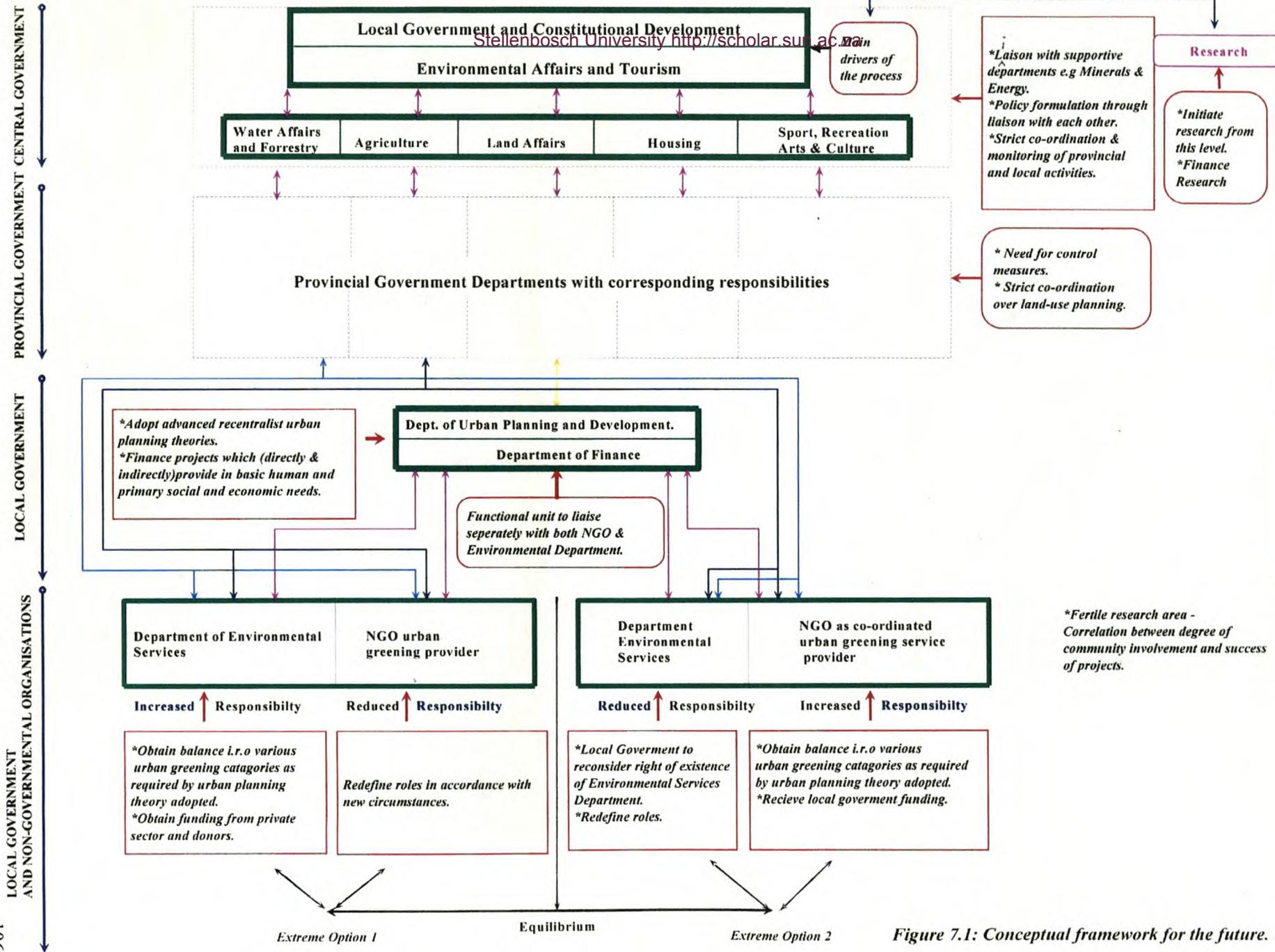
Figure 7.1: Conceptual framework for the future.

7.3.1 Recommendations

7.3.1.1 Central Government and Provincial Government

The discussion in Section 5.3.4.3 made it clear that this research did not succeed in establishing whether the paradigm shift noted in the international vision of urban planning and design as well as the shift that occurred in central government vision thereof, has gained full credence at local level. It is only apparent in isolated cases that at local government level a more human-oriented approach has been adopted in terms of urban planning.

According to the White Paper on Policy for a National Environmental Management System for South Africa (1993), the role of central government is not only restricted to policy formulation, but also identifies a role in monitoring and co-ordinating projects at lower levels as well as to initiate research. It appears as if these latter roles are neglected and are receiving less and less attention from central government. The same applies to provincial government which should exhibit strong co-ordination of fields such as land-use management. Therefore, a need exists for stronger control measures. Such measures might include relevant legislation, for example explicit urban planning and design legislation instead of vague guidelines, to regulate the process.

7.3.1.2 Urban Greening Programme/Project level

(i)   *Local Government*

Urban Planning and Design

Approaches followed in urban planning and design play a direction-giving role regarding types of urban greening a city may accommodate and the roles it will fulfill within society. Yet, in this time of rapid change in South Africa, there is much need for concurrent changes in terms of the definition, role and value of open space. It, however, appears as if planning authorities within various local governments in South Africa assume a reluctant stance towards pro-actively experimenting with new and more advanced forms of urban planning and design. Reluctance to be more dynamic will have a significant influence on urban greening in this country and the contribution it can make towards social and economic growth.

Leff (1990) encapsulates this notion with the statement that "future urban greening can not be attained through traditional urban planning approaches. A new concept or definition of the city is

required. A shift away from the notion that cities are centres for energy and resource consumption of surplus production in the countryside is needed. Future urban greening will imply the articulation of urban functions in an overall sustainable development process. This means new functions for the city and its re-integration into an overall productive process through more balanced spatial distribution of agri-ecological, industrial and urban activities."

Local government departments dealing with urban environmental management versus non-governmental organisations

Under the specific circumstances, the research project has indicated that local government and non-governmental organisations (as a co-provider of co-ordinated urban greening services) in various fields, beneficially compliment each other. Areas where local government and non-governmental organisations benefited include the use of land for urban greening development (in terms of ownership) and the nature of the projects they co-ordinated. In terms of the latter, each of these organisation types has operated within its own domain in terms of invigorating the broader inclusive urban greening concept within a development paradigm.

This tendency can be attributed to dissension surrounding the issue of social responsibility versus legal responsibility and naive attitudes exhibited by local authority officials towards sustainable urban development. The research has indicated that both local governments examined have focused their attention strongly on legal responsibility, as they 1) have co-ordinated all their projects on land belonging to local government and 2) initiated mainly projects which are focused at urban beautification and sport and recreation (both types of urban greening which only indirectly contribute towards social upliftment and economic empowerment). The policy of Cape Town MLC is to acknowledge that certain forms of urban greening can contribute towards social upliftment and economic empowerment, but not to include these as part of their legal responsibility (Bischoff, pers.comm.[1]). It appears that specifically due to this attitude, non-governmental organisations have seized this opportunity to justify their existence.

In contrast to this, Midrand MLC, which has declared itself as an eco-city and which remains eco-conscious, specifically undertakes those forms of urban greening which directly contribute towards social upliftment and economic empowerment as it is expected of them to have a social responsibility in terms of principles set out in the current constitution of South Africa (Bauwer, pers.comm.[2]).

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[1] *Dr F Bischoff, Head: Parks and Bathing Amenities Services Cape Town MLC (February 2000).*

[2] *Mr B Bauwer, Head: Environmental Services Midrand MLC (June 2000).*

It is unfortunate that Midrand MLC could not be included in this research as a comparative example. It could yield valuable and interesting facts regarding the relationship between local councils and non-governmental organisations within the context of eco-cities and their land-use and project types.

The course that local government departments will adopt may well have an influence on the future existence of non-governmental organisations. These organisations might need to redefine their roles in the future. However, the opposite might also prove true, namely that those organisations will have extended domains from the mere fact that the new macro-economic policy of South Africa, GEAR (Growth, Employment and Redistribution) provides for a reduced government sector and an increased role of private sectors.

At present, public-private-partnerships (PPPs), are used and strategic decision making is carried out by local government. In future, a trend could well develop whereby strategic management will rather become the responsibility of the non-governmental organisations who will represent the private sector as mentioned above.

7.4   CONCLUSION

This thesis serves as a broad foundation for the concept of urban greening within the so-called new South Africa context, in which little research has been done. There is a need for further research herein, especially since external factors are fast changing. The conceptual framework presented can basically only be considered as a visual interpretation of how the researcher perceives and foresees the path ahead for urban greening in the future, if sustainable development of South African urban areas is to be achieved. It is emphasised that this framework presented is not static and therefore can not be applied rigidly. It needs to be transformed and developed through follow-up research as the body of knowledge continues to expand.

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APPENDIX I

INVENTORY OF URBAN GREENING DEVELOPMENT PROJECTS (1994-2000)

INSTITUTION: _____

COMPLETED BY: _____
DATE   : _____

TYPE SETTLEMENT
General Residential - A
Low cost - B
Informal - C

COMMUNITY
Socio-economic status:
Lower class - A
Lower Mid - B
Middle - C
Mid-upper - D
Upper - E

Dominant race:
African - A
Coloured - B
Indian - C
Mixed - D

PROJECT TYPE
Urban Beautification - A
Urban Outdoor Sport & Recreation - B
Urban Forestry - C
Urban Agriculture - D
Supportive Systems - E

LAND
Local Government – A
Provincial – B
R.S.A. – C
Private – D
Other – E

DATE	PROJECT NAME	PROGRAMME AFFILIATED (if applicable)	LOCATION (City & Suburb)	TYPE SETTLEMENT A	B	C	COMMUNITY Socio-economic A	B	C	D	E	Dominant race A	B	C	D	PROJECT TYPE A	B	C	D	E	LAND A	B	C	D	E	OTHER MAIN ROLEPLAYERS
1997 to 1998	Spruitview Library Garden	Katorus Special Presidential RDP project.	Spruitview Germiston and	X						X		X				X					X					- Gauteng Provincial Government - Shanty Industries - Private Contractors
1999	Pumula Community Nursery	T.F.A – DANCED Community Nursery programme	Soweto, Southern MSS Johannesburg.		X		X					X								X					X	X

26 Langermann Road
Kensington
Johannesburg
2001

15 March 2000

Mrs L. Wright
Abalimi Bezekhaya
Private Bag X12
Observatory
7935

SURVEY OF URBAN GREENING DEVELOPMENT PROJECTS CO-ORDINATED BY ABALIMI BEZEKHAYA.

My visit to Abalimi Bezekhaya on 28 February 2000 has reference.

Included with this letter you will find the survey questionnaire which you need to complete. Please take the following into consideration when completing the questionnaire:

- List all the projects your organisation has co-ordinated between 1994 and 2000. (You can make extra copies of the survey questionnaire if needed.)
- Make sure that you complete all the sections on the questionnaire for each of the projects you list.
- With in all the sections with fixed-alternative questions you are allowed to use one or a combination of attributes to describe the situation relevant to the project.
- Use your experience to do the necessary classifications.

If you are in need of more clarity on certain aspects of completing the survey questionnaire, please do not hesitate to contact me at: Tel. 011 – 622 4357 (home)

<div align="center">
or

Tel. 011 – 916 1947/3441 (work)

or

Fax. 011 – 916 3620

Or

E-mail: dm3@icon.co.za
</div>

Please return the completed questionnaires to: P.O. Box 374

<div align="center">
Germiston

1400

(before 5 May 2000)
</div>

Your assistance is highly appreciated.

Dawie Meyer

APPENDIX II

ABALIMI BEZEKHAYA &
THE CAPE FLATS TREE PROJECT

NEWSLETTER to our friends
No 22, Autumn & Winter 1999

THE PEOPLE'S GARDEN CENTRE

Private Bag X12, Observatory 7935   Tel/Fax: (021) 447 1256

PROGRESS REPORT – 1 JANUARY 1999–31 JULY 1999

Intil one is committed there is hesitancy, the chance to draw back, always ineffectiveness. Concerning all acts of initiative nd creation) there is one elementary truth, the ignorance of which kills countless ideas and splendid plans. The moment ie definitely commits oneself then Providence moves too. All sorts of things occur to help one that would never otherwise ive occurred. A whole stream of events issues from the decision, raising in one's favour all manner of unforeseen incidents id meetings and material assistance, which no-one could have dreamt would have come their way. Whatever you can do, dream you can, begin it. Boldness has genius, power and magic in it. Begin it now." – Johan Wolfgang von Goethe (1832)

ear Friends,

eetings for 1999. The above injunction is proven most true when one witnesses how people manage to rally in the face of apparent possible odds. Their achievements are our joy. They may seem minute in the face of the massive challenges in the world, but we lieve that the groundswell of evolutionary change today is effected precisely through "minute" decisions taken by "invisible people" in e grassroots, as much as, if not more than those taken by the big people in their halls of power. The "Four Minute Mile Principle" is e one we work on. It took only one person to run the "impossible" four minute mile and the whole of humanity has benefited by that ie person's decision and achievement.

ie last seven months have been very full and you have probably been wondering what has happened to us since our last newsletter! ithout more ado, please join us on an overview of some of our activities and achievements . . .

HE URBAN AGRICULTURE PROGRAMME (UAP):

ASIBAMBANE COMES OF AGE

After – first crops, April 1999

Before – February 1999

ie Masibambane Neighbourhood Garden Group has graduated into a Community Allotment Garden Association! In February, this group women managed to obtain about 1/4 ha of land at Siyazakha Primary School, Philippi, Nyanga. This is a "ground breaking" project because s the first school in the townships that we know of to agree to give land over to the community for vegetable production. There are about 5 members in this group, all of whom began two years ago to grow vegetables at their homes for the table. Now they intend to earn a gger income as well as put fresh food on their tables. They are ably assisted by ABALIMI fieldworker Maureen Onceya (front left).

SCAGA STARTS A SEWING PROJECT AMONG THE SEEDLINGS

Ten members of the Siyanzama Community Allotment Garden Association (SCAGA) in Macassar, Khayelitsha, obtained sewing machines with funds donated by the ROYAL NETHERLANDS EMBASSY. They went on a training course at the Triple Trust and are now producing beautiful clothes for sale, as well as fresh organic seedlings in their budding nursery. Every community garden is a hub for many other dreams to come true.

DRUM-DRIP TECHNOLOGY GETS THE GO-AHEAD

Pictured above are some women from SCAGA with Jaquita Keet (centre, standing on right of drum) of the Agricultural Research Council (ARC), among the beds in which the drum-drip system is being tested. Jaquita reports: "In early March, home-made and commercial dripper lines were installed on two trenched and two non-trenched beds, fed by two 210 litre drums. These were filled not more than once a day, even on the hottest and driest days. This was done in order to determine which combinations would produce the highest yield with minimal irrigation. All the beds were otherwise treated exactly the same".

It can be seen quite clearly from the photograph that the non-trenched beds (foreground) have so far yielded very poorly compared to the trenched beds. In addition, the commercial dripper lines worked better than the home-made version. Major water and labour saving results were also achieved. The SCAGA women now all want this system in their plots! Previously they resisted this technology, saying that it was "backwards". Jaquita will be publishing the results of her research soon and ABALIMI will be looking to install the drum-drip technology in every one of its gardens in the townships. Other benefits of this technology are that it is cheap and easy to install and maintain as well as being readily transferable into the rural areas.

ABALIMI TRAINING LEADS TO JOBS

Mphumzi Gonanda, holding his ABALIMI Training Certificate and Mrs Mbaba, Principal, with children at Noluthando Creche in Khayelitsha.

Mphumzi, a previously jobless young man, completed a Basic Ecological Garden Course with ABALIMI in February. Shortly afterwards, he was snapped up by Mrs Mavis Mbaba, the Principal of Noluthando Creche in J Section, Khayelitsha, to maintain their vegetable garden and newly greened grounds, both of which ABALIMI helped to establish. There have been other examples of ABALIMI trainees getting jobs and we plan to build on this possibility in future. 85 people were trained from February until April in four training courses.

HOW TO START A GARDEN WITH ONLY A FEW CENTS! . . .
and learn English, Xhosa and Afrikaans.

We are proud to announce the release of our first book, published by JUTA, a distillation of years of experience in the field. This book is also an adult literacy textbook and you can now learn English, Xhosa and Afrikaans by digging your own backyard garden! We hope that it will in future become available in all eleven languages. You can buy your copy (R19,95) through any JUTA bookstore or order it from any other major retailer.

MAYFORD Seed Company, OLD MUTUAL and THE BOTANICAL SOCIETY OF SA made it possible to keep costs down and supply ABALIMI with 1 000 copies for use in the field. By buying this book you will also be supporting our work in the Cape Flats townships.

How to **start a garden** with only a few cents

Find out how to grow your own bendits vegetables for very little money in this easy-to-read and well-illustrated book.

Discover how to:
• Plan your garden
• Prepare the soil
• Sow the seeds
• Care for your crops, and
• Harvest your own vegetables

Key features:
• Seasonal planting calendars
• Case studies
• Extensive illustrations
• A list of useful contact addresses

This book is available in English, Xhosa and Afrikaans.

Juta

How to **start a garden** with only a few cents

Abalimi Bezekhaya

LEARNINGS – A PERSPECTIVE ON THE GENESIS OF AN ECOLOGICAL URBAN AGRICULTURE MOVEMENT IN THE CAPE FLATS TOWNSHIPS

The pictures and success stories reported in our newsletters give little indication of the dynamics that we wrestle with on a day to day level. To understand these dynamics, we must first comprehend a little of the background and context within which our work proceeds. This is by no means simple and what is described here is only one perspective. To begin with, it must be clearly remembered that it is only since the first South African elections in 1994 that it has become possible to work among the township communities in a developmental way. Up to 1994 we could only give a kind of survival welfare support to individuals and groups, who were engaged in an often vicious political struggle. In other words, we provided highly subsidised, cheap resources (manure, seed, seedlings, advice and training) to hundreds, sometimes thousands of individual survival gardeners every year through many a work day, since 1982/83.

The flood of people to Cape Town from the Transkei and Ciskei crested in the early 1990's at between 2 000-5 000 people per month, and this has now slowed to a constant stream, although we do not possess any recent official statistics. The simple reason for this migration from the former homelands becomes obvious once you visit them. You will behold endless mass settlements of people, with nil employment opportunities, degraded land, no basic services and substandard education opportunities. In short, the legacy of apartheid. We estimate that we have the equivalent of about a third of the population of the Transkei camped at the gates of Cape Town, mostly in shacks! Unemployment statistics range between 40%-90%, depending on where you care to conduct your survey. And yet, here in Cape Town there is still hope for a better life, whereas back home there is none.

What draws people to the city? This should already be clear, but something more is taking place in the hearts and minds of the "invisible" people we work with that has a direct bearing on our learnings. Simply put, this "something" can be described as an individual yearning to become free – of economic hardship, of certain restrictive customs which no longer give succour and help, a peasant mentality to name a few. And **the** model presented to everyone for this freedom is a certain species of "modern individual" who is smart, sports cell phone, drives a car, owns a house

in the suburbs, goes on exotic holidays etc. This archetype, or model, is entirely pervasive and takes many forms. It has prejudiced the majority of people against "alternative" lifestyles, even if they are very modest in their personal aspirations.

In agricultural terms, despite all mouthings to the contrary by those with influence, the agricultural success model on offer takes the form of the "big white/black farmer" with big credit, big land, cell phone in hand etc. This version of the "modern individual" works powerfully against our endeavours. The whole academic and agricultural industry is geared towards the Big Model. Few people **really** believe that micro-farming, even less ecological (non-synthetic) urban micro-farming can make them prosperous. It is not yet "smart or cool" to be a small or micro-farmer, particularly among the youth. Thus the majority of people, despite ever-mounting worldwide evidence to the contrary, still hold out for "THE JOB" and all that goes with it. Very many want to transcend their rural roots, forget their patient ancestors who "toiled from morn till night" in untenable conditions and become their own version of the "modern individual".

How does the above proposition translate into real learnings on the ground? ABALIMI finds itself at the interface between a culture of unconscious resistance to alternative lifestyles and technologies and a new culture of low-tech innovation. To begin with, people want hi-tech solutions to their lifestyle problems. Small scale agriculture and backyard gardening is seen as a luxury of the rich or a dire necessity for the poor, not an opportunity for upwardly mobile intelligent individuals. ABALIMI has to prove that low-tech, labour intensive alternatives are smart and lead to serious money in the pocket. But this does not happen overnight. Low-tech, labour intensive projects require a number of people to join forces, become highly organised and deeply skilled. They must be willing to learn from failures while at the same time committing to success. The people we work with are often far from being able to understand their own immense potential. This is the most serious hurdle we face in our projects and programmes. Lack of money, land or resources is entirely secondary to people's ability to conceive a vision and commit to it. The first 2-3 years in any one of our grassroots projects involves us in the step by step mentoring of community groups whereby they are able to gain expertise,

confidence and organisational capacity to formulate and commit to a vision and make it happen. Because we are one of very few NGOs working directly at the grassroots level, our groups contain a mixture of people, many of whom do not want to be farmers, but see their involvement with ABALIMI as a doorway to other opportunities. Only a small proportion of any group (about one person in 5) have a real love of the soil and are genuinely open to becoming micro-farmers. The first three years in project establishment sees these two groups separating out and moving gradually apart. This is a complex process.

An example: better educated members of a group – who are often not farmers at heart – can be elected to lead the project. The less educated (and less confident) members can then find themselves marginalised within their own project, leading to a decline in productivity all round. A crisis then ensues, resulting in the need for appropriate intervention to assist with restructuring. Power plays and petty rivalries between individuals add to the mixture – particularly where shared resources and money comes into the picture. These dynamics are intensified where men take over leadership or exert a strong influence. Women tend to allow them to dominate and another crisis inevitably follows. Added to these issues is the political context in which the group emerges and consequent political rivalries within the group and community which can cause demotivation and confusion. The groups must also deal with each other's personal problems and challenges, for example women members who are abused by their husbands and are prevented from coming to meetings and work days because the husband for one reason or another will not permit it.

ABALIMI is learning a great deal through all of this. We are arriving at methodologies which can navigate a clear pathway from inception of a community gardening group until it becomes a stable institution. We have three key models or pilots emerging, which are becoming job creation projects – The SCAGA Community Gardens, the Masibambane Community Gardens and the Hazeldean Community Gardens. The Hazeldean gardens are very new and will only appear in forthcoming newsletters. Further comment on dynamics and learnings in the field will also follow. ●

Written by Rob Small, Director, ABALIMI.

HE CAPE FLATS GREENING PROGRAMME (CFGP):
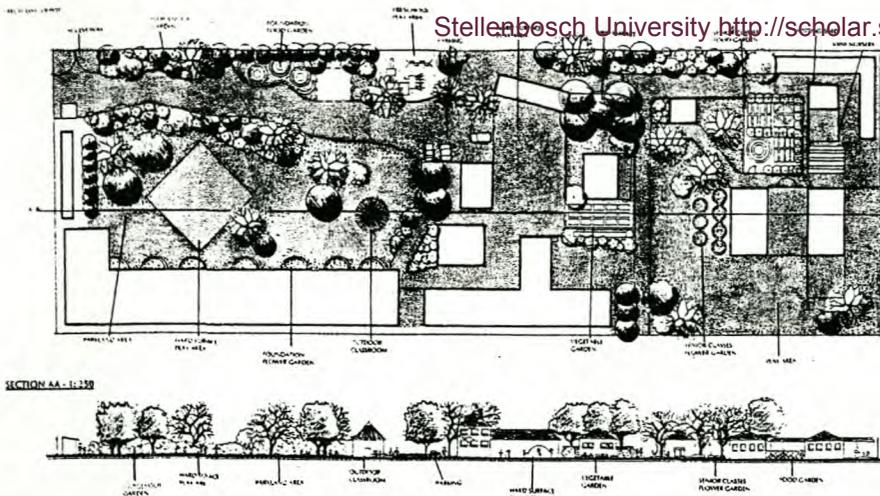
AN EXAMPLE OF A WHOLE

SCHOOL LAND USE PLAN

PRODUCED FOR

BONGALETHU

COMMUNITY SCHOOL

is is the year of the Whole School Land Use Design workshop for the ABALIMI greening staff. We took up this methodology in September 98, after attending a trainers workshop initiated through the PELUM (Participatory Ecological Land Use Management) Association, of ich ABALIMI is a member. We have developed our own unique adaptation of this technology and until July 1999 completed five 5- y workshops with five schools, resulting in plans similar to the above, with phased development budgets. A further 8-9 schools were the waiting list for workshops at the end of July. These workshops have been the main focus of the greening programme during the orting period and the growing demand for them will ensure that they remain a major activity for the rest of the year. er a workshop, each school has a powerful fundraising and planning tool in support of their overall educational and community building ctions.
ALIMI strives to include ecological and conservation development principles in the planning process which result in schools becoming stainable, water-wise and environmental education oases.

COMING EVENTS FOR THE NEXT NEWSLETTERS WILL INCLUDE: A report on the 1999 Arbor Week, the emergence of Environmental uth Groups and their projects, a further update on the Manyanani Peace Park, updates on Green Schools, the new Hazeldean project d more.

Our Special Thanks
FOR THIS REPORTING PERIOD TO:

OLD MUTUAL for this newsletter

ALL our many Friends, both great and small, for your warm interest, encouragement and gifts, both in cash and kind. Many friends wish to remain anonymous. We list only those who specially give permission.

THE GREEN TRUST for another three year partnership agreement.

The N/O Fund for R11 000 to initiate and implement a joint greening project with KERIC (Khayelitsha Educational Resource and Information Centre).

The CONSTANTIABERG and CONSTANTIA VALLEY Garden Clubs for R12 550,00 for job creation raised from their magnificent Open Day in October.

MR I.F. Reddihough for his ongoing and most generous support.

THE DE BEERS FUND for R15 000 for the UAP.

The S.A. Support Group, Germany for five used computers.

ANGLOVAAL Mining Limited for R10 000 for the UAP.

Jambo International Centre for $300 for training.

NOTICE BOARD

* **ABALIMI'S A.G.M.** will be on Sunday 26th September at 3 p.m. Please contact us if you wish to be there.

* **A BICYCLE NEEDED**: has anyone got a good used pedal bike with a few gears they want to donate to one of our fieldworkers? Please contact Rob Small at 447 1256.

* **OPEN DAYS:** ABALIMI will take you on a tour of our projects. Choose a day! Thursday 30th September, Thursday 7th October or Thursday 28th October. Please contact Rob Small at 447 1256 and book your place.

BOTSOC – Botanical Society of South Africa, for R22 810,00 for indigenous school greening. This donation should have been listed in the last newsletter (No. 21) in which a report on the BOTSOC indigenous schools was given.

The British High Commission for R20 000 for start-up inputs to emerging community projects.

The COLD CHAIN for their ongoing support of R1 000/m for household vegetable gardens.

TOTAL S.A. for R10 000 for their 1998 Green School project partnership.

The Royal Netherlands Embassy for R11 793,00 to set up the SCAGA sewing group.

Our British Channel Islands Friend – you know who you are. You came out of the blue and took us all by surprise. Thank you.

CBNP – for R50 000 subsidised agricultural inputs.

The FLOWER GROUP of the Union of Jewish Women for R1 000 for 1999.

Newlands Nursery for plants to the value of R3 000.

CWD (Catholic Welfare and Development) for R25 000 for garden training.

part from having a baby, gardening is the nearest thing on this earth to magic. It makes you feel powerful, creative, satisfied, peaceful d fulfilled." – Shirley Conran

APPENDIX III

TREES FOR HOMES

Funded by

TREES FOR AFRICA

Dear Developer

Developing housing means more than simply constructing housing units. The national government, international aid agencies, some developers, non-government organisations and numerous communities, have realised that planting trees with new housing developments can significantly improve quality of life.

Trees improve air quality
Trees provide shade and regulate temperature
Trees act as windbreaks and help to control dust
Trees nourish the soil and prevent erosion
Trees reduce costs of stormwater management
Trees attract birds and other wildlife
Trees improve the appearance of suburbs and add value to houses.

Trees for Africa (TFA) recently received a grant from USAID to implement the first phase of the "Trees for Homes" programme which will be implemented in partnership with the Departments of Housing and Water Affairs and Forestry, as well as organisations such as NURCHA and the IIEC.

You, the developer or contractor, have a vital role to play. For a R10 contribution, an indigenous 1m tree will be delivered to you. You may choose to ask the new homeowners to share this portion of the cost. Their participation is encouraged in purchasing the trees. Their investment will encourage the beneficiaries to take responsibility for the care and maintenance of the trees and will help to foster civic pride.

TFA will coordinate the programme through processing your order, delivering the required number of trees, planting instructions and other information on the value of trees and gardening. TFA will also train local community members to spread awareness of the programme, assist with the organisation of the house and tree hand-over event and generate media coverage that will give you exposure and recognition.

This offer is made only to government subsidised housing developments and is on first come first served basis. Funding is limited so please respond immediately! Fill in and return the enclosed form or contact Fiona at (011) 803 9750 with any questions and to discuss tree planting at your projects.

Your involvement in this significant programme will contribute to a better quality of life for all South Africans and you will be recognised in a national register, with a certificate and through media exposure.

Sincerely

JEUNESSE PARK
Executive Director

PLANNING PROCESS
FOR THE TREE PLANTING CEREMONY

Agreement signed and returned to TFA ☐ (please tick)

The date of the ceremony will be _____

The location of the ceremony will be _____

The street address is _____

TFA will try to send one of their staff to demonstrate tree planting and address the beneficiaries on the care and benefits of trees and gardens. If this is not possible, due to travel expenses, we will provide you with information or try to send a representative.

Directions / Map _____

_____

Following the demonstration the beneficiaries should each claim a tree for their house and proceed to plant it at their houses. The trees have planting instructions and other useful information attached to them. It is recommended in these instructions that trees be planted at least 5m from the houses and away from service lines.

Community Participation

Maximum community involvement is recommended. TFA will follow up with local structures as advised by you in the form. We would like to run a workshop that gives community members information about the project, the benefits of greening, tree care and maintenance for largest possible community group. We would like to emphasise to the community that this tree is the start of a garden. We will be identifying members of the community who will then be trained to deliver information in meetings and on a door-to-door basis.

Publicity

TFA will distribute a media release and invite the press to your event. The Ministers, Premiers and local officials will be invited as you recommend. Once the date of the event has been planned TFA will liaise with you regarding the development of a ceremony programme and invitations.

(Please tick)

☐   Yes! We would appreciate assistance in organising the hand-over ceremony.

☐   We agree to secure and water the trees after delivery until they are handed to the homeowners.

☐   We will ensure that the community is present to accept the trees and make provision for those not able to attend the ceremony to receive their trees at a later date.

☐   We will ensure a mechanism is in place to control the issuing of trees. (TFA suggests that a beneficiary or site list be available for beneficiaries to sign on receipt of their tree. Community volunteers can assist with the hand-over.)

_____   _____
Signed in Acceptance   Date

P O Box 2035
Gallo Manor
Gauteng 2052
South Africa
Tel (+2711) 803 9750
Fax (+2711) 803 9604
E-mail trees@cis.co.za
www.trees.co.za

DETAILS OF THE DEVELOPMENT

In order to facilitate tree planting in your development we need additional details. Please complete the following and post / fax it back to Trees for Africa as soon as possible to ensure that your order is processed correctly.
(PLEASE PRINT CLEARLY)

Developer name _____

Contact person _____

Contact number _____

Fax number _____

Postal address _____

Postal code _____

What is the total number houses that will be built in the proposed development? _____

How many houses have already been completed? _____

How many houses have already been occupied? _____

Will the development be completed in phases? _____

If yes, please detail the proposed phases of completion _____

_____

_____

Do you have a date when the development will be officially opened?_____

Please detail the plans you have for an official opening ceremony _____

_____

The local community / resident structures or representatives in the development that can be contacted for tree awareness training and support are:

Name _____   Name _____

Telephone number _____   Telephone number _____

The local government representatives or councillors involved with the development that can be contacted for tree awareness training and support are:

Name _____   Name _____

Telephone number _____   Telephone number _____

P O Box 2035
Gallo Manor
Gauteng 2052
South Africa
Tel (+2711) 803 9750
Fax (+2711) 803 9604
E-mail trees@cis.co.za
www.trees.co.za

TREES FOR HOMES AGREEMENT

Thank you for your interest in planting trees at the development you are involved in. Please complete the following and post / fax it back to Trees for Africa with a cheque or copy of the deposit slip as soon as possible to ensure that your order is processed.

(PLEASE PRINT CLEARLY)

We hereby request _____ Trees @ R10 each   Total: R_____

PAYMENT METHOD:
(please tick one)

Cheque
Postal order
Cash (please DO NOT post cash)
Deposit into Trees for Africa's bank account

(Please deposit the amount at a Nedbank branch and please fax us the deposit slip as proof of payment)

Bank account details:
Account name: Trees for Africa
Account number: 1598 020919
Branch: Morning Glen
Branch code: 159 805

These are indigenous trees of 1m in height suitable for your area. Fruit trees may be available. Please indicate your preference:

☐ Indigenous shade trees   ☐ Fruit trees

The trees are to be delivered to:

Location for delivery _____

Person on site to oversee delivery_____

Suburb_____

Town Code_____ Telephone number_____

The date that trees must be delivered _____

TFA suggests the trees be delivered to a secure, location close to the venue, the day before the hand-over ceremony, assuming there will be someone to sign for them. If you are having an official launch of your project you may want to combine the ceremonies.

_____   _____
Signed in Acceptance   Date

APPENDIX IV

APRIL 1995

FRIDAY	SATURDAY	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
31 .S. team arrive	**1** Staff team building Facilitation workshop			**4**	**5**	**6** Camp site prep. Int'l youth arrive
7 -12am: Registration WELCOME & LUNCH ame activity. CLAN ormation. Ground rules. UPPER	**8** Trust-building activity. LUNCH Conflict resolution w/shop SUPPER Beach hike	**9** Cross-cultural simulation Team building LUNCH Table mountain SUPPER Township history and discussion	**10** PEACE PARK Briefing on Park Safety Tour of township LUNCH Ground breaking work begins	**11** PEACE PARK 9.30am - 4.00pm Work at park	**12** PEACE PARK 9.30am - 12.00pm Work at park Visit to Cabinet 2pm-3pm Visit to Parliment 3pm-6.30pm EVENING: Prejudice reduction workshop	**13** PEACE PARK 9.30am - 4.00pm Work at park
14 GOOD FRIDAY hurch UNCH ssential Peacemaking workshop onfire	**15** SHOPPING * Mnandi Textiles * City	**16** EASTER Church LUNCH Cultural activities Low ropes course?	**17** FAMILY DAY PEACE PARK LUNCH Kirstenbosch	**18** PEACE PARK 9.30am - 4.00pm Work at park	**19** PEACE PARK 9.30am - 4.00pm Work at park	**20** PEACE PARK 9.30am - 4.00pm Work at park
21 Peninsula Trip LUNCH - Hout Bay hopping V&A Waterfront SUPPER V&A Waterfront	**22** Community work day LUNCH with township community Tree distribution Local Concert	**23** International T.V. link-up? Green Point market? Shopping INTERNATIONAL DINNER	**24** PEACE PARK 9.30am - 2.00pm Clean-up LUNCH Wolfgat	**25** OPENING PEACE PARK 10.00am Dignatories arrive LUNCH Preparing for Talent show	**26** EVALUATIONS EVENING Talent show	**27** Closing ceremony END at 2pm
28 nternational youth depart.						

Date still to be confirmed: Low ropes course.
          Massage W/S (Evening activity after Peace Park)

APPENDIX V

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┌─────────────────────────┐        ┌─────────────────────┐
│      CHAIRPERSON        │        │     ACTION AREA     │
│   DEPUTY CHAIRPERSON    │- - - - │    COORDINATOR      │
└─────────────────────────┘        └─────────────────────┘
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┌───────────────────────────────────────────────────────┐
│           ACTION AREA COMMITTEE                         │
│             REPRESENTATIVES                             │
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CONVENER	CONVENER	CONVENER	CONVENER
SAFETY AND SECURITY TECHNICAL TEAM	HOUSING TECHNICAL TEAM	ENGINEERING TECHNICAL TEAM	SOCIAL SERVICES TECHNICAL TEAM

/hs/orggram2

119.

ANNEXURE "A"

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                        ┌─────────────────────┐
                        │     TOWN CLERK      │
                        └──────────┬──────────┘
                                   │
              ┌────────────────────┴────┐        ┌──────────────────────┐
              │ RDP MANAGER/FACILITATOR  │ ······ │    RDP COMMITTEE     │
              └────────────┬────────────┘        └──────────────────────┘
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ACTION AREA COORDINATOR	ACTION AREA COORDINATOR	ACTION AREA COORDINATOR	ACTION AREA COORDINATOR	ACTION AREA COORDINATOR	ACTION AREA COORDINATOR	ACTION AREA COORDINATOR	ACTION AREA COORDINATOR
K1 K10	K2 C2	K3 K4	K5	K6 K7	K8 K9	K11 K12	K13 K14

/hs/orggram

ANNEXURE

EXECUTIVE COMMITTEE

K.L.D.F.

GREATER GERMISTON DEVELOPMENT FORUM (POSSIBLY)

RDP COMMITTEE

CHAIRPERSON

DEPUTY / ASSISTANT

KATORUS RDP FORUM

KATLEHONG LOCAL DEVELOPMENT FORUM

| K1	K2	K3	K4	K5	K6	K7	K8	K9	K10	K11	12	13	14
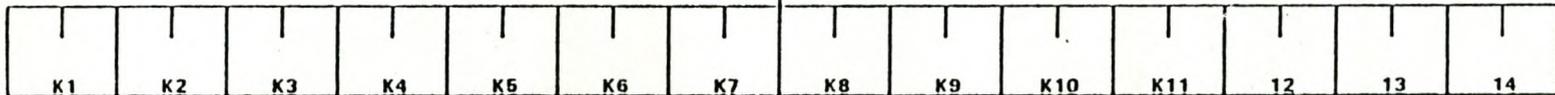
OR / BOTH

COMMUNITY ORGANISATIONS
(i)   Churches
(ii)   Political Parties
(iii) Taxi Industries
(iv)   Business
(v)   Educational Reps
(vi)   Youth
(vii) Others

/hs/orggram3

121.

ANNEXURE "C"

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                    ┌──────────────────────┐
                    │       GREATER        │
                    │      GERMISTON       │
                    │  DEVELOPMENT FORUM   │
                    └──────────────────────┘
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| HEALTH SUB FORUM | SPORTS/RECREATION CONGRESS | HOUSING SUB FORUM | SOCIAL SERVICES SUB FORUM |

| ENVIRONMENT SUB FORUM | | SECURITY/CPF's SUB FORUM |
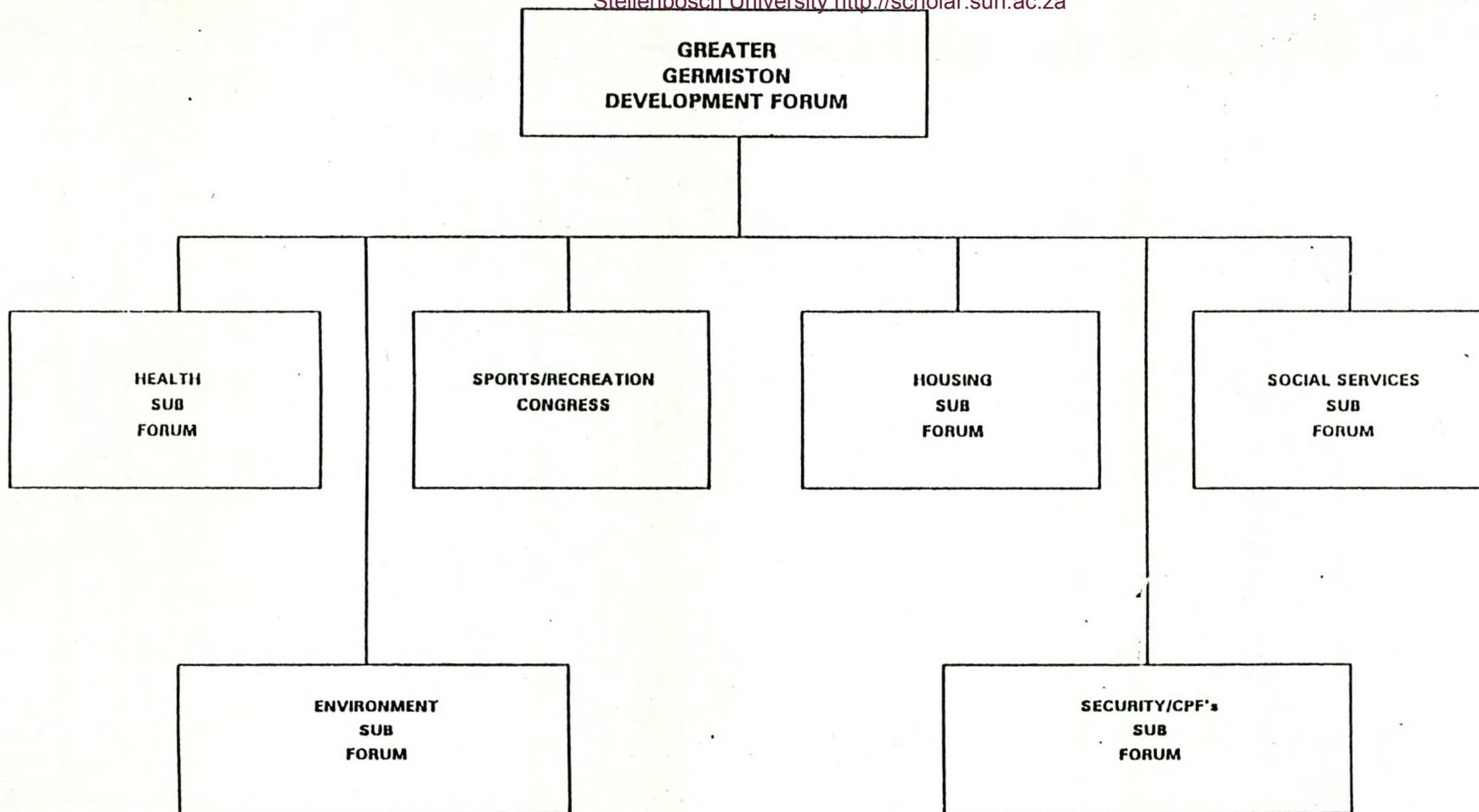
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APPENDIX VI

FIGURE 3.1: SCHEMATIC REPRESENTATION OF PROJECT CYCLE

Refer to section in guidelines	PROVINCIAL ADMINISTRATION	IMPLEMENTING AGENCY	COMMUNITY	CONSULTANT	CONTRACTOR
6.2		Identify community & establish need	Approval of Project		
5.2		Identify Consultant	Acceptance of Consultant		
5.2		Letter of Appointment to the Consultant			
4.2				Prepare Business Plan	
4.3	Approval of Business Plan	Submit Business Plan			
4.4	Issue Project Number	Receipt of approval of Business Plan			
6.1 - 6.12				Preliminary Design	
6.13	Approve Preliminary design	Submit preliminary design			
7.1				Detail Design	
7.2 - 7.4				Documentation, Adjudicate tenders & prepare tender report	
7.4.1	Approve tender report	Approve tender report			
8.2				Letter of appointment to contractor	
8.5	Reimburse claims from Implementing agency	Pay consultant and contractor		Certify payment certificates and quality of work	Implementation
8.7				Practical completion	
8.7				Final inspection	
9.2	Project completion report	Project completion report		Project completion report	

Notes:
(1) The community must be involved in each stage of the project.
(2) Regular reporting on project progress through the structures to the RDP Provincial and National levels is essential.
(3) 4.3 Provincial Administration is responsible to obtain approval from Provincial Cabinet on RDP submission and to inform implementing agent each approval.

591.

APPENDIX VII

PHASE 1A STEP 2 BRICKFIELD ROAD DEVELOPMENT

A.   SCOPE OF THE CONTRACT

1.

1.1   Measure-and mark out the areas to be excavated on Brickfield Road island

1.2   Measure out positions for palms (Phoenix canariensis) to be planted, dig holes + compost holes (10 x 60dm³ sterilized compost supplied by contractor)

1.3   Transportation of 10 x 100 litre palm trees from Southpark Environmental Services Depot to Site (Palm trees supplies by Germiston Council)

1.4   Planting of Palmtrees in holes (1m x 1m x 1m). There will be two palmtrees planted between every lamppost

1.5   Palm trees to be watered every second day for the duration of the contract by the contractor
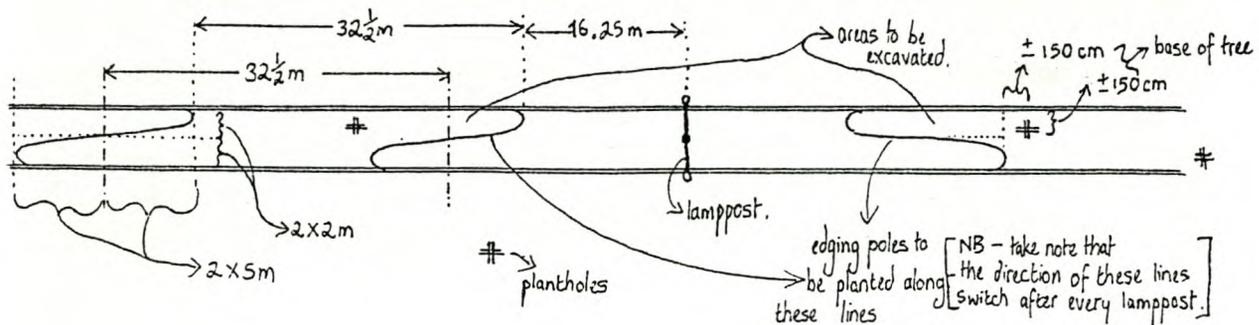
2.

2.1 Excavate measured area up to ±15 to 20 cm deep
2.2 A slight slope must be left from excavation around the planted Palm trees for about 1½ m around the tree-basis
2.3 Excavated soil to be removed from the site by the contractor and transported to council disposal site (Applicable dumping costs to be paid by contractor)
2.4 The excavation phase is perhaps the most sensitive phase in this contract and all care must be taken not to damage underground services
2.5 Total volume of soil to be excavated and removed equals ± 5 x 130m² x (15 to 20 cm) = 97.5 to 130 m³

±150cm
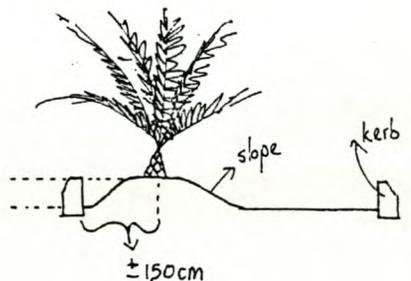
3.

3.1 Sterilize the excavated areas with acceptable weedkiller
3.2 The sloped areas around the palm trees not to be spayed with weedkiller because this will damage tree roots
3.3 Weedkiller/Poison supplied by contractor and approved by the Director : Community Services

4.

4.1 Dig trenches at side of the excavated areas along the design lines for installation of edging poles

4.2 Trench ± 20 - 25 cm deep. Care must be taken that these trenches are water-level

4.3 Install + bind 2m - strings of edging poles in these trenches

4.4 Five beds (2 x 18m) = 180 m binded 2m splitpoles-strings with a height of 60cm to be provided by contractor

4.5 Spitpoles to be approved by Director : Community Services

5.

5.1 Cutting + laying of 150mic black plastic liner/sheeting in excavated areas

5.2 Plastic liner to be cut and layed in such a manner that the whole excavated area be under sheeting except an radius of 1m around the basis of every palm tree

5.3 5 beds x 180m² = ± 650m² black plastic sheeting/liner of 150 micron thickness to be supplied by contractor
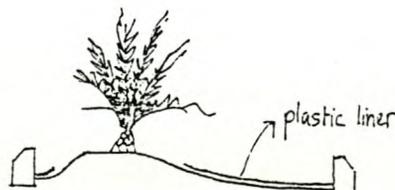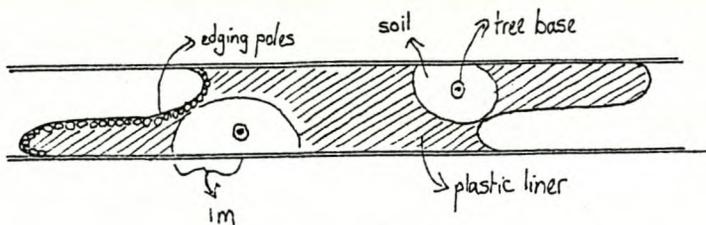
B. AIM OF THE CONTRACT

The contract is aimed at either :
9.1 An Emerging Contractor (SMME's), or
9.2 An Established Contractor in partnership with an Emerging Contractor

In the event where the quotation is submitted on the basis of a partnership between an established contractor and an emerging contractor, the conditions of the partnership must be included as part of the quotation.

C. PREPARATION OF QUOTATION

1. Local labour to be used in conjunction with the Directorate : Planning and Development within the prescriptions of the Greater Germiston Transitional Local Council

2. Underground services will be pointed out to the successful contractor on site by the responsible official. Any damage to these services will be rectified at the cost of the contractor

3. a) Only quotations with clearly specified action plans complying with RDP principles will be considered

    b) Detailed action plans explaining :

    - Equipment to use
    - Methods and sequence of actions
    - Number of labourers
    - Time frames in days
    - Provision made to secure damage to underground services
    - Price structure and specifications of equipment, material and labour to be used

3. Appointed contractor must be able to proceed with the duties within 120 hours after notice

APPENDIX VIII

LANDSCAPE
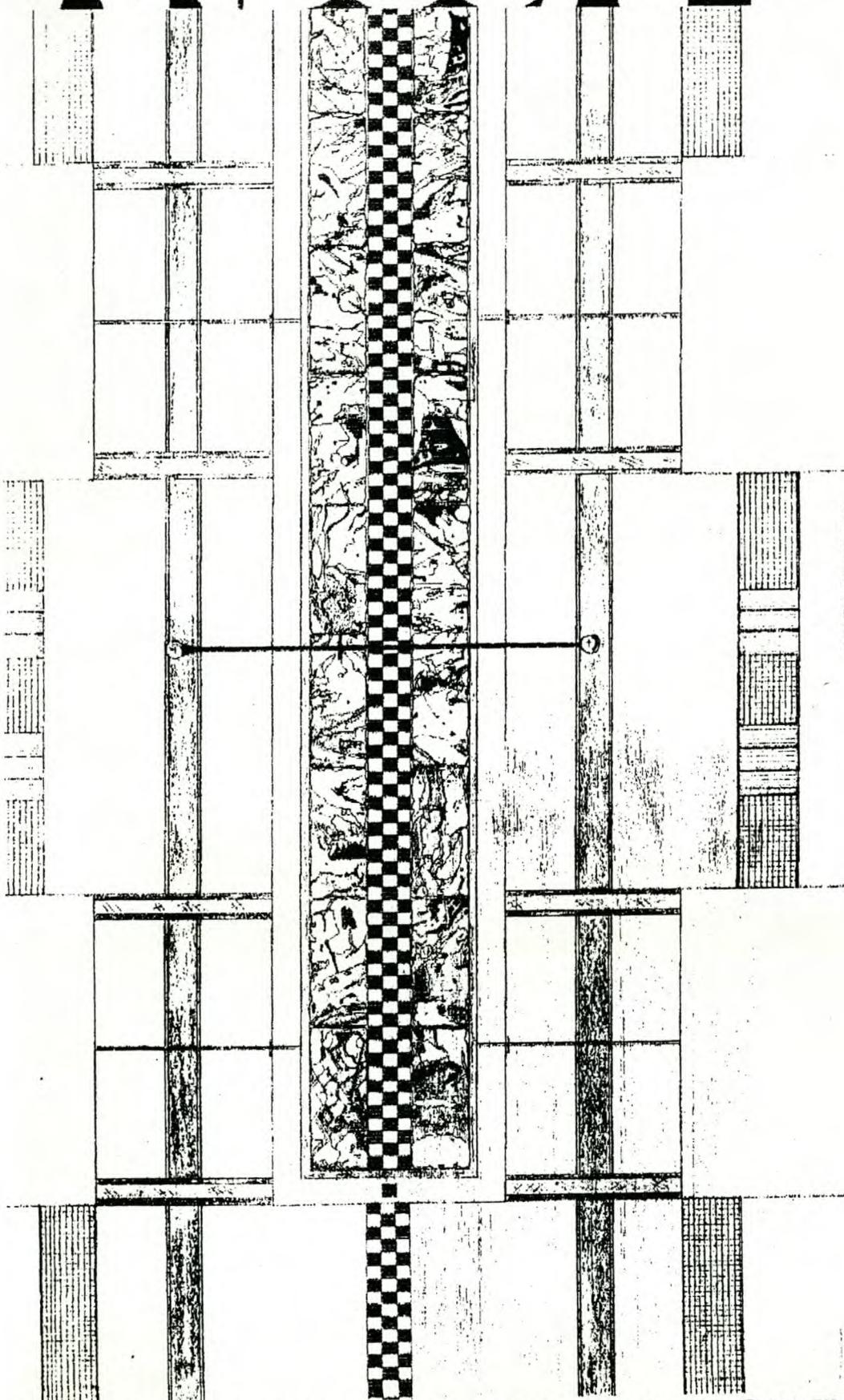
- ● **Paper landscap**
- ● Encouraging creativity
- ● Literary inspiration
- ● Urban forestry advice
- ● Workable weed control

Making it work

Urban forests are not easy to establish: poor soils, vandals and lack of water all need to be overcome. *Simon Hodge* explains the steps to success, and points out that the cheapest approach can often be the best.

▶ **Typical vole damage on beach.**

If opportunities for creating new woodland have been identified, and site assessment and planning is well advanced (see Hodge, *LD* 214 and Hodge, *LD* 215), the next stage is drawing up and implementing a detailed technical specification.

The requirements for successful tree establishment are well known, and yet many urban planting schemes fail because of a lack of good silvicultural practice. This may be partly due to organisational constraints; but the main reasons appear to be inappropriate specification; and a lack of rigour in implementation.

The Forestry Authority has recently undertaken assessments of a number of urban planting schemes. This research has revealed four common shortcomings in specifications:

1. Designs are too elaborate and expensive.
2. They allow little opportunity for contractors to react to prevailing conditions.
3. Progress is not closely monitored.
4. Species choice is often inappropriate for the site.

One of the benefits of urban woodland is its natural simplicity and unfussy appearance. Many proposals have extremely complicated layouts involving 20 species or more. Not only does this detract from natural simplicity, but it also makes the scheme unnecessarily expensive and difficult to implement. For a 1.0 ha woodland between five and ten species are usually enough, the overstorey being planted in blocks averaging 50 to 100 trees.

The belt-and-braces approach is common and manifest itself in many ways: for example, ground preparation by ripping as well as the auguring of planting pits filled with organic amendments; too many species planted; over-high planting density (up to 20,000 plants/ha); staking of small planting stock; watering in of transplants in February; use of expensive mulches as well as repeated herbicide applications (as many as 18 applications in three years, in one example).

This belt-and-braces approach may be partly a result of the specifier's lack of confidence in forestry matters, and partly due to the use of 'off the shelf' specifications, rather than one based on the needs of the site.

● Flexible specification

Successful establishment of trees on hostile urban sites depends on overcoming unpredictable pressures resulting from the weather and public use of the site, as well as site and vegetation characteristics. Specifications should recognise that the interplay of these factors cannot be predicted with accuracy. Constraints imposed by some specifications have forced conscientious contractors into implementing what they know to be bad forestry, or have prevented them from undertaking operations that they know to be necessary.

In contrast, a performance-related specification recognises the skill of competent contractors and gives the incentive of due credit for and pride in a successfully implemented scheme. While it is not without its pitfalls, I believe that performance-related specification (for an example see Carson, LD 212), if properly monitored, will result in more successful and cost-effective woodlands.

● Monitoring

During critical parts of implementation, such as pegging out and ground preparation, the site should be visited daily. Planting and spring maintenance should be monitored at least weekly, and during the rest of the maintenance phase the scheme should be visited monthly. This may reduce the output of the landscape architect in terms of the number of landscape drawings produced, but could significantly increase the number of schemes that are successfully realised on the ground.

Moves towards performance-related specification will put an increasing reliance on inspection and monitoring. However, this may result in a level of site inspection that should have been common practice anyway.

● Species choice

Whatever the objectives of the scheme, the species must be suited to the site. If not, either the scheme will fail to realise its objectives or considerable expense will be required to bring the site up to a standard sufficient to support the chosen trees. The long-term amenity, landscape and conservation objectives can, of course, be incompatible with the narrow range of species likely to survive on difficult sites; but these conflicts can be minimised by careful design and management.

On the most testing sites it must be accepted that short-lived tolerant species are the only ones likely to establish successfully. On some sites a 15-30 year rotation of tolerant species, such as some of the alders or willows, may improve the site sufficiently to replant with a preferred species, particularly if coppice regrowth can be used to shelter, protect and, in some cases, supply nutrients to the newly planted trees. On better sites a mixture of tolerant and preferred species can be planted initially. If the preferred species establishes successfully, the tolerant ones can be removed after the establishment period. If the preferred species fails then the tolerant ones will, at least, provide some tree cover on the site, and a later opportunity to replant the preferred species in sheltered conditions.

● Site preparation

It is imperative to get site preparation right and there is only one opportunity to do this; in the summer before planting. There are schemes that have failed completely because the site was not suitably prepared. The most common problem on urban planting sites is compaction and poor substrate structure. Soil compaction reduces the retention and movement of air and water and can physically impede root penetration. Poor soil structure accentuates winter waterlogging and summer drought (see Kendle & Schofield, LD 210).

Compaction is best relieved by deep cultivation, if possible to 70cm, particularly by wingtine ripping. However, to be effective the operation must be carried out when the soil is relatively dry; usually no later than the end of September. Ploughing or ripping the whole site is always preferable to pit planting. While the planting pit may support a tree for several years, on difficult sites rooting outside the pit will be limited and the tree can remain unstable and prone to drought and waterlogging for many years.

> ● We must above all understand what urban people want of trees... ●

A performance-related specification should indicate the minimum acceptable standard of specific soil attributes such as bulk density (see Hodge, LD 215), as well as the favoured method of achieving it. For a 1.0 ha site two-way ripping is likely to cost between £700 and £1200.

● Stock type and quality

Small, inexpensive bare root and cell grown (grown for sale within one year from seed in low volume containers) trees are the stock types that should be used for establishing urban woodlands. Small trees tend to survive and grow better than large ones because when they are lifted from the nursery a larger proportion of the root system is left intact. The root and shoot are in balance, and the roots of carefully handled and well planted trees are therefore generally able to supply the water needs of the shoots in the critical months and years immediately after planting.

All trees should be planted between late November and late March while they are still dormant. Planting any stock type when it is not dormant will increase the risk of mortality and poor growth. Bare root transplants typically cost about £220/thousand. Output for notch planting should be at least 50 trees per person per working hour.

● Tree protection

There are few urban planting sites which are not at risk from rabbit and vole damage. Rabbit damage is often most severe during the first spring after planting. The need for protection must be determined before planting. In areas not heavily

used by the public, tree shelters or plastic mesh guards may be appropriate. However, for more intensively used sites fencing is preferable as it does not draw attention to the trees (see Hodge, LD 215). When fencing, provision should be made for access on all existing paths.

Voles gnaw the bark around the lower stem and can sever roots just below the ground. Because of the fluctuating nature of vole populations, vole guards should be used when significant damage starts to become apparent. Careful spot herbicide application can reduce vole damage as the animals are reluctant to break cover. Conversely, mulches can be a haven for voles.

Protection of trees from domestic animals is a more difficult problem. On areas habitually used as 'common grazing', stock-proof fences may need to be erected and regularly inspected. Take every opportunity to talk to the owners of the animals, who are often willing to remove them to alternative grazing. For persistent grazing problems, a season of 100 per cent weed control may force the search for alternative grazing.

Forestry Commission Bulletin 102 *Forest fencing* gives detailed specifications for various types of fencing. Rabbit fencing to BS1722 part 2: 1989 for a 1.0 ha site should cost about £1.70/m for materials and labour.

● Managing ground vegetation

Careful and well-timed weed control has a dramatic effect on tree survival and growth and is critical to the success of any scheme. It is effective mainly by reducing competition for moisture and nutrients during the growing season. On most urban sites weed control should be undertaken for five years in order to encourage trees out of the vulnerable establishment phase. A 1.0 x 1.0 m patch of weed-free ground around each tree should have been achieved in time for the start of the growing season (late April) and maintained until the end of July. This is the period in which the majority of species put on most of their annual growth. Weed control also makes new planting look managed. If an area looks totally unkempt it is likely to be treated as waste ground and used for rubbish dumping, horse grazing, motorcycle scrambling and so on. The site should look natural but also show signs that this is the way that the manager intends it to be. Leaving unmown inter-row vegetation increases the feeling of naturalness, reduces the cost of management, and reduces the risk of mower damage to trees. Mowing around trees as an alternative to weeding actually increases the competitive effect of weeds.

A performance specification should require 1.0 x 1.0 m to be kept 80 per cent weed free between mid-April and the end of July. Two herbicide applications per year for five years should cost about £0.60 per tree for a 1.0 ha scheme. The total cost of plastic sheet mulches is generally more than weed control with herbicides. They also draw unwanted attention to the trees and invigorate the weeds around the mat, thus reducing the area of effective weed control. While they appear to be a low maintenance option suited to 'front loaded' funding they are not maintenance free and sometimes need replacement after several seasons.

Organic mulches are extremely expensive (as much as
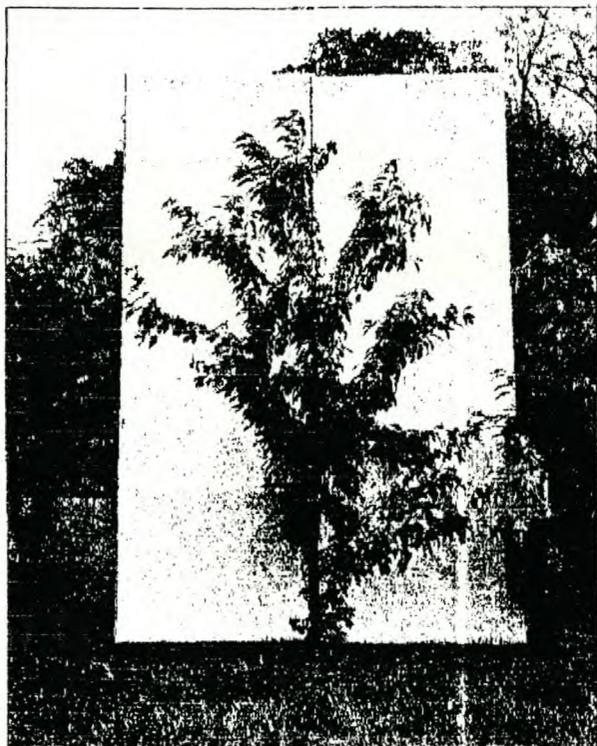
◀ **Weeded**
1 + 1 wild
cherry
transplants
after four
seasons.

▼ **Unweeded**
1 + 1 wild
cherry
transplants
after four
seasons.
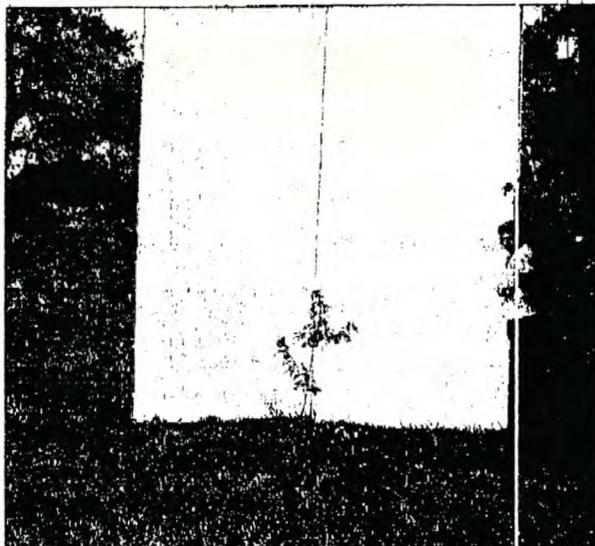
£27,000/ha in one scheme!) and need annual topping up to remain effective. This expense is rarely justified.

● Fertiliser

Consideration of the fertiliser needs on a site should always start with soil analysis. On nearly all urban sites nitrogen (N) is in short supply, and applications through the establishment phase will greatly enhance growth rates and appearance of the scheme. Phosphorus (P) is also often in short supply, but potassium (K) levels are generally adequate.

Of course, without weed control fertiliser will benefit weeds rather than trees, actually increasing competition for moisture from ground vegetation and so reducing tree survival and growth.

P can be broadcast over the whole site before planting (allowing cost effective tractor application on larger sites). N is then applied in April during the second growing season, but restricted to a 1.0 x 1.0 m patch, and to species that cannot fix N. This ensures the cost-effective targeting of fertiliser and a relative boost to slower growing species.

Intimate mixtures with N fixing species (principally alders and robinia) can be a source of N to the preferred species. However, N fixing trees generally grow faster and outcompete the preferred species; a significant amount of N becoming available to the preferred species only after about seven years through leaf litter and root decomposition. Research continues to evaluate N fixing shrubs that are less likely to outcompete the preferred species.

Sewage sludge is increasingly being considered as a fertiliser for urban forestry schemes. Forestry Commission Bulletin 107 is a manual of good practice for the use of sewage sludge in forestry and gives details of types of sludge, nutrient contents and application rates. Sewage sludge can be expensive to spread but increasing pressure to find means of disposal is encouraging water companies to bear much of this cost. Rank growth of vegetation, however, between weeded spots can be a problem of overall sewage sludge application.

● Conclusion

To succeed in urban forestry we must above all:
1. Understand what urban people want of trees when identifying opportunities for planting.
2. Ensure that plans for woodland are robust, objective-led and backed by long-term commitment.
3. Use techniques appropriate to the demands of difficult sites, the needs of local people and the constraints of tightening budgets ■

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