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**Legitimacy and Decision Making
in Developmental Local
Government:
Participative MCDA in Stellenbosch**

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Abstract

This thesis is concerned with the problem of how to effectively address the complex issue of poverty in the context of limited resources. Poverty is a multi-dimensional problem that affects different communities in different ways. In order to use the available resources in such a way as to most effectively tackle poverty, a means of measuring and benchmarking outcomes as well as evaluating choices of intervention is required. However, smart methods of allocating scarce resources are not in themselves sufficient, if they are not regarded as legitimate by the participants of the process. The imperative of legitimacy demands that we both address the issue of quantitative rigour in resource allocation methods *and* that we look beyond and explore too the mechanics of effective participatory methods.

The approach of developmental local government adopted by the new South African government post apartheid, places this complex problem in the sphere of local government. The primary tool available to local administrators for addressing poverty, amongst other issues, is that of integrated development planning. This process draws together the stakeholders who fall broadly into three groups of participants, namely the communities that live in the municipality, the municipal officials and the elected politicians, and allocates them the task of identifying and prioritising community and municipal issues, and developing appropriate plans to address them. This package of plans or projects is compiled into a municipal budget that targets priority issues for the area, in an integrated and coherent manner.

This thesis proposes a new method for tackling this specific group decision making problem, namely Participative Multi-Criteria Decision Analysis. This method was developed in an action research setting in the municipality of Stellenbosch, South Africa, and applied to their 2001/2002 integrated development planning process. The method is grounded in the principles of participative action research in which the participation of all interested and affected parties is valued, and in which there is a commitment to work for change to the fundamental fabric of knowledge and power, leading to a greater empowerment of ordinary people. This participative framework strengthens the legitimacy of the approach by promoting a stronger sense of ownership of process and products by all participants. Within this participative framework, tools of multi-criteria decision analysis are used to support the decision making process by quantifying difficult

decisions that need to be addressed. It is the synthesis of these two approaches (action research and multi-criteria decision analysis) that provides both legitimacy and rigour for this method within a highly contested and complex public decision making arena.

In the spirit of action research, the method is developed by drawing on theory about developmental local government and poverty, as well as multi-criteria decision analysis. In the process of the research, over forty community workshops were held throughout the Stellenbosch municipal area. Community representatives identified and prioritised the issues of their areas; and in conjunction with municipal officials, developed and evaluated projects in response to these issues. These evaluations assisted the local council to compile the final budget for 2001/2002 in Stellenbosch. In this process, the communities (divided into nine development areas) also developed community development measurement scales which formed the basis for the project evaluations and an ongoing basis for monitoring progress in these communities.

It unfolded during the course of this research that a fundamental component of this proposed participative public decision making approach is the role of a central coordinating person, not connected to or answerable to any of the constituent groups, who can manage the process of participation, promote an awareness of effective and informative data; ensure the appropriate use of quantification tools and maintain a focus on sustainable poverty alleviation.

The method developed in this thesis was successfully applied to the process of identifying, prioritising and making choices about community issues in Stellenbosch, under conditions of significant polarisation of the constituent decision making groups. conclude that this method can be used to implement key aspects of integrated development planning as it addresses the issues of legitimacy and rigour in participative public decision making.

Previously Published Material Contained in this Thesis

Chapters 2 and 3 draw heavily on the following published paper:

Scott, L. (2002), A poverty indicator system for local government, *Development Southern Africa*, 19, 483-501.

The Material in Chapter 3 also draws heavily on the following paper, commissioned as a handbook for NGO's by Isandla Institute:

Scott, L. (2001) Poverty Indicators. www.isandla.org.za

The contents of Part IV of this thesis were presented at the Project FARCODE Research dissemination seminar on 28 February 2003 in Kuilsriver, Cape Town. The title of the paper presented and distributed to participants as part of a resource bundle was:

“Using MCDA tools to assist public participation in the IDP process of Stellenbosch Municipality”.

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List of Abbreviations

AHP	Analytic Hierarchy Process
AIDS	Acquired Immune Deficiency Syndrome
CATWOE	Clients, Actors, Transformation, World view, Owners, Environment
DFID	Department for International Development (UK)
DLG	Developmental Local Government
ELECTRE	Elimination et Choisis Translation Realite
FARCODE	Fair Allocation of Resources for Community Development
FCR	Foundation for Contemporary Research
GTZ	German Society for Technical Co-Operation
IDP	Integrated Development Planning / Plan
KRA	Key Result Area
MACBETH	Measuring Attractiveness by a Categorical Based Evaluation TecHnique
MADM	Multi-Attribute Decision Making
MAVT	Multi-Attribute Value Theor
MCAP	Multi-Criteria Aggregation Procedure
MCDA	Multi-criteria Decision Analysis
MCDM	Multi-Criteria Decision Making
MODM	Multi-Objective Decision Making
NGO	Non-Governmental Organisation
ODA	Overseas Development Agency (UK)
PAR	Participatory/ive Action Research
PPP	Purchasing-Power Parity
PRA	Participatory Rural Appraisal
RRA	Rapid Rural Appraisal
PROMETHEE	Preference Ranking Organization METHod for Enrichment Evaluations
SANPAD	South Africa Netherlands Programme for Alternatives in Development
SIDA	Swedish International Development Agency
SMART	Simple Multi-Attribute Rating Technique

SSM	Soft Systems Methodology
TBVC	Transkei, Bophutatswana, Venda and Ciskei
The Rep Forum	IDP Representatives Forum
VISA	Visual Interactive Sensitivity Analysis

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Part I: Introduction

Chapter 1: Introduction

This thesis sets out to provide a method to address a generic class of problems around the allocation of scarce resources within a complex decision making environment. The method is developed with a specific example of this class of problems in mind, namely that of participative decision making in the context of Integrated Development Planning (IDP) within the sphere of local government in post-apartheid South Africa. This example thus serves both as a test-bed and a demonstration of the general problem.

Using an action research based approach in the local municipality of Stellenbosch, Multi-Criteria Decision Analysis is explored as a mechanism of achieving the demands of multiple stakeholders seeking to address developmental problems with limited resources.

The general problem can be thought of as complex, multi-dimensional, multi-level, unstructured, involving multiple, diverse and adversarial role players and not amenable to solution by simple algorithms or heuristics. Examples of other such complex decision arenas are

- Management of the AIDS crisis in South Africa
- Allocation of funding and support to different sports bodies
- Determining the desired mix of educational options for schooling (including private, semi-state funded and fully state funded options)

These problems tend to be most prevalent in the public domain where the 'greatest common good' is being sought and where there is an explicit demand for transparency; for solutions to be defensible and for the process to be inclusive of all interested and affected parties. In the private domain, decision making may be easier in the sense that it can be more frankly top down without the explicit need to be (seen to be) democratic. For example, a decision can be made at top executive level to place more emphasis on interest x than interest y without this decision having to be ratified at other decision making levels or by other interested parties. Many companies do, however, face complex

decision problems of a similar type when they need to allocate future resources bearing in mind the needs of shareholders, employees, foreign and domestic partners, short vs long term planning, etc.

1.1 A Broad Description of the Generic Problem

The generic problem has the following elements:

- **Choice of Goals:** Within the arena of complex or ‘messy’¹ group decision making problems there is a need for a method which allows for individual or group choice of goals (involving value judgements and compromise between different participants within a framework that is informed and defensible. This means we need an approach which both recognises the need to subjectively apportion value to issues and the need for solid data or information to support difficult choices.
- **Process Monitoring:** There is a need for mechanisms to measure whether selected strategies or interventions are effective in moving us towards the identified goals. This process is complex because it is not possible to determine a priori the exact relationship between input and output, due, amongst other things, to the inter-relatedness of the competing issues and the changing decision environment.² Moreover, because of the nature of the problem (many players at many levels and many goals) and the potential for conflict between and around these elements, it is essential that effective monitoring and evaluation mechanisms are built into the process.
- **Co-ordination of Levels of Intervention:** Issues of scale further complicate the process in the sense that the allocation of resources must be co-ordinated at various levels of intervention, in this case national, regional and local. Thus the process must be able to cater for detail at the local level and be capable of summary at higher levels so as to align the important issues and ensure that overall, choices are both locally relevant as well as regionally, nationally or globally coherent.
- **People Orientated Process:** This is possibly the most distinctive feature of this class of problems. The most important aspect of the ‘solution’ to this type of problem is that it takes the participants along for the journey! In other words the problem needs to be addressed by clarifying possible solutions within people’s minds rather than finding a

¹ The term “mess” for complex decision problem arenas was coined by Ackoff (1979)

² In other words we cannot measure the exact benefit to be derived from e.g. building x houses because this will depend on the context. The context may include the extent and nature of the situation in other dimensions of the problem such as health, employment, security, etc as well as other contextual information such as spatial issues and social cohesion.

theoretical solution to a technical problem, i.e. there is no 'optimal solution' in a technical sense. Even if there were an 'optimum' it would in fact be at risk of failing if participants did not believe the process by which it was chosen. There is thus a need to find a process that will clarify a (set of) solution(s) that will be acceptable or at least seen as legitimate to a large cross-section of the community (by providing the maximum perceived benefit). This is not to say that there are not technical issues to be solved but these are rather sub-problems of the process. Thus a complexity of the process is the need to consolidate input from technical experts and to accept guidance from policy makers whilst allowing individual participants to shape solutions that must ultimately be measured in terms of their benefit to the whole community. Tension between participants needs to be managed and thus an opportunity for conflict resolution must be built into the process.

- **Lack of Adequate Information:** Given perfect information, sophisticated decision support mechanisms can be used to guide (and resolve conflict within) complex decision making processes. However a hallmark of the type of 'messy' problem being described here is a lack of adequate data and an uneven distribution of existing data. The unequal distribution of information may also reflect power imbalances within a community. A challenge is to develop a method that can provide support for the decision making process despite patchy and, in some instances, complete lack of objective information.

In summary (Table 1), the five key elements needed to resolve the general problem of establishing a legitimate mechanism for the resolution of complex decisions across multiple stakeholders where there are limited resources include:

- (i) An explicit handling of multiple, possibly conflicting goals
- (ii) A clear method of monitoring process and outcomes
- (iii) An explicit handling of multiple, possibly adversarial stakeholders
- (iv) A people centred process which is inclusive and participatory
- (v) A process which is aware of the power and value of effective data

Goals	<ul style="list-style-type: none"> • Helps to clarify goals • Helps with selection of goals • Handles multiple, conflicting goals
Monitoring	<ul style="list-style-type: none"> • Monitors process • Monitors outcomes • Enhances transparency of decision making
Multiple levels of players	<ul style="list-style-type: none"> • Co-ordinates inputs from different participants • Co-ordinates outputs required by different participants
People orientated	<ul style="list-style-type: none"> • Promotes a sense of ownership of the decision and the decision process • Enhances conflict resolution • Assists by clarifying options • Is accessible to all participants
Ability to cope when data is poor / absent	<ul style="list-style-type: none"> • Clarifies where information is needed • Promotes a culture of awareness of the importance of information • Helps put data processes in place to improve access to information

Table 1: Desirable Characteristics of a Decision Making Method

1.2 The Specific Problem

I have selected a specific example of the aforementioned generic problem that will be used in this thesis, namely that of Integrated Development Planning of local government in South Africa. This is a new and untested process that presents a) multiple objectives, even within the specific objective of reducing poverty b) multiple players c) limited resources and d) a requirement for inclusive and participative decision making. Integrated Development Planning, introduced as a tool of developmental local government (DLG) in post-apartheid South Africa, aims to provide for effective poverty relief, sustainable municipal development and a sound environment through integrating systems of planning and delivery (South Africa, 2001). The process encourages the participation of all municipal stakeholders in the preparation of a strategic development plan that informs municipal planning, budgeting and management decision making for a five year period. This process is an exercise in direct democracy, which aims to link the goal of reducing poverty to the actions of government and to legitimize these imperatives.

The difficulties associated with group decision making are perhaps most marked within the realm of public decision making, where there is in general conflict or tension between three broad groups of participants. These comprise the policy makers (nominally responsible to the public who elect them); the policy implementers and advisors (expert, to a degree, in the relevant technicalities, and nominally responsible to the elected politicians); and the public, who are the ultimate beneficiaries or victims of the services provided. Each of these interested and affected groups may view the decision problem from a different perspective and thus have different end points in sight. Consequently there is a need for a procedure to determine some common end points or goals, as well as agreed mechanisms to evaluate options. This procedure needs to be inclusive of as wide a range as possible of perspectives of the needs of interested and affected parties, while not losing sight of higher level (perhaps longer term, policy related or frankly political) perspectives.

Integrated Development Planning represents an ideal example of the generic problem in that this process aims to consolidate the views of a large variety of different stakeholder groups (as outlined above) into a coherent plan which allocates resources to address the identified priority issues of that municipality. Because this is *public* decision making, and particularly because it concerns the allocation of public resources, there is also a strong requirement for monitoring of both process and outcomes. We also need to be able to summarise vast amounts of information into formats that are accessible and practically useful for other levels of government eg district and provincial spheres of government

Table 2 indicates some of the IDP specific requirements for a group decision making method.

	Generic characteristic	IDP specific requirement
Goals	<ul style="list-style-type: none"> • Helps to clarify goals • Helps with selection and prioritisation of goals • Handles multiple, conflicting goals 	<ul style="list-style-type: none"> • Clarifies needs and goals of community, whilst promoting the overall goals of the IDP and accommodating guidance from officials and experts
Monitoring	<ul style="list-style-type: none"> • Monitors process • Monitors outcomes • Enhances transparency of decision making 	<ul style="list-style-type: none"> • Assists in the development of both performance and outcome/ impact monitors • Promotes community participation in monitoring
Multiple levels of players	<ul style="list-style-type: none"> • Co-ordinates inputs from different levels of participants • Co-ordinates outputs required by different levels of participants 	<ul style="list-style-type: none"> • Makes provision for summary measures to co-ordinate decision making at district, provincial and national levels • Decisions can be linked back to community level needs
People orientated	<ul style="list-style-type: none"> • Promotes a sense of ownership of the decision and the decision process • Enhances conflict resolution • Assists by clarifying options and guiding decisions • Is accessible to all participants 	Same as for generic level
Ability to cope when data is poor / absent	<ul style="list-style-type: none"> • Clarifies where information is lacking • Promotes a culture of awareness of the importance of information • Helps put data processes in place to improve access to information 	Same as for generic level

Table 2: Characteristics of a Desirable Decision Making Method for IDP

1.3 Thesis Structure

This thesis is divided into four parts:

Part I: An Introduction to the thesis.

Part II: The Problem of Multidimensionality, comprises Chapter 2 and Chapter 3. In order to develop an appropriate and informed decision making method, there are a number of different bodies of knowledge that this research has made use of as points of departure. Chapter 2 of this thesis explores an overview of DLG in South Africa post 1994, focusing mainly on the IDP process, and on the imperative to alleviate poverty.

Chapter 3 reviews different conceptual schools of thought on poverty and development, focusing strongly on the work of Amartya Sen. These different ways of perceiving and tackling the broad issue of developmental decision making (as a problem within the broader issue of complex resource allocation problems) provide the background within which my own approach has been developed.

Part III discusses Conceptual and Methodological Issues in Chapters 4, 5 and 6. This section further explores topics that have informed the ideas formulated in this thesis, and proposes a new method from a synthesis of ideas from these fields.

Chapter 4 unpacks the notion of action research in a broader discussion of participatory development and research paradigms in general. In this chapter, I put forward the arguments for using an action research approach in this thesis, but I take issue with the purely qualitative tradition of this methodology.

Chapter 5 describes and explores the field of Multi-Criteria Decision Analysis (MCDA), a field which comprises a number of different methods to deal with complex decision making arenas. I argue that 'hard' tools such as these can be compatible within a Participatory Action Research (PAR) framework and can be beneficial to the participatory experience. I explain the reasons for adopting a specific MCDA approach that I feel is appropriate for the decision making environment of integrated developmental planning.

In Chapter 6 a new method, Participative MCDA, is proposed with which to address the complex decision making processes of the IDP. This method is proposed within a PAR methodological framework that includes the development of a procedure for generating quantitative and transparent priorities.

I submit that Participative MCDA is able to manage multiple and conflicting objectives, multiple levels of and competencies of participants, limited resources (including data) and also promotes a profound sense of ownership of the process and its products. This method makes explicit the role of value judgements and the role of information, and also allows for data to be summarised and collated at a level that is appropriate for communication to regional and national authorities.

Participative MCDA provides a quantitative decision making framework that has a claim to being both *legitimate*, in that it is built around the inclusive participation of all stakeholders in the decision making process, and *rigorous*, in that it provides a focused mechanism whereby to make complex resource allocation decisions, based on sound

principles of measurement and evaluation. This is the major new contribution of this thesis.

Part IV describes the development of Participative MCDA in an action research application in Stellenbosch. Herein, Chapter 7 describes the developmental challenges facing the Stellenbosch Municipality. Chapter 8 gives an outline of the research process (planned and actual) in Stellenbosch, and Chapter 9 describes the development of Participative MCDA within the IDP process in Stellenbosch Municipality, a region situated in the Western Cape province of South Africa. I show in this chapter how Participative MCDA was used to prioritise issues defined by the communities of Stellenbosch, and to assist in the selection of projects for the 2001/2002 budget cycle of the Stellenbosch Municipality.

Part V contains the Discussion of this thesis. Wherein, Chapter 10 reviews the findings and implications of the case study, reported in Chapter 9, first discussing issues specific to the proposed methodology, and then considering the findings of the application to the IDP process of Stellenbosch Municipality.

This chapter concludes with an assessment of how well the proposed methodology addresses the problem laid out in Chapter 1, and recommends how this approach can be developed further.

Part II: The Problem of Multidimensionality

Introduction to Part II

This thesis puts forward a concrete methodology to assist local authorities to fulfil a developmental role. Fundamental to this is thus an understanding of the concept of DLG, a multifaceted approach to local government in post-apartheid South Africa. One particular aim of DLG is poverty alleviation and in this section I explore the use of Integrated Development Planning, a tool of DLG, to pursue this end.

Poverty is also a multidimensional concept and the IDP process acknowledges this multidimensionality in recognising that the solutions to the problem of poverty will also be multifaceted; and in demanding that the many and varied stakeholders affected by the problem in all its guises, are brought in to bring about its resolution. Participation by multiple stakeholders is central to the notion of the IDP process.

In this section I explore different views of poverty, with the understanding that the way poverty is conceptualised affects the solutions and interventions that are put forward to combat it. There are clearly many who have developed specific approaches to understanding poverty, such as that proposed by the United Nations Development Program or, closer to home, the work of Julian May, who has deepened our understanding of the multidimensional nature of poverty and inequality in South Africa. However, I have chosen to focus on the work of Amartya Sen, mainly because he has written extensively on the quantitative issues associated with poverty measurement. He is also regarded as an authority on poverty assessments and is renowned for his views on poverty as a multidimensional entity, promoting the need to measure dimensions that relate to human capability rather than dimensions that happen to be easily quantifiable.

Chapter 2: Developmental Local Government

2.1 Governance and Information

There is an interdependency between modes of governance and knowledge or information. Different systems of government will depend on different forms of information or knowledge to drive, monitor and refine their policies, which reflect their ideologies.

The apartheid model of South Africa was of a 'white-controlled core society and independent or semi-autonomous reserves or 'Bantustans' in the less-developed areas of subsistence economy' (Moller, 1997). The aim of apartheid policy was to resettle all except migrant labourers in the homelands. Management of the country was highly centralised and driven by a narrowly focussed ideology. The kind of information needed to strengthen and maintain the objectives of government was data that primarily reflected the well being of the white electorate³. Additionally, the suppression of a majority by the minority required an emphasis on information about potential threats to the state. Hence the apartheid state reflected a predilection for 'surveillance' information (Posel, 2000) and also invested in 'information' as a propaganda tool. Data was collected and massaged to reinforce and persuade onlookers to a particular view of the country rather than to inform or provide feedback about the living conditions for the majority of the country's citizens.

In terms of local government, pre-1994 South Africa was characterised by a strongly 'top-down' approach. There was little perceived need for gathering information or for directly involving the community in the process of governance as the administration focussed on servicing a relatively small, homogenous sector of the population. Local authorities had almost unchecked autonomy in the ways in which they allocated their budgets. Information about the living conditions or opinions of the majority of citizens was not required to inform policy directions. Thus the apartheid state left behind a desert of official data or information about the living conditions of the people of South Africa and no legacy of monitoring the effectiveness of local government. This was so, notwithstanding efforts by non-governmental organisations such as the South African

³ The official statistics produced by the apartheid state often excluded the 'independent homelands' (Transkei, Bophutatswana, Venda and Ciskei, often referred to as the TBVC states). For example per capita expenditure on education for blacks prior to 1994 frequently excluded the TBVC states, (see *Race Relations Surveys*, SAIRR, 1985)

Institute of Race Relations (SAIRR), the South African Labour and Development Research Unit (SALDRU), the Urban Problems Research Unit (UPRU), the Surplus People's project, etc., to counter this tendency

2.2 Post-Apartheid Governance

The ANC government came to power in 1994 with a mandate to deliver 'a better life for all' to the people of South Africa, in a spirit of democracy and accountability. The new government developed a style that focuses strongly on data, indicators and performance. In other words there is new emphasis on measurable evidence in fields as diverse as local government performance, environmental effects, poverty and developmental goals. Evidence of this is found in the standards set in the National Water Act No. 36 of 1998 (South Africa, 1998b) as well as the emphasis on performance indicators in the Municipal Systems Act No. 32 of 2000 (South Africa, 2000). The National Environmental Management Act No. 107 of 1998 (South Africa, 1998c) also sets up structures whereby it is mandatory to measure impacts of proposed building or development schemes and to assess whether their benefits outweigh their costs. Also indicative of this new focus on performance and tangible outcomes, is the adoption of 'outcomes based education', which emphasises the importance of a defined outcome (objective) to the educational process. There are a number of driving forces behind this new focus on indicators and measurement in the diverse fields outlined above.

Firstly, there exists a situation of scarce resources. The extension of basic services and rights to all South Africans, using the same resources that had previously serviced a privileged minority of South Africans, requires highly efficient use of resources as well as major restructuring of the system of delivery. Efficient use of limited resources requires that the margin of error in terms of targeted deliveries be kept as small as possible. To do this requires effective and timely feedback on levels of resource usage in relation to achievement of goals.

The reuniting of the fragmented apartheid state into one country had major consequences for many municipalities. By way of example, consider the City of Johannesburg. "Basically the Greater Johannesburg Metropolitan Council now has to provide, with only marginally extended resources, the same services to everyone as they used to provide

before 1994 to one third of the population”, (Sinnott, financial member of the Greater Johannesburg Metropolitan Council technical task team quoted in Beall et al, p116, 1999). Also, Cashdan (2002) points out how local authorities are financially strained with the amalgamation of previously racially based local authorities, as well as decades of apartheid debt through enforcing apartheid regulations. He also indicates that not only local authorities have to provide the traditional services they always have but also services which have, under the new dispensation, devolved from state and province to the local sphere.

Secondly, the ANC have committed itself to a system of governance that is democratic, transparent and accountable. Fundamental to the restructuring of the country has been a complete overhaul in the workings of local government. The new approach, *DLG*, envisages a partnership between local authorities and the communities they serve, and puts poverty at the centre stage.

Local authorities are now mandated to play a key role in the development of their communities. “Development” is defined in the Municipal Systems Act No. 32 of 2000 (South Africa, 2000, p14) as follows: “...means sustainable development, and includes integrated social, economic, environmental, spatial, infrastructural, institutional, organisational and human resources upliftment of a community aimed at –

- a) improving the quality of life of its members with special reference to the poor and other disadvantaged sections of the community; and
- b) ensuring that development serves present and future generations.”

As can be seen from the definition of development above, *DLG* has meant a significant change in the job descriptions of local government officials and employees. The Preamble to the Municipal Systems Act No. 32 of 2000 (South Africa, 2000, p2) states that “... a fundamental aspect of the new local government system is the active engagement of communities in the affairs of municipalities of which they are an integral part, and in particular in planning, service delivery and performance management.” Local authorities in South Africa have thus shifted (since 1994) from being agencies mainly responsible for the delivery of essential services (a task which they previously undertook essentially without any requirement for public consultation) to being agencies responsible for development and moreover, for *participative* development. In short, local authorities

have been newly tasked with addressing a whole range of wider issues than before with a whole range of partners that they never had before⁴.

Part of the process of gearing the country for DLG was to redefine the boundaries of municipalities nation-wide so as to create a situation where all people have direct access to government by a local authority. Cameron (2000) gives a description of the problems associated with the system of local government in South Africa prior to the demarcation process and also indicates why the Constitution of South Africa (South Africa, 1996a, Ch 7, section 151(1)) stipulates the need for wall-to-wall municipalities in the country. "The notion of 'wall to wall' local government means that every South African will have direct access to democratically elected representatives involved in the management of the local area" (Parnell and Pieterse, 2002, p83). This process of demarcation took effect with the municipal elections of December 2000.

It is clear therefore that DLG has essentially a multi-dimensional task of allocating scarce resources with multiple objectives in mind and where there is involvement of multiple role-players. It is also apparent that an entirely new organisational culture, compatible with the new approach, would need to be developed. The decision environment is made very much more complex and less stable by the fact that for most municipalities this process of developing a new culture is just beginning.

2.3 Integrated Development Planning

The main tool of DLG is Integrated Developmental Planning (IDP) and a national guide pack has been issued to indicate how to undertake this planning and decision making process. The Guide Pack (South Africa, 2001) indicates that the overriding aim of the IDP process is to bring about sustainable poverty reduction within a sound environment. IDP as described in the Guide Pack is an ambitious and far reaching process, which

⁴ The Municipal Systems Act of 2000 (South Africa, 2000, p14-16) defines the municipality as consisting of

"(i) the political structures and administration of the municipality; and (ii) the community of the municipality [which is defined in the same document as]
(a) the residents of the municipality; (b) the ratepayers of the municipality; (c) and civic organisations and non-governmental, private sector or labour organisations or bodies which are involved in local affairs within the municipality; and (d) visitors and other people residing outside the municipality who, because of their presence in the municipality, make use of services or facilities provided by the municipality, and includes, more specifically, the poor and other disadvantaged sections of such bod of persons."

completed its first test run with the setting up of municipal budgets for the 2001/2002 cycle.

There are however, no clear mechanisms in place to deal with how to

- ♦ address a complex set of competing national and local level aspirations or objectives
- ♦ involve diverse communities in the decision making process
- ♦ draw on the advice of experts as well as the experience of municipal officials
- ♦ ensure that the main focus of the IDP remains sustainable poverty reduction
- ♦ manage the tension between legislators, bureaucrats and the public
- ♦ build into the process information sensors or indicators which illuminate the way and provide feedback for learning.

Additionally, in almost all municipalities, this process happens within a context that is data scarce, time pressurised, low budget and in which there may well be substantial mistrust and polarisation of participants.

The combination of scarce resources and a commitment to accountability have increasingly led to a new focus on good management practices within the post-apartheid government of South Africa. Local governments are required to measure performance indicators as per requirements of the local government White Paper (South Africa, 1998a) and the Municipal Systems Act No. 32 of 2000⁵. Thus, while local authorities are given more powerful tasks than ever before in terms of being the agents of poverty reduction, service delivery, economic growth and spatial reconstruction, they are kept constrained to act within national policy guidelines by performance indicators. The Department of Finance has developed a set of guidelines whereby local authorities will receive 'equitable share' funds from central government to assist particularly areas with high levels of poverty. This source of funding provides another means to keep local authorities constrained to deliver on national objectives.⁶

⁵ Municipal Systems Act (South Africa, 2000, p46) states that 'A municipality must ... establish a performance management system commensurate with its resources and best suited to its circumstances that is in line with the objectives, indicators and targets contained in its integrated development plan; and promote a culture of performance management among its structures and functionaries and in its administration.'

⁶ Oldfield, (2002, p97) describes how 'equitable share' funds can be used by the Department of Finance as both a 'carrot to be developmental... or a coercive stick to exert some degree of pressure and consequence on recalcitrant localities'

Oldfield (2002, p97) describes the IDP as being a process to ensure community participation over a wide range of interest groups. "The muscle of the IDP is the fact that it is linked to the budget".

Because the present government have promised 'accountability' and 'transparency' in their dealings, communities are also entitled to feedback on the achievement of objectives. Thus there is a need for tools that can be used to identify needs and to measure effective progress in a transparent way, open to inspection by all. Mindful of the fact that local government was the instrument whereby communities were effectively marginalised and systematically dispossessed of their resources under the apartheid regime (Oldfield & Parnell, 1998) there is a need to ensure that local authorities are harnessed to serve the communities that elect them. Feed-back systems (be they indicators or other monitoring tools) are needed so that communities can ensure local authorities are delivering according to agreed upon goals and plans. Beer (1975) comments that indicators are an essential tool for effective decision making and ensuring that decentralisation of power works effectively towards promoting a chosen national strategy.

The format that central government has specified for the communication about priorities and targets between communities and local authorities is the IDP.

A further force responsible for the new emphasis on 'measurement' in government is the influence of international agencies such as the United Nations and the World Bank. Local Agenda 21 (Rio summit agreement of 1992) as well as the United Nations Centre for Human Settlements (UNCHS) Habitat II program, of which South Africa is a signatory, promote the use of indicators to monitor progress. World Bank funded projects demand high levels of accountability and feedback on progress through indicators. International trends in governance and development strongly emphasise the importance of effective information in tackling issues such as poverty and inequality.

In summary, DLG is about promoting development and/or combatting poverty through a commitment of resources at the local level. This process needs to be accessible to all and as inclusive as possible. Space needs to be made to include new partners of municipal decision making and to value the richness they bring to the process. DLG places a strong emphasis on measurement, evaluation and monitoring to enhance transparency and accountability. However, as I will show in the next chapter, the measurement of poverty

has been the subject of much international debate (Aliber (2003); Sen (1973); Morris (1979); Ravallion (1992); Howarth et al (1998); Cashdan (2002) and May (2000)), and there are many justified and real reasons to be suspicious of manipulation of social issues by quantification⁷. Maxwell (1999, p1), for example, claims that “advocates of the participatory paradigm, in particular, are wary of quantification and standardisation”. This is exacerbated by the fact that South Africa has a history of misleading official statistics. It was, however, not simply the numbers produced by the state that were untrustworthy but more fundamentally the model or view of South Africa that they were based upon that was unacceptable (as well as often misleadingly unrevealed). There is thus inherent in the IDP process, a challenge to meet the needs for monitoring and accountability, but to resist the temptation to focus solely on the measurable and to use this to mirror progress. There is also an imperative to make the process as inclusive and participative as possible and so avoid the situation where ‘the public’ only have access to the *end* results of a process of evaluation, especially where this process inevitably starts with a view of ‘What do we value?’ This is so not only because the legislation demands it, or because it is truly democratic, but also because we do not have the resources to otherwise effectively target the poor. Those countries that have large resource pools, and relatively few poor people, can afford to spend money on targeting the poor (and frequently this is a costly exercise). However, those countries with few resources and large numbers of impoverished people cannot afford to invest in fine tuning their means testing. In this instance participation, despite the monumental challenges that it poses (see for example Beall et al, 2002) becomes an *essential* tool to target the poor as efficiently and effectively as possible.

⁷ See discussion on ‘criticisms of indicators’ in Parnell and Poyser (2002)

Chapter 3: Poverty

3.1 Conceptualisations of Poverty

Although there is now widespread agreement that poverty is a multi-dimensional issue and that a purely economic framework for assessing poverty is insufficient (Hulme and Shepherd (2003); Howarth et al (1998); May (2000)), poverty remains a much debated and highly contested subject. The manner in which poverty is conceptualised has evolved along with changing views on society and how it operates and the following broad schools of thought with regard to poverty and development can be identified (Cape Metropolitan Council (1999); Kanbur and Squire (2001)). These views, not necessarily listed in chronological order, each espouse differing views on possible underlying causes of poverty, its appropriate measurement as well as what constitutes effective intervention.

(i) Poverty as an Issue of Income:

Probably the first and most widely used approach to identifying and measuring poverty and manifested in such indicators as unemployment rates, income levels, expenditure levels, proportions of the population below defined poverty lines, etc. The view central to this approach is that money is a universally convertible asset that can be translated into satisfying all other needs. This approach does not take account of other barriers (besides the lack of money) to meeting human needs, e.g. lack of facilities, geographical isolation, racism, corruption, etc. The policy implication of this approach is that provision of income will solve poverty problems. Hulme and Shepherd (2003) point out (p404) that “such an approach encourages a focus on those poor whom the market can ‘liberate’ from poverty but neglects the needs of those who need different forms of support, policy changes or broader changes within society that take time.”

(ii) Poverty as a Lack of Basic Needs:

This approach (see ul Haq, 1995) gained popularity in the 1970’s and tends to be associated with the World Bank. It requires the identification of a core set of ‘needs’ for a minimum level of living (regarded as ‘basic needs’). This school of thought takes cognisance of the fact that some human needs require substantial infrastructural input (as opposed to or in addition to individual income). The focus is on (the state) providing access to basic needs such as housing, services, health facilities, educational facilities and transport.

(iii) Poverty as a Lack of Sustainable Livelihoods:

An approach promoted particularly in developing countries in the 1990's, largely by NGO's in response to awareness created by the Habitat Agenda and Agenda 21. This approach emphasises the need to promote solutions to poverty which are sustainable (economically, socially and environmentally), and which recognise the importance of enhancing the asset bases of the poor. It is also part of the ethos of this school of thought to promote the involvement of the poor in prioritising their needs. Indicators would be generated in consultation with the community and may include monitoring specific problems such as levels of alcoholism, rape statistics, quality and effectiveness of schools, etc

(iv) Poverty as an Issue of Social Exclusion:

This school of thought emphasises the need to address those political and cultural norms that marginalise and exclude people from society. The approach became popular, particularly in the 1980's in countries with significant recent immigrant populations (largely in Europe and North America). An important aspect of this approach is spatial segregation and how this compounds exclusion and exacerbates poverty.

(v) Poverty as a Lack of Human Development:

Also arising in response to awareness created by the Habitat agenda, this approach promotes sustainable and integrated human development in all of its many dimensions, including physical, social and political. Important in this approach is the pivotal role of public management in creating the appropriate systems to tackle the issue of poverty in its fullest sense. A Human Development focus also stresses the need to monitor the performance of public managers. The UNDP Human Development Index is a composite index which includes life expectancy, literacy rates and GDP per capita. The Human Development approach is underpinned by the work of Amartya Sen (specifically Sen,1987a) and his insistence on the need to focus on capabilities rather than income/expenditure in poverty studies. The policy focus is on developing human capacity on the one hand, and on service delivery, on the other.

The 2000/2001 *World Development Report* (World Bank, 2000) on poverty assessment attempted to build on and comprehensively bring together the various schools described above. It specified the following dimensions that should be covered in poverty measurement: income, opportunity, health, education, security, empowerment and

sustainability. One of the difficulties with using multiple indicators is that it is not always clear, however, how this information should be used practically, for example, say in prioritising spending. “Understanding the nature and degree of multidimensionality is therefore an important task” (Hulme and Shepherd, 2003, p405). It can be argued that Sen has been at the forefront of shifting the focus away from a one-dimensional monetary measure of poverty towards a more nuanced and multi-faceted one. As one of the key goals of DLG is alleviating poverty it is critical to have a firm understanding of the nature of poverty. The next section takes a closer look at Sen’s work and explores its relevance to local government policy and practice with respect to poverty.

3.2 A Brief Review of the Work of Amartya Sen

Nobel laureate for economics in 1998, Amartya Sen is widely referred to as ‘the conscience of economics’ for proposing a fundamental shift from a ‘bean counting’ approach to poverty assessment to a liberation approach. His view on development/poverty is perhaps best captured by his claim that “Development is a liberation, a growth in freedom from necessity” (Qizilbash, 1996, p146). On covering the news of his award of the Nobel Prize for Economics in October 1998, *India Today* ran the sub-heading... ‘The celebrated champion of the underprivileged successfully pushes his cause into world recognition in an era in which the market, rather than welfare, has dominated global priorities’.

Sen has written works that range widely, from the mathematical aspects of poverty, such as axioms governing poverty indices, to the philosophical issues of ethics within economics. A cursory overview of his work reveals that he made significant contributions in the following areas:

a) Issues of Social Choice and Collective Decisions:

- The aggregation of individual values into collective preferences
- The protection of individual rights
- The comparability of individual utilities

b) Indices of Welfare and Poverty:

- Sen defined the relationship between the Lorenz curve, the Gini coefficient and other orderings of wealth distributions

- He developed five axioms of reasonable behaviour of poverty or welfare indicators
- He proposed a welfare indicator which takes both the average and the spread (or distribution), of incomes into account. This involves using the quantity $y(1-G)$ rather than y , where y is e.g. income per capita, and G is the Gini co-efficient (a measure originally proposed by Gini, 1912, see Foster and Sen, 1997) .
- He proposed that we measure not assets (such as income) but rather opportunities that are created by those assets, and referred to these opportunities as capabilities. This has inspired a broader view of poverty. The importance of this has been emphasised by other researchers such as Baulch and Masset, who found that the use of monetary and non-monetary indicators to define poverty each told a different story. They found that the overlap between subgroups of people defined as chronically poor when using definitions based on money, stunted growth, malnourishment and school attendance was “modest” (Baulch and Masset, 2003, p441).

c) Analysis of Famine and Drought:

Sen is well known for his writings on famine. He views famines as being caused not merely (or even primarily) by shortages of food but by a complex mix of socio-economic factors which reduce the ability to survive of *particular* segments of society eg The 1974 famine in Bangladesh which was triggered by flooding, led to rising food prices. Subsequent crop failures led to the loss of jobs for agricultural workers who thus became disproportionately susceptible to starvation. Sen (1981) also points out that some countries continue to export food in times of famine.

As thinking about poverty has broadened so have the scales used to measure poverty. An overview of some of the most prominent quantitative measures used to assess poverty is given below. A more extensive discussion of the topic can be found in Ravallion (1998).

3.3 Poverty Indices:

A tradition of the quantitative measurement of poverty as a complex phenomenon has evolved. I will briefly trace this evolution and outline some of the weaknesses inherent in these measures to emphasise the difficulties associated with such measurement.

(i) The Head Count ratio (see Foster and Sen, 1997) or the proportion of the population who are defined as 'poor' is given by : $H = \frac{q}{N}$, where q = the number of people defined as falling below a given poverty line and N is the size of the population. While this measure clearly provides some obvious information, it fails as a meaningful measure of poverty in that it is insensitive to the *depth* of poverty existing in the target population.

(ii) Income Gap ratio (see Foster and Sen, 1997)

$$I = \frac{z - y^p}{z} \text{ where } z = \text{some poverty line and } y^p = \text{mean income of the poor}$$

I indicates the average amount that the 'poor' are below some defined poverty line. This measure can be in terms of either income or consumption whichever can be more reliably obtained. While I does capture the depth of poverty, it has the less appealing characteristic of *increasing* if the income of the richest poor person is increased so as to transfer them above the poverty line.

(iii)Poverty Gap measure (see Foster and Sen, 1997)

$$PG = H \times I \text{ or (equivalently) } PG = \frac{1}{N} \sum_{i=1}^q \left(\frac{z - y_i}{z} \right)$$

where y_i are the incomes of the poor arranged in ascending order up to y_q

Note that the minimum cost to alleviate poverty would be $a = \sum_{i=1}^q (z - y_i)$ given perfect information (about the poor).

The maximum cost to alleviate poverty (assuming no information) would be

$$b = nz$$

Then PG is the ratio of these two quantities: $PG = \frac{a}{b}$

However the PG measure is problematic in that it is insensitive to poverty differences between the poor and will not be affected by transfers from the poor to the less poor.

(iv)Sen (1976) proposed the following poverty measure based on his axiom of ranked relative deprivation:

$$P = H(I + (I - 1)G)$$

where G is the Gini co-efficient of income distribution amongst the poor. Note that if there is no income inequality amongst the poor, G will be zero and $P = HI$

A drawback of this measure is that it does not have the attribute of additivity (especially useful for assessing policy efficacy). Poverty measures which are additive are essentially population weighted sums of poverty levels in sub-groups of society.

(v) Foster Greer Thorbecke (FGT) measure of poverty.

The FGT poverty index (Foster, Greer and Thorbecke, 1984) is the mean of the squared relative poverty gaps. In other words it is the average gap (defined as the gap between the income/consumption of a poor person and a notional poverty line) taken over all the poor (those below the notional poverty line) but where more emphasis is placed on the more poor (i.e. the poverty gaps of the poor are weighted by their own poverty gaps).

$$P_2 = \frac{1}{N} \sum_{i=1}^q \left[\frac{z - y_i}{z} \right]^2$$

Note that P_2 can be expressed in a different form to show that it consists of a poverty gap component as well as a component that expresses the level of inequality amongst the poor:

$$P_2 = \frac{(PG)^2}{H} + \frac{(H - PG)^2}{H} \times (CV_p)^2$$

Where CV_p is the coefficient of variation of the income/expenditure of the poor, a statistic that measures the variability of the income of the poor as calculated by the standard deviation divided by the mean.

A possible drawback of the FGT is that it is a fairly complex measure to interpret. However even if the numbers themselves are difficult to interpret, it can usefully be used to rank groups in terms of severity of poverty. It does have the advantage of being additive (proportional to poverty share). The FGT suggests a generic class of

$$\text{additive poverty measures: } PG_\alpha = \frac{1}{N} \sum_{i=1}^q \left[\frac{z - y_i}{z} \right]^\alpha$$

where $\alpha > 0$. Special cases are when $\alpha = 0, P_\alpha = H$ and when $\alpha = 1$ then $P_\alpha = PG$.

As α becomes larger so the measure becomes more sensitive to the poorest members of society until eventually the measure becomes totally dominated by the poorest individual when $\alpha = \infty$.

From the above we can observe that differing pictures of poverty in society would be obtained by choosing different poverty measures and that they would behave differently in response to changing patterns of the distribution of poverty in society.

3.4 Sen's Poverty Indicator Axioms

In response to some of the problems identified above with different measures of poverty, Sen (1982) proposed a set of axioms that circumscribe the behaviour of desirable measures of poverty:

- a) Monotonicity: The measure must increase (decrease) if the income of a poor person decreases (increases).
- b) Transference: If a poor person transfers income to someone less poor then the measure must increase.
- c) Population symmetry: The measure must not change if it is extended to include another identical group (i.e. which has the same distribution of income).
- d) Proportionality: If the proportion of poor persons increases (decreases) then the measure must increase (decrease).

A more restrictive condition of the transference property, known as the Pigou-Dalton condition of transfer, states that: Any transfer of income to a poor person from a person who is richer must decrease the poverty measure. Note that all of the indices mentioned in section 3.3 (i) to (v) above violate this condition if the transfer causes the richer person to fall below the poverty line. Sen (1981) maintains that whether one is concerned about this violation or not depends on whether one holds a fundamentally absolute or relative view of poverty. The condition will generally be rejected by those who have an absolute view of poverty and for whom the poverty line has a fundamental meaning, in which case to cross it is of significance.

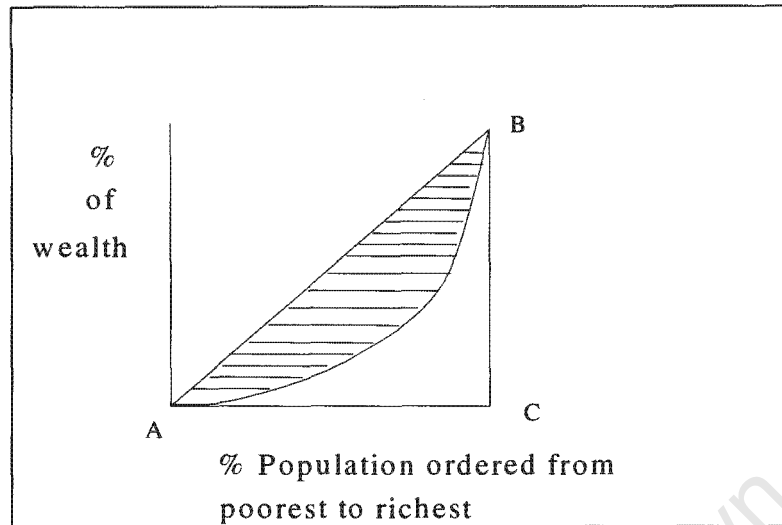


Figure 1: A graphical representation of the Gini Co-Efficient

It should be noted that the Gini co-efficient (Figure 1) *does* meet the Pigou-Dalton requirement. The Gini coefficient can be conceptualised as one half of the *relative mean difference*. The relative mean difference is the average of the absolute values of the difference between all pairs of incomes in the target population. (It is akin to the standard deviation without the arbitrariness of squaring all differences). It is given by the shaded area in Figure 1 divided by the area of the triangle ABC.

3.5 Absolute vs Relative Approaches to Poverty Measurement

The poverty axioms from the Sen school imply absolute conditions on poverty, however these prescriptions are less meaningful when applied to poverty defined as a *relative* concept.

Seebom Rowntree's famous studies on poverty in York (in 1899 and 1936) used poverty lines based on nutritional and other basic requirements to determine what proportion of the population was poor. Using these same poverty lines an optimistic picture of post second world war poverty rates was sketched which indicated poverty rates had dropped from 31% of the working class to 3%. However, a changed system of state welfare in the form of public transfers (grants, allowances and public assistance) accounted for 19 of these percentage points and, moreover, there were many now no longer classed as 'poor' who saw themselves as deprived and who lived in misery. This led to a further emphasis on relative views of poverty (which had the advantage of moving focus away from the 'correctness' of the absolute line of poverty). Revised poverty lines such as "Income

falling below $1.4 \times$ (National Assistance level plus rent)" now showed that one in seven Britons were classed as poor (Townsend, 1962, p212).

By way of example, a commonly held absolute view of poverty describes those living on less than US\$2 per day, throughout the world, as impoverished. The relative view would take account of the fact that circumstances differ from country to country and that the impact of US\$2 per day differs vastly depending on geography, climate, urbanisation, spatial and structural conditions and culture. US\$2 per day would result in different levels of quality of life in London, Bulawayo, Moscow or rural parts of Cuba. The purchasing-power parity or PPP method, wherein a poverty line is defined, in terms of standardised 1985 dollars and prices, as the amount needed to buy a set amount of consumption goods per day (Lipton, 1997), takes into account this feature of the relativity.

However, there are two aspects to the relative vs. absolute dilemma, namely that of changing circumstances (over time) and that of differing reference points to the notion of deprivation. Even the absolutist approach must take account of the fact that the constituent variables and their impact on poverty will change over time. However, Sen (1973) maintains that 'absoluteness of needs' is not equivalent to 'fixity over time'. Even an absolute view of poverty will need to be adjusted over time to take account of inflation, changes in custom, diet and economic distortions.

A relativist approach views the deprivation of eg a household in terms of the lifestyle that household has access to relative to that available to other households in that community. In other words it takes cognisance of what is regarded as 'the norm' by the group to which the household claims membership.

A strictly relativist measure of poverty would be to describe for example, those earning the lowest 20% of incomes as being poor which has appeal because of its lack of dependence on the composition of a specific poverty line. However, one problem with this measure is that we can never escape poverty and it can be difficult to assess the effects of anti-poverty policy. One way around this is to regard an income falling below, for example, 50% of the median income, as signalling poverty. Note that a relative view of poverty could miss a general and widespread fall in prosperity (if the relative distribution of incomes remains the same!)

There is also a so called 'policy definition' of poverty as the level of income that 'society feels some responsibility for providing to all persons'. This level is usually defined in terms of means tests leading to the provision of benefits or grants. The problem with this approach is that policy is determined by a variety of competing factors and goals, including a view of what is feasible and sustainable. Moreover, a change of political heart leading to a reduction in benefits will, using this definition of poverty, result in a perceived reduction in the number of people who are regarded as poor.

Sen adopts a view that he describes as absolute although in terms that many would think of as relative! He argues that while the bundle of commodities necessary for an acceptable level of living may be relative (to, for example, circumstance, physical factors, culture, etc), there remains a core of absolute requirements (or abilities to function) that need to be met in order for an individual not to be classified as poor. This is an important point especially when it comes to intra-country or intra-community differences based on urban/rural location, race, age or gender, where there may be vastly different commodity requirements to meet the same absolute need, for example, to be adequately nourished, to be safe from violence or to be free of (avoidable) disease.

Note that despite proposing an absolute approach to poverty measurement (in functional space as opposed to commodity space), Sen strongly supports the highlighting of inequality as an issue in its own right, particularly with respect to public policy.

3.6 Sen and Welfare Economics

Welfarism has its origins in the utilitarian concepts of Jeremy Bentham (1748 – 1832) who put forward the idea that the central goal of government should be to promote the "greatest mean of universal happiness" (see, for example, Ross, 1999, p10). The idea of valuing the happiness of all people equally was at the time a bold challenge to the prevailing system of privilege and class where the interests of ordinary people were not of concern. The conceptualisation of the value of a particular state of society as being the sum happiness of all those who reside in it is appealing in that it provides a democratic means of comparing and choosing between proposed public policies. However, central to this notion is the ability to measure and compare two states of being in terms of the

'happiness' or utility they generate. It rapidly became clear that cardinal⁸ measures of utility require a comparison of different peoples' 'happiness scales' which is clearly problematic in that we have no unambiguous and common point of reference in terms of value/ happiness. The difficulties inherent in comparisons of this nature lead most economists of the time, led by Robbins in the 1930's to declare that inter-personal comparisons were not possible. This implies that only rank orders (ordinal measures) of happiness or utility can be used to make comparisons. In other words we can use only the order that people would assign to different states as a measure of their worth and not the magnitude of happiness that they ascribe to each state. One of the ways in which welfarists side-step the issue of non-comparability of interpersonal utilities is through the notion of Pareto optimal states. Two states x and y are defined as equivalent in the sense that they are Pareto optimal if in both states no one person's utility can be improved without making at least one other person worse off. If everyone has at least as much utility in x as in y and if someone has more utility in x than in y then x is Pareto preferred to y (see for example Ross, 1999; Ravallion, 1998 ; Keeney and Raiffa, 1976). Thus, cornerstones of welfare economics are the use of utility as a function of wellbeing, the assumed non-comparability of interpersonal measures of this utility and Pareto optimality as a goal.

A well documented problem of welfare economics is found in Arrow's possibility theorem which documents the impossibility of reconciling, in any democratic sense, a given number of individual preference rankings. It is assumed by Arrow that "utility is not measurable in any sense relevant to welfare economics, so that the tastes of an individual are completely described by a suitable preference pattern or indifference map". (Arrow, 1950, p331). Arrow found that it was impossible to define a rule whereby one common (societal) ordering of a number of states could be found which maximises welfare by combining all the individual rankings without resorting to dictatorship (of one individual's preferences over others).

Sen holds that part of the reason for Arrow's impossibility result is the avoidance of non-utility (including contextual) information, as well as the eschewal of inter-personal utility

⁸ A cardinal scale measures intensities which can be compared in terms of ratios as against ordinal scales which rank objects and where only order has meaning.

comparisons. “Arrow’s (1951) ‘impossibility theorem’ brings out, in a dramatic way, the tension involved in ruling out the use of interpersonal comparisons of utility, in aggregating individual preferences into consistent and complete social choice, satisfying some mild-looking conditions of reasonableness” (Sen, 1987b, p34). Inability to use inter-personal comparisons implies that we cannot distinguish the rich from the poor and thus make it impossible to give priority to the poor. “Social welfare is a function of personal utility levels, so that any two social states must be ranked entirely on the basis of personal utilities in the respective states, irrespective of the non-utility features of the states” (Sen, 1987b). In other words, one cannot use any other contextual or distributional information about the nature of welfare in the state to influence the overall assessment of welfare. Sen maintains that it is the poor nature of the information that welfarists will allow that results in an inability to satisfy some very innocuous looking conditions, when seeking a social welfare function that orders a set of social states according to individual utility orderings.

Sen disputes the view that value judgement has no place in economic measurement and according to Ross (1999) joins other economists, such as Arrow and Friedman, in believing that economics is ‘applied utilitarianism’ (although disagreeing with restrictions placed on utility information). Far from believing that Pareto optimal is the *best* we can hope for, Sen (1987b) puts forward the view that Pareto optimal states should be starting points for exploring how to achieve better distributions of welfare, implying the introduction of some form of value judgement. “...every Pareto optimal social state is a perfectly competitive equilibrium for some initial distribution of endowments... it is reasonable to suppose that the very best state must be *at least* Pareto optimal, so the very best state too must be achievable through the competitive mechanism” (Sen, 1987b, p35). Paretoism takes no account of inequality and places equal emphasis on ‘not reducing the utility of the rich’ as it does on ‘improving the utility of the poor’. In terms of public policy, Paretoism (as an end in itself) is arguably a rather weak, non-developmental form of ‘fence-sitting’.

3.7 The Capability Approach

Historically, poverty has been measured most frequently in terms of economic measures such as GNP per capita. However, the relationship between economic growth and human

well-being is not necessarily a straightforward one, especially when broken down to comparisons across different sectors of the population. Economic growth may be accompanied by inequitable distributions of wealth and may also be consistent with rising levels of absolute and/or relative poverty as well as violations of human rights (Qizilbash, 1996). In the light of these problems various development economists have sought other ways of measuring human well-being.

“...There are many different approaches to understanding a person’s interests and to judging whether the person is doing well. The judgement of interest is a problem of very wide relevance to economics. It is, of course, central to welfare economics. It is also crucial for a theory of poverty, for assessment of inequality, for judging economic development and for measuring standards of living. It is inescapable if one is to analyse discrimination, eg racial disadvantage or sex bias. It is essential for a descriptive theory of real income comparison as well as for a prescriptive theory of public policy” (Sen, 1987a, p4).

Much of the focus in poverty measurement has been on measuring *opulence* (accumulated commodities), usually in terms of income or expenditure or in terms of *utility* (which could be viewed as happiness, satisfaction or desire fulfilment). Sen’s proposal to focus on capabilities lies somewhere between these two foci. Commodities allow one to function and in turn this functioning brings a level of satisfaction with life. Sen (1987a) illustrates these inter-related concepts through the example of owning a bicycle, an asset which has the property of mobility. This asset provides the owner with a particular functional ability (capability), namely to travel (further and faster than without a bicycle or some other such means of transport). This functional ability fulfils a need and therefore provides some happiness/utility/ benefit to the owner (Figure 2).

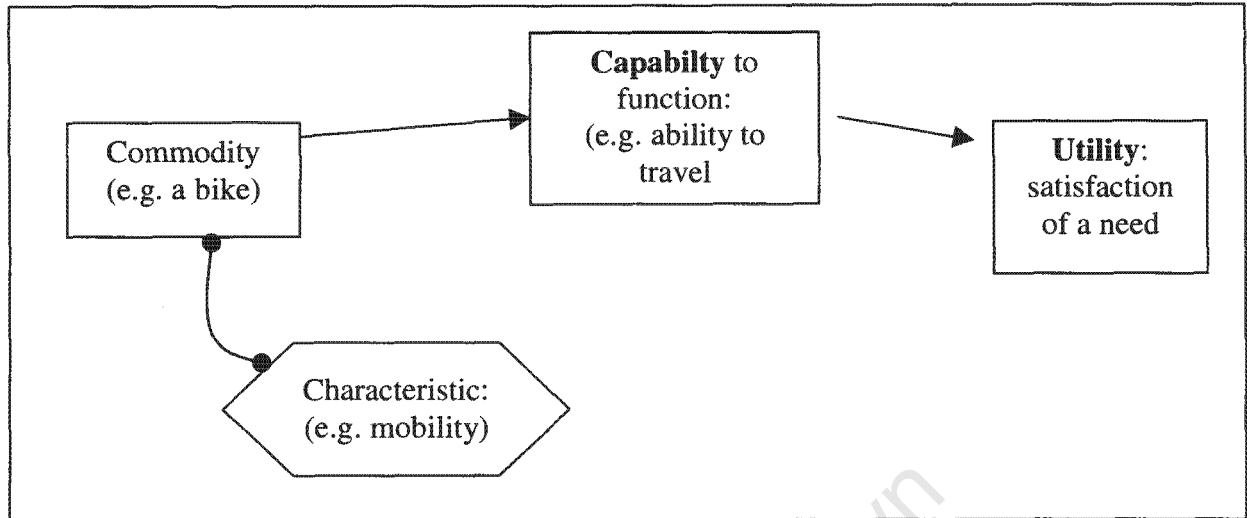


Figure 2: Relationship between Commodity, Capability and Utility

The set of *capabilities* of a person contains the various combinations of functionings or beings that they can achieve. The list of capabilities that a particular community would claim were necessary to a reasonable life could vary depending on culture and situation, however at least some are universal. These include: to be well nourished; to be adequately sheltered; to be clothed; to be educated; to move about freely; to have self respect; to participate in the community; and so on. Sen maintains that the list of capabilities can be seen as *absolute* concepts but that the resources required to meet these criteria may be variable and relative to circumstance. This relativity may be more marked with respect to the more abstract capabilities such as those to do with self-esteem, 'belongingness', etc.

Other economists such as Nussbaum and Griffin have proposed alternative measures of well-being to Sen's capability approach. In contrasting these alternative approaches to that of Sen, Qizilbash (1996) highlights the tension that exists between the need to define a sufficiently detailed view of 'development' against which we can measure progress and the need for pluralism or the ability to accommodate varying views of 'the endpoint of development'. According to Qizilbash, Sen's approach tends largely to ignore the 'means to freedom' and also does not give an unambiguous description of the valuable functionings necessary for development. It is also not clear how one is to aggregate gains and losses in different capabilities, an exercise which again brings us back to the need for inter-personal comparisons of well-being.

Martha Nussbaum (1988) extended Sen's work on capabilities by defining a more precise view of what it means to be 'developed'. The flavour of the view she proposes is strongly Aristotelian in promoting a rational and virtuous life and, by contrast to Sen, leaves little room for pluralism. Nussbaum's work concentrates more strongly on issues such as the removal of coercion, hindrance and external control than that of Sen.

3.8 Quality of Life

This brings us to the notion of Quality of Life and how we conceptualise the dimensions or capabilities that give life its quality. In fact much of the literature on poverty spills over into the topic of quality of life. A conceptual framework for the assessment of quality of life, developed by Ellis (1980), provides a useful platform to explore interaction between government (or systems of control and administration) and the achievement of goals. Ellis uses a feedback control system to model the functioning of (particular groupings of) society, conceptualised as a cybernetic system intended to maximise quality of life. Figure 3 shows how a goal-seeking system self-regulates by continually comparing its current state with its goals and then by taking action to bring the two closer together.

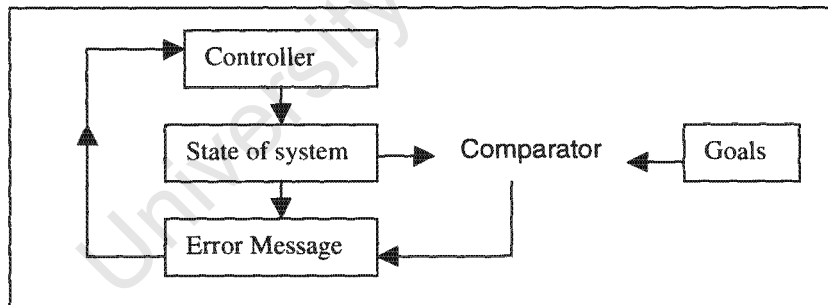


Figure 3: Information Flows in Feedback Control

The proposed model of societal welfare incorporates aspects of the social, economic, political and legal dimensions of society. A series of goals are articulated (possibly by the group itself) which act as points of reference for the feedback system. The welfare of a group is manifested at the following series of causal levels:

Level 0: The basic State of Welfare, apportioned into two major components: that of physical well-being (incorporating health and nutritional status) and that of socio-cultural well-being (safety, inclusion, esteem etc). Most of the variables at this level are difficult to measure directly and are only really accessible through surrogate or proxy variables.

Level 1: Level of Living. This level captures how stocks of resources are consumed, spent or deployed in the pursuit of welfare. This is conceptualised as being in terms of four main categories: physical welfare and safety; 'higher' needs; organisational purposes; and security (i.e. the fulfilment of future needs).

Level 2: Available Resources. Consumption at level 1 is determined by the stocks (quantity and quality) of resources available in this level. These resources are categorised as natural, human, economic, technological and enabling.

Level 3: Access to Power. The stocks of resources at level 2 are governed by the group's access to power within the society. Access to power essentially allows a group to channel more resources towards themselves. This power can be exerted through coercion, trust, authority (or standing) in the community and or other overtly political mechanisms.

Level -1: The Level of Pressure is the level at which the overall welfare of the state is manifested, i.e. lets off steam! The consequences of the state of welfare are felt in terms of physiological (eg mortality and morbidity), social (eg protest or social pathologies), economic (eg economic action or work pathology) and/or political (eg political action, protest, etc) expressions of satisfaction/ dissatisfaction.

The system controls itself by comparing the state of welfare with the expressed set of goals and evaluating whether the comparison is favourable or not and if not in which direction change needs to be implemented. Control signals (manifested in the pressure level) are sent through three major feedback loops to the higher levels of control (levels 1 to 3) to attempt to access more resources and so alter the state of welfare in the direction of the stated goals. The goals are envisaged as being broadly consequent of the society's dominant ideology.

The ultimate level of correction of the system itself is that of Access to Law, depicted as controlling the Power Level, as in principle members of society may be able to access legal mechanisms to control aspects of political and other power issues. This usually operates through review boards, legal proceedings and appeal procedures that are aimed at making society function according to its stated aims (as expressed in the Constitution and other formal documents).

Ellis's hypothesis is that the model outlined above (and depicted in Figure 4) captures the causal loops operating to determine a group's welfare at any point in time. Furthermore, this model can be calibrated through adopting sets of indicators operating at the different levels and used to test whether the institutional framework that contains this system is effective, i.e. allows the system to regulate itself to achieve its goals. This model has been used to make an assessment of the state of welfare in both the Ciskei, a former South African bantustan (Ellis, 1985) and in Elsies River, a suburb of Cape Town (Ellis and Erlank, 1983).

This model clearly makes the explicit linkage between issues of governance (power, interpretation of democracy, distribution of resources, feedback mechanisms, etc) and the multidimensional dynamics of poverty. This is an important linkage and highlights the need to clarify the ideological and political framework within which society is operating at a given point in time. These issues will affect the overall goals of society and also define the bureaucratic 'scaffolding' through which society operates.

The Ellis model, in the tradition of Sen, describes poverty as a complex, dynamic and multidimensional phenomenon. However, it does not deal with this multidimensionality in telling us how to integrate information over the different dimensions so as to formulate practical solutions. It remains a descriptive model with the key information largely left in its separate dimensions. We need to develop an approach which allows us to *see* the separate dimensions that affect development but allows us also to *integrate* them when developing and evaluating solutions.

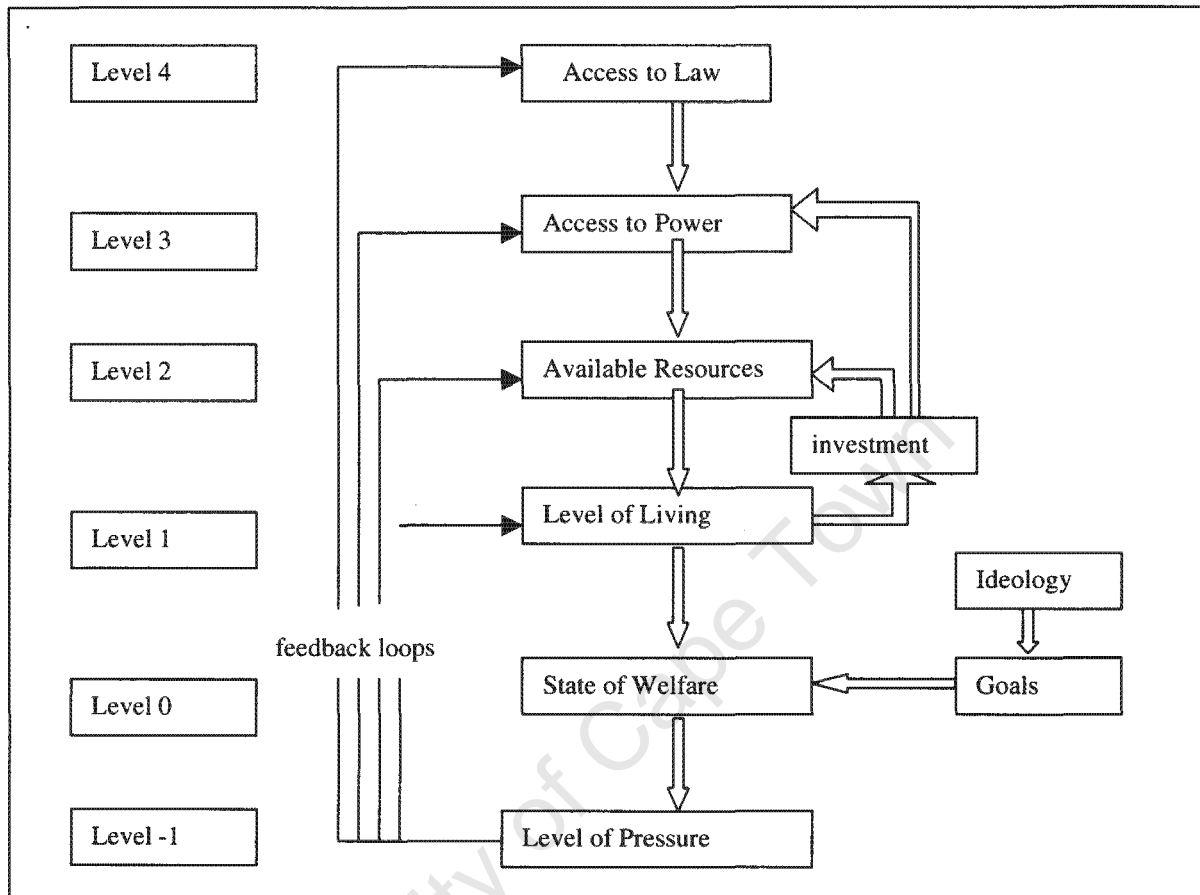


Figure 4: Welfare Feedback System in Society

3.9 How is the Work of Amartya Sen Relevant for Developmental Local Government?

In concluding this chapter I would like to summarise the aspects of Sen's work which I think are particularly relevant for DLG.

Sen promotes a view of poverty that is very clearly multi-dimensional. He also focuses our attention on capabilities rather than assets. This has the benefit of forcing our attention onto what it is that 'development' is intended to *achieve* as the primary issue. The issue of what is needed to reach that endpoint (i.e. specific infrastructure, resources, planning) becomes secondary to this. Furthermore, in terms of conflict management, it is probably more likely that participants will be able to reach consensus on what are desirable capabilities (eg health, literacy, etc) than as to what resources are needed to achieve them. Building consensus between diverse members of a decision making group by starting with a view of desirable capabilities can be very beneficial.

Through his work on poverty indices Sen highlights the importance of giving due attention to both the incidence (headcount), depth and variability (or measures which track inequality) of poverty. This implies that decision making processes need ideally to be supported by data of a high quality or that at least there is a need to be aware of what information may be *missing* in the bigger picture of development. Issues such as dynamics between the poor themselves, vulnerability, risk, duration of poverty and the effect of a variety of demographic variables (eg gender, age) on poverty pictures need ideally to be explored. Participation is important (as outlined in Chapter 2) but needs the support of rich data.

Sen's insistence on the need to contextualise poverty and to explore a relative view of poverty (which he maintains is in fact an absolute view in terms of capabilities) has an important consequence for decision making within a developmental framework. We cannot start to compare *option a* with *option b* until we have defined the boundaries of the decision problem. This comes down to determining scales of measurement as will become apparent in my description of the methodology in Chapter 6. These scales (describing goals for a community and a mechanism to benchmark progress) need to be clearly defined and understood by all participants before embarking on the process of choosing between *option a* and *option b*.

The capability approach allows for equitable intra-regional as well as intra-household comparisons (it may be difficult to track levels of assets commanded by different household members but easier to record functional endpoints eg education, employment, levels of health, etc.) Also a flexible relationship between commodities and capabilities encourages participants not to translate all goals into a monetary equivalent but to perhaps explore creative means of achieving desired endpoints. This allows for a centrally determined standardised set of 'absolute capabilities' that can be measured in different terms depending on regional and local circumstances (allowing too for issues to be highlighted in different ways in different areas).

There is a need to keep a dual focus on both inequality and absolute poverty, each of which remains important in their own right. It is also important to remain sensitive to issues of distribution and to be wary of statistics which may imply a homogeneity which does not exist (in terms of eg spatial distribution, gender differentials, etc)

Inter-personal comparability of outcomes is an issue when it comes to monitoring and evaluation and also therefore to budget allocation. DLG explicitly directs local authorities to highlight the plight of the poor and to be developmental, and therefore explicitly to give weight to pro-poor solutions.

In summary, starting with the work of Sen, there is a well established tradition of multidimensional modelling of poverty. However, much of this work is abstract or conducted at the national scale (eg the Human Development Index, UNDP, 1998, a composite indicator that combines adult literacy and educational enrolment rates, GDP per capita and life expectancy information into a single measure). Moreover, this tradition is dominated by economists and statisticians and as a result it is poorly situated to local level applications and the participatory demands of collaborative governance.

Models such as that of Ellis (1980) and others such as the Levels of Living Index⁹ (Cape Metropolitan Council, 1997) do seek to explicitly identify measurable aspects of development but do not deal with the imperative of establishing legitimacy.

Our attention therefore shifts to explore how the participatory demands made by DLG in post-apartheid South Africa can be fulfilled.

⁹ The composite 'Levels of Living' indicator was designed by the Department of Information Services of the Cape Metropolitan Council in 1997. It was intended primarily as a mapping tool to identify and prioritise areas in need of development. The indicators were chosen as proxy measures of the quality of life in each area. It includes the following measures: *Income Index*: Percentage of households earning < R10 000 p.a. *Education Index*: Percentage of adults (> 18 years) with less than a Std 6 (Grade 8) education. *Unemployment Index*: Percentage of adults unemployed but actively seeking work. *Welfare Index*: Percentage of all household heads who fall into the category: single mother with three or more children. *Overcrowding Index*: Percentage of households with more than 1.5 residents per habitable room (this definition excludes bathrooms, kitchens, passage ways, etc.). *Composite Index*: A (weighted) sum of all five indices. All weights are assigned to be equal

Part III : Conceptual and Methodological Issues

Introduction to Part III

This thesis is concerned with developing a participatory approach to decision making in the public domain, specifically with respect to the local government function of integrated development planning (IDP). Local government legitimacy in measuring multidimensional poverty demands attention to rigour and participation.

Chapter 2 of this thesis set out how the IDP process is about decision making at the local government level involving the active participation of the community, the municipal officials and the elected politicians. The overall aim of this process is to bring about sustainable poverty reduction through the IDP, which directs *inter alia* how the budget should be allocated. Sustainable here means: financially affordable; maintaining a healthy environment for future generations and ensuring a strong basis for continuing municipal service delivery. I have explored the many ways of investigating poverty in Chapter 3 and have concluded that poverty is a multi-dimensional variable (see for example Sen, 1978; and also May, 2000 for a review of South African poverty and inequality). It is pertinent, therefore, to develop decision making methods which are appropriate for dealing with multi-dimensional information.

We have a situation of multiple role players, with differing levels of power and knowledge, who must legally (in terms of the legislation prescribing South African local government) actively participate in the process of drawing up an integrated developmental plan. This plan will revolve around decisions about the allocation of resources to address a multitude of issues, which can be broadly grouped into an overall issue of 'development' or broken down into component (and possibly competing and/or confounding) parts of the problem. A feature of this exercise is that it is large scale (for example Stellenbosch, a medium sized town, has a population of

around 100 000 inhabitants and a discretionary budget of around R20 million and typically peruses several hundred projects for inclusion in the budget). We are not thus talking about a small exercise in decision making.

In this section I thus explore the origins and impetus towards participative development, and examine the historical parallels within the action research school of thought.

The fact that the decision making environment of the IDP is by definition participative and that there is a need for new decision making tools to be developed *while* the budget is being drawn up, directs the researcher towards PAR as a natural methodological home for this research. Because of the multi-criteria nature of the focus of the IDP, the tools of MCDA are found to be relevant. The nuts and bolts of the IDP are around allocating the budget, an exercise that must at some point become quantitative. Poverty, we have seen in Chapter 3, does however need to be dealt with in terms which are qualitative as well as quantitative. We thus need an approach that is effective in synthesising both qualitative and quantitative information and which provides a credible platform for discussions around this information. MCDA has these capabilities.

Action research has typically been most successfully applied to small, contained, homogenous groups and may well need to be adapted for successful application to large scale public decision making (see Gaventa and Cornwall, 2001). MCDA, on the other hand, may not *per se* necessarily lend itself to *participative* decision making in the public sector. In this section I will explore both the action research and MCDA territories and extract those aspects which I think are beneficial to the formation of a new approach : participative MCDA. I hope to show that through an integration of the strengths of both of these approaches, and with the necessary commitment of resources and energy, it is possible to realise the vision of DLG.

Chapter 4: Action Research

4.1 Participative Development

The term 'development' is one of those ill-defined, elastic concepts which can be stretched to accommodate a variety of meanings. Chambers (1997) defines development simply as "good change". 'Good', however, implies value judgement which in turn implies association with a particular group (i.e. good 'for whom?'); and also implies that there is a sense of direction in which society is moving or aspires to move (a vision of 'well-being for all' as articulated by Thomas (2000)). Many authors (Allen and Thomas, 2000; Crush, 1995; Hart, 2001; and Hart, 2002) can be consulted for a comprehensive overview of the evolution of different views and theories of development over the past few decades, which I will not cover in this section. Suffice to say that on the question of the interface between civil society and the state, participative development is one of the fundamental pillars of the DLG model and as such it is necessary to unpack this notion a bit further.

Thomas (2000) distinguishes three essential meanings attributed (varyingly) to development, viz.: development as a vision or goal state of being for society; development as a process of social change; and development as deliberate intervention on the part of various agencies. I use the term development here as it relates to the development of societies largely with the focus on deliberate intervention.

Participation represented the *modus operandi* of a fringe and dissenting view of development in the 1970's, but lay firmly in the mainstream of development discourse by the 1990's. What major sources of impetus led to this pervasive and marked change of approach?

Early (1970's and 1980's) approaches in deliberate interventions in development focussed on the development project, a vehicle "conceived, designed, funded, managed, implemented and evaluated" by the development agency (McGee, 2002, p93). The beneficiaries of these projects were passive recipients of the 'products' (goods, services, etc) and there was little acknowledgement of the impact of people (either as members of the development agency or as beneficiaries) either singly or interactively. For the most part development agencies had a very technically oriented

and discipline specific view of effective aid (i.e. problem focussed). Consequently, the development agency's view of the 'problem' or 'problem situation' dominated. There was broad disregard for the notion that the subjects of the aid could have relevant expertise or that 'subjective' information could/ should influence the solution process.

By the mid-1980's development discourse began to reflect serious questioning within the development sector on the failure of 'development agency' to address poverty through top-down, technocratic and outsider-driven processes. Various authors (Cernea, 1985; Chambers, 1983) noted as key factors the alienation of beneficiaries, as well as a general sense of rising disillusionment with the paternalistic approach of Northern development agencies. Cernea (1985), in a reference which is now regarded as catalytic in the changing hue of intervention politics, sounded a sense of outrage at the persistence of extreme and entrenched global poverty, despite a plethora of well established development agencies with an abundance of development programs.

McGee (2002) also makes reference to the fact that newly structured NGO's in Southern countries in the 1970's were increasingly required to become self sufficient and sustainable which in turn led them to demand different relationships, tending more to the form of partnerships with their former aid agencies. Equally the global rise of monetarist policies in the 1980's with the emphasis on rolling back of the state and containing social spending led to the notion of cost sharing in the development sector, which immediately elevated formerly passive 'recipients' of aid to the status of more active 'partner'. Both Chambers and Cernea called for the objects of development programs to be active participants in the process and for indigenous knowledge to be explicitly admitted.

Parallel developments in the 1970's in the field of action research, particularly in the Latin American school, promoted the view of oppressed individuals as conscious agents of their own social change process and challenged the notion that 'outsiders' external to the problem could design 'technical' solutions that would be acceptable and effective (Freire, 1972). Francis (2002) attributes the rise of participative development to the 'conscientization' associated with Freire and others at this time; and also to trends in US management approaches which began to regard involvement of the workforce as essential to building a quality organisation capable of responding to change.

By the early 1990's it was generally accepted that participation in development projects lead to more effective, efficient and sustainable solutions. The World Bank, through organs such as the Participation Learning Group in 1990, did extensive testing and substantiating of these claims before throwing its weight behind the participation thrust. The World Bank adopted the definition of participation as "a process through which stakeholders influence and share control over development initiatives, decisions and resources which affect them" (World Bank, 1994, p1)

Other major development agencies such as SIDA (Swedish International Development Agency), GTZ (German Society for Technical Co-operation) and ODA (Overseas Development Agency, now DFID, Department for International Development) also actively promoted participatory approaches to development at this time, although mainly still tending towards *project* centred development (McGee, 2002).

The debate around the quality/ depth of participation became the new fault line in development discourse in the 1990's. The 1995 World Bank Participation Sourcebook (World Bank, 1995) defined two levels of participatory approaches: a "low-intensity one, which essentially encompasses information sharing and a process of consultation; and "high-intensity" participation implying joint decision making, control of stakeholders over initiatives, etc. The UNDP (1993), for example, has promoted the latter sense of participation as a means of ensuring the role of civil society in shaping emerging political contexts in democratic transitions. This debate is also characterised by the distinction between participation in *projects* (i.e. in a process still designed and led by development agencies) vs. participation in *development* .; or as participation as a *means* (to make interventions more efficient and sustainable) vs. participation as an *end* (with the objective of empowering). The latter approach is also one advocated by the Participatory Rural Appraisal school (Chambers 1994a, 1994b and 1994c). Chambers traces the origins of PRA back to Rapid Rural Appraisal (RRA), an approach which took hold in the 1980's, in response to what is referred to as the 'development tourism' of the 1970's, characterised by questionnaire surveys as the only respected tool of investigation. In RRA the value of local knowledge is recognised, although the emphasis is on outsiders extracting information from local people in order to learn, rather than on sharing knowledge and enabling. Chambers (1994a, p953) describes PRA as "a family of approaches and

methods to enable rural people to share, enhance, and analyze their knowledge of life and conditions, to plan and to act.”

During the mid-1980's to the mid-1990's there was widespread development of new tools and methods for participatory development. These drew on expertise from fields as diverse as applied anthropology to agroecosystem analysis and field research on farming systems (Chambers, 1994a) and include many visually based approaches which have the advantage of “empower[ing] the weak and disadvantaged”, being based on the “near universal ...visual literacy” (Chambers, 1994b, p1263).

Other factors which further strengthened the ascendancy of participatory approaches throughout the 1990's include the new emphasis on good governance, human rights, partnerships and the prominence of civil society as a player in development (McGee, 2002). The concept of good governance became firmly linked to the goal of poverty eradication with the understanding that good governance espouses participation and the major role of civil society.

Gujit and Shah (1998, p1) capture the essence of this in defining participation in terms of its ability “... to increase the involvement of socially and economically marginalized people in decision-making over their own lives. The assumption is that participatory approaches empower local people with the skills and confidence to analyze their situation, reach consensus, make decisions and take action, so as to improve their circumstances. The ultimate goal is more equitable and sustainable development”.

However, Francis (2002, p401) points out that the term ‘participation’ has been used for everything from “the devolution of management and resources to community level, ...to the provision of labour by communities for project works directed from outside...[to] cost recovery and labour market flexibility”. She goes on to sound a note of cynicism in wondering to what extent the rapid proliferation of participatory rhetoric and practices reflect a real shift in paradigm of development praxis or whether “the vocabulary of participation has merely been co-opted to re-clothe existing practices and power relations”. Other critiques of participation focus on the over inflated claims (of empowerment) of the participatory development school as well as the myth of ‘the community’, and the danger of falling into the trap of dealing with the community as an homogenous group, and thereby reinforcing existing power relations within it.

These critiques notwithstanding, as well as the divisions over the participation in projects vs. participation in development split, it is clear that the participative paradigm is firmly entrenched in development discourse. In order to explore further how the vision of DLG of an engaged civil society in partnership with government can be operationalised, I have selected what is essentially a sub-set of the literature on participation, namely that of action research. Action research has evolved as an academic thrust of the discourse on participation and has thus been more rigorously and widely documented. In the following sub-sections I will further explore the topic of action research, situating it first as an approach to knowledge and research.

4.2 Research Paradigms

The imperative of legitimacy and not just accuracy demands that we explore additions and alternatives to the highly critiqued and sometimes illegitimate perspective of scientific method. To this end this chapter explores an action based research method that addresses the DLG demands for participation. The action research agenda is reviewed and interrogated specifically pertaining to the suitability of including more quantitative techniques within the paradigm.

Research does not take place in a sanitised, value-free, depersonalised vacuum, protected from the persuasions of the researcher, or their era. 'Science' and 'Knowledge' are hotly contested areas and it is therefore pertinent to clarify where on the spectrum of views and opinions about these topics my own research is located. Kuhn (see Hoyningen-Huene, 1993) indicates that scientists work within the confines of a particular theory or package of beliefs about science and scientific knowledge which he refers to as a paradigm. He stresses how this overarching conceptualisation affects how researchers view the objects that they study, as well as the methodology which they will accept as legitimate and which they use to attempt to make sense of the world around them. Crotty (1998) offers a broad framework within which to unpack this notion of a paradigm (see Table 3). He emphasises that research beliefs are nested within the response to four major questions, namely:

“What methods do we propose to use to achieve our desired outcomes? What methodology governs our choice and use of methods? What theoretical perspective lies behind the methodology in question? What epistemology informs the theoretical

perspective?" (Crotty, 1998, p2). In other words our beliefs about knowledge and how it is created as well as our theoretical perspective on the world with all its associated values and assumptions are fundamental to determining and justifying our approach to research.

If we begin with epistemologies, there are three major views on knowledge: an objectivist view that says objects exist as meaningful entities in their own right independent of consciousness or experience, and that rigorous investigation of these objects can reveal their true meaning. Subjectivism on the other hand is the (opposite) view that objects have no independent meaning outside of that invested in them by an observer. Constructionism is the belief that knowledge is constructed through an interaction between subject and object, i.e. the properties of the object are experienced in a particular way by the observer who then imparts a particular meaning onto the object. Importantly, and in contrast with the objectivist view, constructionists believe that there is no 'underlying truth' to be discovered and revealed by investigation. In summary, we could say that objectivists believe that they can observe or uncover meaning in an object; subjectivists believe that they create the meaning in an object and constructionists believe that they interact with an object to construct meaning. Given a particular epistemological view, there might be a number of different theoretical perspectives, methodologies and methods that one could comfortably adopt, although some combinations will obviously make more sense than others.

Note that Table I does not make a distinction between qualitative and quantitative research or between methods that are pertinent to the 'hard' sciences as distinct from the social sciences. The important issue is the underlying philosophy and its assumptions. An objectivist approach can be applied to qualitative research, as equally a constructivist could deal with numerical data and even employ statistical techniques as one of a range of ways of making sense of a package of information.

Epistemology	Theoretical perspective	Methodology	Methods
Objectivism Constructionism Subjectivism Etc.	Positivism (and post-positivism) Interpretivism • Symbolic interactionism • Phenomenology • Hermeneutics Critical Inquiry Feminism Postmodernism etc.	Experimental research Survey research Ethnography Phenomenological research Grounded theory Heuristic inquiry Action research Discourse analysis Feminist standpoint research etc.	Sampling Measurement and scaling Questionnaire Observation • Participant • Non-participant Interview Focus group Case study Life history Narrative Visual ethnographic methods Statistical analysis Data reduction Theme identification Comparative analysis Cognitive mapping Interpretative methods Document analysis Content analysis Conversation analysis etc.

Table 3: Paradigm Framework for Research (from Crotty, 1998)

4.3 Scientific Method: The Dominant Research Paradigm

It might be helpful to locate our discussion at the point where we are today in terms of a dominant research paradigm. Kuhn (1970, p24) refers to “normal science” as that which is situated within the dominant or prevailing research paradigm, which paradigm defines the boundaries of research that will be acknowledged as ‘scientific’ (at that time). He goes so far as to refer to most scientific activity as a process of “mopping up” once the paradigm walls have been erected, in that very few scientists actually challenge the paradigm within which they work. Every now and again a scientific revolution will be affected which results in a radical shift in how the world

is viewed. Scientists who have affected such revolutions include Galileo, Copernicus, Darwin and Einstein, but for the most part scientific activity adheres strictly to the prevailing norms. We live in times that can broadly be described as 'modern'. Crotty (1998, p185) comments that the hallmark of modernity is 'rationality', "embodied especially in the certainty and precision of its science and the astounding control and manipulation of nature that science makes possible... Science and the scientific method are paraded as the paramount way in which this self-professedly universal and valid hold on reality is achieved." The epistemology within which this 'rational science' is located is strongly objectivist.

The origins of to-day's perception of 'rigorous science' as the dominant mode of enquiry can, arguably, be traced to the industrial and scientific revolution that took place during the seventeenth century in Europe. This intellectual upheaval challenged the tyranny of superstition and myth and replaced the domination of the church with the so called Era of Enlightenment. Core concepts of this new world view were that the material and secular world could be studied and manipulated for human purposes and this was done largely by an approach, today referred to as 'reductionism', or developing an understanding of the whole through studying its parts (Henderson, 1995). The new scientific approach highlighted the importance of observable and measurable effects obtained through the medium of repeatable, controlled experimentation. This approach has in fact served humankind well particularly in relation to natural phenomena and has led to a wealth of knowledge that has undoubtedly improved our collective quality of life! However, when the object of study is within the social or human sciences then what is broadly referred to as 'the scientific method'¹⁰ has generally been less successful. This can be attributed in part to the notion that "the causal determinants of the social sciences always include human intentions, while those of the natural sciences do not" (Caws, 1988, in: Checkland and Scholes, 1991, p2). However it may also relate to the tendency of traditional science to highlight those aspects (of complex phenomena) which happen to be measurable. The latter authors also observe (p3) that "In the social sciences

¹⁰ The components of the Scientific Method can broadly be described as : (1) determination of the operation (2) establishment of pertinent objectives and values (3) determination of suitable measures of effectiveness (4) formulation of the problem relative to the objectives (5) observation and data collection (6) formulation of hypotheses and models (7) observation and experimentation to test the hypotheses (8) analysis of data and verification of hypotheses (8) prediction of results and generalisation of findings (9) recommendations based on findings (see for example Saaty, 1958 and Rivett, 1994, Chapter 2)

repeatable experiments are difficult to achieve and virtually all knowledge gained by social science is heavily meaning-bearing.” Thus the so-called **positivist** paradigm or one that advocates that knowledge can only be reliably advanced through empirical science (based on observation and experimentation only) has been heavily criticised for its inability to effectively investigate social issues. Friedman (2001) describes positivist science as having the following requirements which can be problematic in the social science arena:

- completeness and precision
- observing causal relations under conditions of control
- maintaining distance as an important safeguard of objectivity
- a focus on means rather than ends.

I suggest that, despite his extremely nuanced and wide reaching views on poverty Sen remains within the realm of positive science when it comes to implementation of his ideas. For example, Sen (1987a) suggests standard statistical measures of growth (GNP per capita ratio) , wealth (GNP) and health (hospital admissions and death rates) and does not advocate strongly the poor being involved in the choice or measurement of data.

Argyris et al (1985, p41) criticise positivist science as producing theories that are “too complex to be used by practitioners who must function in real time”. In real world complex human situations, ill-defined and difficult to measure issues such as goals and values are of fundamental importance. Consequently, successful practice in fields such as social work, planning, education and management “is often attributed to intuition and personal attributes rather than the skilful application of knowledge” (Friedman, 2001, p160). Checkland and Scholes (1991, p2) point out that the kind of knowledge that is valued in positivist science is “public knowledge which can be subject to public refutation”. What is needed in an enquiry into the social and human sciences is an appreciation of knowledge gained via other mediums such as “experience-based knowledge” or “wisdom-based knowledge”.

“For science seems to have run out of steam... As a cargo cult of the twentieth century it was remarkably successful but new narratives and new epistemologies now seem more necessary than ever.” (Burrell, 1996, p657)

4.4 What is Action Research ?

Thus the epistemology consistent with the scientific method, objectivism, has become tarnished, at least with respect to knowledge in the social and human sciences.

Constructivism, or the view that knowledge is constructed by means of an interaction between the observer and the observed, allows for an interaction with a richer set of knowledge forms than that admitted by 'hard science'. Action research has been put forward as a methodology which is consistent with a constructivist epistemology.

As the name suggests, action research combines a commitment to take action (i.e. an interest to affect a change) with a focus on research through theory development and generalisation of the research findings to a context broader than that of the immediate decision arena. It is typically associated with research of a more qualitative nature in the field of social sciences.

According to Eden and Huxham (1996, p 527) "Action Research involves the researcher in working with members of an organisation over a matter which is of genuine concern to them and in which there is an intent by the organisation members to take action based on the intervention."

Hall (2001, p173) suggests that a key feature of action research is that "The researcher is a committed participant and learner in the process of research, i.e. a militant rather than a detached observer".

Greenwood and Levin (1998) discuss action research in terms of a relationship of symmetric reciprocity between participants and professional researchers. They refer to the importance of these parties being able to jointly define the issues to be examined and co-generate relevant knowledge about these issues. Together the parties take actions and interpret the results of actions based on what they have learnt.

What are core features of (good) action research

The following list of characteristics of action research is gathered from a number of different sources, principally Levin and Greenwood (2001) and Eden and Huxham (1996).

- an integral involvement by the researcher in an intent to change the organisation

- participants and researchers co-generate knowledge through collaborative communicative processes *in which all participants' contributions are taken seriously*
- the diversity of experience and capacities within the participants is regarded as an opportunity for enrichment of the research/ action process
- context-bound and addresses real-life problems
- the meanings constructed in the inquiry process lead to social action or these reflections on action lead to the construction of new meanings
- there are implications of the research which extend beyond the domains of the particular application
- theory development is an explicit concern of the research
- the outcomes may be generalised into more widely applicable tools (methods, models, etc) which can be shown to be grounded in the theory which supported and was developed through the action research
- there is an explicit focus on emergent theory
- there will be a cycle of developing theory to action to reflection to developing theory which moves from the particular to the general in small steps
- there is an awareness that description also has a prescriptive effect and therefore researchers are clear about what it is that consumers should take from the process
- there is a high degree of systematic method and orderliness in order to keep a hold on the research data and the emergent theory at each of the small steps
- the process of data collection must be replicable or at least able to be explained to others
- there is dissemination of the research results through writing
- opportunities for triangulation¹¹ are exploited
- history and context are taken as critical for interpretation, especially with respect to the range of validity of the results
- theory development of general value is disseminated and made accessible to a wider audience than that of the immediate research

¹¹ Triangulation is a process of using several different research methods and/or sources of variation to explore an unknown feature of a system or organisation.

- the credibility/ validity of action research knowledge is measured according to whether actions that arise from it solve problems (workability) and increase participants' control over their own situation

4.5 How did Action Research Evolve?

According to Fals Borda (2001, p27) the origins of PAR and Participatory Research are found in the 1970s through simultaneous and independent attempts by social scientists to "... move on and take a more definite personal stand regarding the evolution of societies." He describes it as a response to the frustrations brought about by the inability of conventional science to address complex societal problems. "If we could discover a way to bring about a convergence between popular thought and academic science, we could gain both a more complete and a more applicable knowledge – especially by and for the under-privileged classes which were in need of scientific support" (Fals Borda, 2001, p28). These efforts were stimulated as well by social upheaval and revolutions in repressed communities in such diverse countries as Brazil, Colombia and India as well as events such as the 1968 student revolts in Paris. (See for example Pasmore, 2001).

The latter author claims that the term action research was first applied by Collier (Commissioner of American Indian Affairs from 1933 to 1945) to his work on improving race relations between white and native Americans. He believed (Pasmore, 2001, p38) that a "programme of collaborative research, in which representatives of the parties themselves participated" was the only way to progress. Research without collaboration or participation of all parties he believed could lead to interesting observations but would be unlikely to affect behaviour. Similarly a process of dialogue between parties without research could clarify difficulties but not provide a platform for continuing improvements.

Although not the first to coin the phrase, Kurt Lewin is widely recognised by many as the founding father of action research as a research paradigm. Lewin fled Germany to escape persecution in 1933 and in the USA developed his theories of action research. He believed strongly in participative democracy as a powerful force for societal change and his theories on action research promoted the concept of 'learning organisations' where workers themselves experiment and develop the most effective methods in the workplace. Action research is thus clearly not a new approach and the

concepts have in fact been evolving for some decades. Variants of action research will be briefly reviewed later in this chapter and there is evidence that these are increasingly in use at increasingly higher levels of organisation within our society (see for example Gaventa and Cornwall, 2001). However, despite this, action research is still regarded as an 'alternative' paradigm. Pasmore (2001, p46) notes that: "The majority of important organisational decisions continue to be made by 'experts', most jobs continue to be designed with too much specialisation, and the fate of most communities continues to be determined by elected officials rather than by the people whose interests politicians purport to represent. These challenges to action research demonstrate that we are still firmly caught in the grasp of technological determinism and scientific positivism". By way of a response to these challenges Pasmore (2001) suggested that we should be striving for ways to make knowledge available to those who need to draw on it in order to assist them in being able to make decisions that affect them and their environments. Additional to this, he stressed the notion of an inclusive view of knowledge that allows for a diversity of scientific approaches and ways of knowing.

The approach known broadly as action research has evolved into a number of different schools or variations, mainly in response to the demands of particular areas of application. Some of these variations are listed and briefly described below. Note that some authors (see Flood and Brown, 1996) see action research itself as a separate school as distinct from the other schools described below.

4.6 A Review of Some Variations of Action Research

a) Action Learning

Action learning (originally proposed by Revans, 1982) can be seen as a form of managerial mind supporting according to Flood and Brown (1996) usually through interaction of a group (organisation) over concerns about a specific issue. Its claim to being action research is on account of its aim to stimulate meaningful debate and thereby create learning within an organisation (which in turn is likely to lead to more effective action). The learning occurs through members of the group disclosing and unpacking their thinking around issues to the group. The cycle of reflection, action and experiential learning is supported by a facilitator who encourages participants to share their thoughts and experiences, and to challenge assumptions. Action learning

does not explicitly address political issues or power relations and knowledge is generally limited to the participant group.

b) Participatory Action Research (PAR)

PAR emphasises the reciprocal nature of the researcher – research subject relationship, with each contributing to the other's realm. There is a strong emphasis too on the mutually beneficial relationship between theory and practice. As a source of information both fieldwork data and experience based knowledge are admitted. The process includes providing and supporting opportunity for frank exchange of opinions and ideas between researchers and practitioners. Data analysis focuses strongly on pattern recognition and possible pattern modification. There is an emphasis on both technical and social issues with an explicit aim to take action and expand knowledge. Whyte (1991) indicates that for PAR to be viable a) a professional researcher must be interested in and committed to the project, b) organisation members must recognise the issue as important and c) participants must find the research methods and data acceptable.

Flood and Brown (1996) describe a number of case studies using PAR including a) A study on the quality of working life at Rank Xerox Corporation and b) A project to build government and community solidarity in the Inuit (Eskimo) community.

PAR has been criticised (see Flood and Brown, 1996) for not directly surfacing entrenched mental models or invisible forces (such as political pressure).

c) Action Science

Action science is “a form of social practice which integrates both the production and use of knowledge for the purpose of promoting learning with and among individuals and systems whose work is characterised by uniqueness, uncertainty and instability” (Friedman, 2001). Action science is concerned with research in practice and in the development of theory through action. The theory concerned is referred to as a theory of action and consists of :

1. Conditions (description of the situations)
2. Strategies (what to do if...)
3. Goals (in order to achieve...)

According to Flood and Brown (1996), action science and PAR share common values and strategies but have differing approaches. Significantly action science requires a detached observer who challenges assumptions and tries to surface implicit mental

models or framing effects which may be distorting or blocking the flow of knowledge and effective action.

Action science attempts to combine rigorous testing of positivist science with a context-rich interpretive approach (in which cognisance is taken of the effect of perception on action). Argyris, Putnam and Smith (1985, p12) argue that action science has many of the features of (traditional) science, "...hard (directly observable) data, explicit inferences connecting data and theory, empirically disconformable propositions subject to public testing, and theory that organises such propositions"

Action science builds a picture of multiple interpretations by asking participants to critically examine their own reasoning and constructions of reality. Testing is achieved through tools such as the 'ladder of reasoning' wherein differences of opinion are unpacked in a stepwise fashion until salient points of departure are uncovered. Data may be used to assist this process.

d) Emancipatory (or Critical) Action Research

(Also referred to as liberatory participatory research, self-reliant PAR or sometimes just participatory research). This mode of AR is concerned also with "assisting practitioners to arrive at a critique of their social or educational work or work settings" (Kemmis, 2001, p92). Thus it enables action to achieve goals but also encourages participants to examine their goals and to see them within the context of the limitations of their social, political or institutional environment. Emancipatory action research typically addresses socio-political issues such as gender, land reform, civil rights and community development and involves NGOs, civic organisations, trade unions, etc. There is an explicit aim to nurture self-reliance and raise consciousness, particularly of vulnerable and marginalised groups. The role of the facilitator is to promote a wider appreciation of the options open to people, to challenge and to encourage debate and to resist homogenisation or promote diversity.

e) Co-Operative Inquir

Co-operative inquiry makes no separation of work and personal issues and aims at promoting both individual and group growth. It involves a process of framing and re-framing reality in cycles that consist of four phases of Reflection and Action:

Phase I: a group of co-researchers come together and agree on the focus of their enquiry and the method to be followed. They agree on data to be collected.

Phase II: The co-researchers engage on the planned actions and observe and record the data.

Phase III: Subjects become fully immersed in and engaged in the actions.

Phase IV: Subjects reconvene to share data and experiences and to consider and reframe their original ideas. A new cycle of action and reflection begins.

The aim of co-operative inquiry is to find better ways of living and working together. As a style of consultancy it is referred to as collaborative inquiry. Flood and Brown (1996) describe case studies using co-operative inquiry including: a) A project with Marylebone Health Centre where the aim was to give more power to patients in determining their own health requirements and b) A process of collaboration between education and service provision wherein university Information Systems students act as consultants to local charities.

Other variations of action research (such as triple loop learning, action learning and confirmatory inquiry) exist but will not be covered in this thesis. The next section explores some of the criticisms that have been levelled at this mode of research as well as counters to these criticisms.

4.7 Action Research: Pros, Cons and Cautions

Action research has been criticised for the lack of repeatability of the research conditions and consequent lack of scientific rigour. In noting this, Eden and Huxham (1996) also point out that unfortunately the term has frequently been used as a label for 'sloppy' research or an excuse to turn an exercise in consulting into something more elevated. These authors maintain however (p526) that "good action research will be good science, though not in a way which depends necessarily upon meeting all the tenets of traditional scientific method". Researchers engaged in action research need to critically internalise the "characteristics of action research" listed earlier in this section and to ensure that what they are doing justifies the term action research.

Some authors (Eden and Huxham, 1996; Flood and Brown, 1996) have referred to the tension that exists between rigour and relevance, in choosing an appropriate research process. Involvement by the researcher and participants in 'co-generating' the required knowledge implies, on the one hand, a loss of the aloofness of the researcher and with it a loss of 'objectivity' as seen from a traditional scientific viewpoint. Whyte (1991) however, argues, on the other hand for the richness of insight to be

gained from the involvement of practitioners in issues which actually matter to them. Possibly of even more importance, is the fact that research in real world problems, as defined and actively guided by participants in those problem situations, is more likely to lead to effective intervention (as judged by those participants). If well managed and monitored, reflection on the findings could also further inform theory on which the intervention was founded and a generalisation of the findings could lead to effective intervention (as judged by participants of other problematic situations).

An impetus for the evolution and growing acceptability of action research has likely been the gap between 'action' and 'research' that has been a feature of 'hard science'. Rosenhead (1989) talks about a growing concern over the lack of implementation of traditional research findings and moreover a lack of interest on the part of researchers over whether or not their research is in fact implementable. An even stronger version of this view insists that the decision making process should not be the concern of [operational] researchers. Even those researchers who acknowledge the need to take the process a step further (and perhaps assist in implementation) do not easily accept that an explicit focus on implementation as part of the research focus might imply a total review of the research process itself. Rosenhead (1989, p14) explains how choosing to rely on technical models alone to make decisions, and excluding 'judgement', results in "complex and opaque models" which reinforce the exclusion of lay participants. "The process of mutual exclusion of analysis and judgement is self-reinforcing. Such techniques guarantee a denuded process of decision making...One can have a complex technology and a minimal social process; or one can have a rich social process of decision making and a correspondingly modest technology."

Gaventa and Cornwall (2001) discuss the issues around power and knowledge. Critics of conventional research paradigms argue that action research challenges the power inequities created in organisations by monopolies of knowledge and biases that are introduced when so-called 'independent' experts speak on behalf of others. In general all schools of action research critique the positivist research approach in that it distances the expert (researcher) from the subjects of the research who actually experience the reality being studied. It also reinforces the notion of passive (and powerless) subjects who are objects of enquiry. Quantitative forms of enquiry are

subject to the criticism that they reduce the human condition and severely bias perceptions by focussing on what is (easily) measurable. Lastly there is the criticism that in regarding knowledge as the domain of experts only certain forms of knowledge acquisition are permitted, i.e. the voices of 'other knowers' are not heard. Action research on the other hand acknowledges that knowledge is socially constructed and that it is important that the voices of all participants are heard. Also acknowledged are the validity of feelings and action in the knowledge generation process.

Gaventa and Cornwall (2001) sound a note of caution in assuming that participation per se implies that a more holistic and nuanced knowledge base will be generated. The pressure for *consensus* in participation processes so as to support a claim on 'the views of the community' can mean that only the dominant views surface and that one dictatorship of knowledge is replaced with another. The "illusion of inclusion" needs to be thoroughly investigated. Who represents whom and who is missing

Prior to 1990 PAR was largely associated with micro scale interventions such as small, contained social groupings (co-operatives, NGOs, civic organisations, etc). However, Gaventa and Cornwall (2001) report that it has been increasingly used by large powerful organisations (eg the World Bank commissioned 'Consultations with the Poor' gathered material for the World Development Report of 2000/2001). Participation is increasingly becoming a condition of funding for research in and on poor countries and many governments are making participatory methods a compulsory means of generating knowledge. (eg Uganda: Participatory poverty assessment processes; Indonesia: participatory pest management programmes; India: participative action planning; USA and UK: citizens' juries as an example of direct democracy). They caution against the rote use of participatory approaches in which a flexible approach capable of adapting to the needs which might surface in the process is contorted into a 'blueprint' for participation; and pressure for time leads to rushed jobs and superficiality. When method is stressed over the importance of behaviour and attitude, the notion of participation then serves only to raise hopes with little prospect of follow-up.

This raises too the danger of participatory approaches being used to co-opt and overcome resistance and to reinforce rather than challenge existing power relations.

As this level of intervention obviously has relevance for the area of application of this thesis, it is pertinent to ask whether there are ways in which to avoid these pitfalls of large scale and high level participation (such as governments, universities and large corporations)? Gaventa and Cornwall (2001, pp77-78)) list some possible conditions for PAR to work at this level, viz:

- high-level participation champions "Such organizational change is most effective when there are high-level 'participation champions' who will support the process, who encourage middle managers to take risks and to behave differently, who can interpret the new way of working for others"
- recognising the need to support change at all levels of the organisation (i.e. not just increase the power of those at the bottom).
- the importance of monitoring for quality and accountability (by asking questions such as "who participates?", "who benefits?", "how is information used and by whom?", "how does the process support or transform power relations?")
- the importance of local capacity (at the 'bottom' levels of the power hierarchy) to fill places that are made available in the upper echelons of power. If such capacity does not exist or is not created then there is the danger that the places will be filled with voices that just mirror the status quo. Capacity at the local level means the ability to use the new participatory approach to challenge the existing status quo, to negotiate and to sustain the momentum of pressure for change over a prolonged period of time.

Finally, although I have covered in general the reasons why action research is a powerful and effective mode of research in the social and human sciences, it is pertinent to highlight the reasons for choosing to adopt this particular paradigm for the development of participative decision making process within the context of local government.

4.8 Why Adopt Action Research for this Research Process?

"In Action Research, the integrity and professional knowledge of the researchers is a key element, but only within the context of a broader set of local knowledge systems and norms in society at large... Action Research merges professional knowledge with local knowledge in a process of collaborative sense-making." (Levin and Greenwood, 2001, p105).

This statement captures the core elements of action research that make it a tractable approach to integrated development planning. Certainly central to the effective intervention is strong co-ordination, facilitation and process direction from a researcher. The integrity and commitment of this researcher are vital to the acceptability and legitimacy of the process as well as a profound respect for both professional and local knowledge. The quote highlights too that the aim of such a complex decision scenario as the IDP is not to find the optimal solution but rather to jointly and collaboratively 'make some sense' out of this conflicted, uncertain and contested territory!

The integral involvement of the researcher in the process of developing knowledge is not a contradiction (or a confounding feature) for AR in the way that it is for conventional scientific research. In the Stellenbosch case study I (as researcher and facilitator) believed strongly in the overall aims (of the IDP) and consequently in the need for change. In order to steer the process of research and to effect meaningful change I became involved in promoting such change rather than operating as an impartial 'data analyst' whose job it was simple to collect, record and summarise information. For example I became involved in such activities as:

- highlighting areas of miscommunication between groups and attempting to broker better communication
- promoting debate about the broader aims of development within the IDP and the benefits of a new approach to local government decision making
- highlighting resistance to change where such resistance was causing a blockage in the process and attempting to get those with power to assist with these blockages
- highlighting the lack of effective data for decision making and creating an awareness of the power of pertinent data and the need for all participants to have a stake in such data
- highlighting and questioning 'missing voices' in the process where possible
- supporting individuals in the emotionally charged process of pushing for change or conversely, of being asked to move out of a comfort zone

Activities such as these are not normally part of the role of the detached researcher, but are consistent with AR in that they assist in opening up meaningful debate and in creating meaningful sources of new knowledge.

Action research, and in particular PAR¹², seemed the logical choice as a framework for my personal involvement in this project as I played a role as both a researcher¹³ and as a consultant to the Municipality of Stellenbosch, who asked for my assistance in the process of prioritising the community's needs. I thus had both a commitment to affect real change in Stellenbosch and to promote research into this area of public decision making with a view to generalising the results as far as possible.

Stellenbosch had both an immediate need for action (i.e. to draw up a budget in accordance with the legislation which required a public participation process) as well as a longer term need to develop a meaningful process of improving their participative decision making processes. In a broader research context there was a clear need for research on how people can be effectively supported in such public decision making processes as envisaged by IDP. This kind of research can only meaningfully be done through action research, i.e. within the context of real decisions.

¹² PAR resonates with the aims of this research. "It was developed largely in the context of social research concerning ideological issues such as worker participation in decision making... In practice this has often meant [a concern] with the kind of social change that seriously questions the dominant values within society" (Eden and Huxham, 1996, p528)

¹³ SANPAD project FARCODE

The new approach to local administration captured by DLG represents a real exercise in direct democracy and consequently requires new tools of participative decision making. Participation is valued in PAR in a way that it is not with conventional research (where the focus is more about recognising 'expertise' or allowing for the participation of experts only). The values of PAR resonate with those of DLG in that *all* voices are valued and missing voices (of any kind) will be cause for concern. Voices do not have to speak from the platform of technical knowledge or of high position to be included, and to be valued. All voices need to be included and it is the role of the researcher to structure a process that promotes learning on all sides. There is also a recognition in PAR that the process of knowledge generation and of change will be cyclical and that the process (of action, reflection, theory development and knowledge enhancement) will be ongoing. This meshes well with the cyclical nature of the IDP process and I therefore conclude that AR is well suited as a vehicle for continuous learning and development for the IDP process.

However, the problem remains that within the IDP process we are faced with a number of competing demands that need to be integrated in a way that enables and supports participants to make choices. Action research does not of itself provide us with prioritisation tools, but nor does it exclude the possibility that such tools can effectively be used as part of a PAR process, despite the fact that it is not normally done! The following chapter explores quantitative decision making tools that may be able to assist us in this aspect of the IDP process.

Chapter 5: Multi-Criteria Decision Analysis

5.1 Introduction

Participatory decision making within the public domain demands that participants make some extremely difficult and exacting decisions about how best to allocate scarce resources. The IDP process requires participants to prioritise their needs which necessitates making choices about investments in health vs education vs sanitation vs housing vs jobs, etc. Furthermore, within each sector participants need to evaluate whether money would be better spent on preventative, curative or palliative measures or how the money should be divided between these options. There are many options to choose between and maintaining a level of consistency or order in how the choices are made is a challenge. Moreover, because the decisions are about the spending of public money and affect the general public, it is important that a clear record is kept of how and why decisions are made.

Bearing in mind the cautions about positivist science sounded in the previous chapter, there are a number of reasons why numbers are useful tools to aid such complex, extensive decision tasks. Numbers have appealing properties that enhance our ability to compare and summarise. It is thus easier to compare a large number of options using numbers as a currency, rather than words, or feelings. Quantitative tools can also enhance transparency by concretising the reasoning behind decision making. The previous chapter highlighted the need for a participatory paradigm to give legitimacy to the IDP. But this participation will only be meaningful if rigorous, effective and transparent decision making tools support it.

Having said this it is important that these numerical tools be used in a way that doesn't allow procedure or method to dominate and exclude. MCDA has many strengths in this regard, viz an ability to comfortably handle a mixture of quantitative and qualitative criteria; an ability to accommodate varying abilities, levels of expertise, literacy, etc.; the use of sensitivity analysis so participants can see the effect of their answers; and the ability to provide a language for the different groups of players to interact with. We need to ensure that the mode of employing MCDA is however consistent with PAR. This section will give an overview of the concepts of MCDA and its building blocks and will

try to establish which methods are most suitable for participatory arenas of decision making.

'Decision making' is an ongoing activity of all of our lives, both conscious and unconscious. The discipline of MCDA or MCDM (Multi- Criteria Decision Making) as it is also called ¹⁴, refers to a branch of decision analysis (or theory) which deals explicitly with decision making in the context of simultaneous, multiple goals, criteria or objectives. In reality, though, all decisions have more than one dimension or criterion to them or else there would not be much *deciding* to be done. What then is the difference between MCDA and other formal approaches to decision problems (such as, for example, optimisation)? Consider the example of the selection of an investment portfolio where we wish to maximise growth, maximise dividend yield and minimise risk. A solution to this *can* be found by eg maximising growth subject to given constraints on dividends and on associated risk. Thus the problem can be made to appear as though it only has one objective (and two constraints), and a solution can generally be found for different levels of the constraints. However, clearly many potentially satisfactory solutions could be missed using this approach. An MCDA approach would focus on exploring alternative solutions to this problem by 'juggling' all three objectives at once and not converting two of them to constraints. Hence the emphasis on the 'multiple criteria' as opposed to formulating the problem as one of a single criterion/ objective and multiple constraints. Roy (1999, p4) points out the dangers of what he refers to as arithmo-morphism, in which all dimensions of a problem are reduced to one single dimension, usually money, taking no account of the appropriateness of the transformations or issues of scale or other hidden assumptions of equivalence. He concludes that it was partly as a move away from this kind of reductionism that MCDA evolved as a powerful new approach in which "[decision-aiding]... is supported by multiple scales, which, in general, cannot, in any objective way, be reduced to, or converted in[to] a single one. In such conditions, rather than dismissing or concealing subjectivity, it is important to make an objective place for it which will be compatible with a plurality of expression."

¹⁴ Also used are the terms Multi-Objective Decision Making (MODM) and Multi-Attribute Decision Making (MADM), referring to instances when the set of alternatives is respectively continuous and discrete. MCDA is also used to refer to Multi-Criteria Decision Aiding.

This highlights too, the ability of MCDA to simultaneously embrace decision criteria (or dimensions) which range from qualitative through to quantitative and also to allow for individual expressions of value judgement.

5.2 An Overview of Multi-Criteria Decision Analysis

Essentially, all forms of MCDA encompass three broad actions: explicit identification of criteria; evaluation of alternatives with respect to individual criteria; and aggregation across criteria. Roy (1999, p15) points out that even those procedures which use a scoring method and synthesise scores into a single final measure (eg score, utility or value) “cannot be confused with monocriterion methods (such as for example, cost-benefit; ...)” [due to] “ the very fact that such a criterion family has been conceived of and explained...”

An important and distinctive feature of MCDA is its separation of issues relating to fact (and certainty/ uncertainty thereof) and value. Keeney (1992) refers to this separation as distinguishing between beliefs (which are related to facts) and values (which are our feelings about what is important). Also, Wenstøp (unpublished paper, p4)¹⁵ notes how this separation echoes the views of Hume (1748) and states “Hume is a consequentialist: we form beliefs about future consequences of actions through reasoning, but (moral) feeling is the ultimate basis for (ethical) choice. It is interesting to note how this perfectly mirrors the MCDM paradigm where the separation of beliefs and values is at the core, and while beliefs are deduced by impersonal cause-effect modelling, values must be personally addressed by the decision-maker.”

What does formal MCDA do? As stated above, MCDA makes explicit the competing nature of the different aspects of the problem at hand and also actively allows for subjective judgement. The focus then becomes rather to shed insight into complex problems rather than to necessarily find the ‘right’ or ‘optimal’ solution. Very broadly speaking, MCDA is a process of structuring a complex problem in terms of criteria and alternatives. In general we would be interested in finding non-dominated alternatives. (If an alternative a is at least as good as alternative b in all decision criteria and a is strictly preferred to b on at least one criterion then we can claim that a dominates b). Belton and

¹⁵ These ideas can also be found in Wenstøp and Magnus (2001)

Stewart (2002) do caution against discarding dominated alternatives however as the situation could change if new criteria emerge; and dominated alternatives may turn out to be interesting in cases where one is not only interested in choosing one out of a number of alternatives.

As part of the MCDA process, the set or space of possible alternate solutions is explored in a way that generally assumes that there will be compromise and trade-off in a situation where the 'ideal' is often not attainable. Keeney and Raiffa, (1976, p66) sum it up by stating: "Generally you simply cannot maximise several objectives simultaneously.... nor can you share a pie by giving the maximum amount to each child."

Thus there is usually some notion of an 'efficient frontier' of alternatives that in some sense are 'best' for a given level of compromise. Figure 5 below shows the efficient frontier of solutions for the investment problem, considering just two of the objectives: risk and growth. The efficient frontier does of course exist for more than two objectives but is clearly easier to depict graphically for two dimensions. Efficient solutions are ones for which it is not possible to do better on any one criterion without sacrificing performance on at least one other. The efficient options are depicted as solid dots and the 'dominated' options are depicted as circles in Figure 5.

Also shown are 'indifference curves' (the dotted lines) which capture the decision maker's attitude to trade-offs between the two criteria. The decision maker will be indifferent to (i.e. not have a preference between) options that are situated on the same indifference curve. It can be seen that portfolio 4 is dominated by portfolio 1 in Figure 5 because it has higher risk for the same level of growth. It is also apparent that, according to this decision maker's preferences, portfolio 3 would be the preferred option. This decision maker would also be indifferent to a choice between portfolios 1 and 5 (as seen by the fact that they are situated on the same indifference curve). The decision maker will prefer options that are situated on a 'higher' preference curve (where the direction of this preference is shown as in Figure 5).

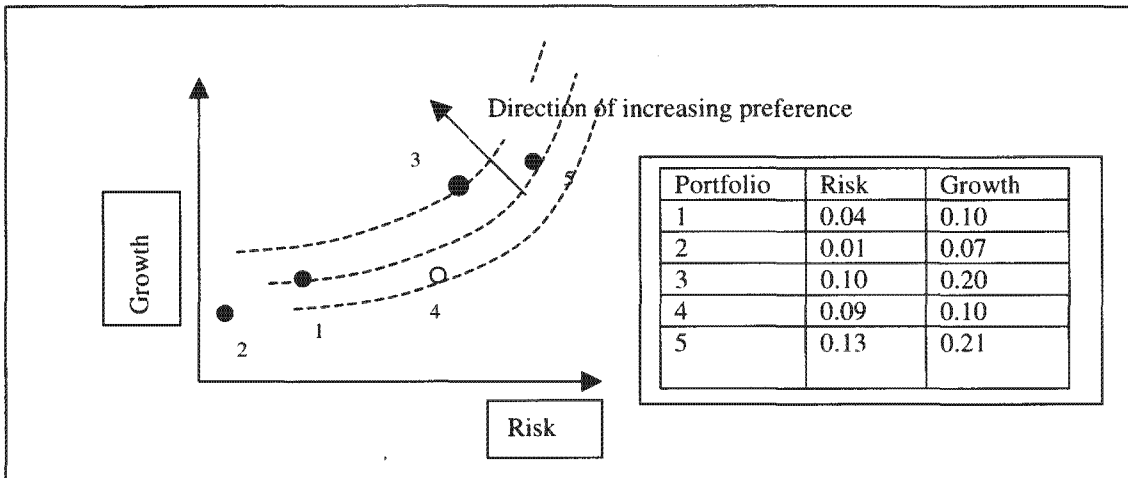


Figure 5: Dominance, Indifference and the Efficient Frontier

5.2.1 Decision Problematiques: When and Why is MCDA Used?

Before looking at the processes involved in MCDA it might be useful to clarify the broad types of decision problems or situations that this body of approaches can be employed to address. Roy (1996, Chapter 6) classified four basic problematiques which Belton and Stewart (2002) extended into the following six decision problematiques:

- The problem situation where the decision action will involve choosing one out of a set of possible alternative options (the choice problematique)
- The decision involves sorting a set of possible options into broad categories indicating, for example, their suitability or acceptability according to some given criteria (the sorting problematique)
- The decision making will result in a rank ordering of a set of alternatives (the ranking problematique)
- The aim is to formally and systematically describe possible actions and their consequences (description or learning problematique). This problematique is also, would argue, associated with using MCDA to legitimise a decision making process. use this concept of 'legitimization' in the sense of a process which will: (i) clarify the various elements of the decision problem; including the stakeholders, the values, the data, the uncertainties, the options and the consequences; and (ii) provide a trail of the decision journey which can be challenged; and (iii) provide an inclusive platform for participation of interested and affected parties in the decision making process. This

process has the aim of making the ultimate decision legitimate in the eyes of interested and affected parties, i.e. they will endorse the decision although they may not agree with it, because they believe the process was legitimate

- e) To identify new alternative courses of action (design problematique)
- f) To select a subset of options from a larger set of possible alternatives, where both individual components of, and the portfolio as a whole, are associated with decision criteria (the portfolio problematique).

The above typology of decision making arenas or problematiques is not mutually exclusive in that particular decision problems may have elements of more than one of the above. For example, MCDA may be used to legitimise decision making (and make it more transparent) while at the same time provide a mechanism to choose a particular action. In the application of MCDA tools to the local government IDP process it will be shown that there is a need to; (i) screen and rank order possible projects; (ii) select a portfolio of projects into a budget and; (iii) legitimise the decision making process by formally linking the areas of expertise/ understanding of all major groups of participants.

Below, we flesh out six different stages involved to varying degrees in MCDA analyses, viz: structuring the problem; specifying the criteria ; developing alternatives; preference modelling; assessing weights and an analysis of the sensitivity of the model to user inputs.

5.3 Problem Structuring

This is the stage of defining the problem arena, including the stakeholders and their related issues. This can be done in a very unstructured way or through using specific, more rigorously defined methodologies. There are a number of these more formalised 'problem structuring' methodologies such as Soft Systems Methodology (see Checkland, 1988 for example); Cognitive Mapping (Eden, 1988), Strategic Choice (Friend and Hickling, 1987) to mention a few. These approaches which are also classified broadly as 'soft' operational research methodologies, generally encourage the exploration and demarcating of the decision arena as a whole before getting down to the business of 'decision making'. Soft Systems Methodolgy (SSM) for example uses the mnemonic CATWOE as an aide memoir to analysts to cover the following bases during this

exploration process: Clients, Actors, Transformation process, Worldview, Owners of the problem and Environmental constraints. SSM develops the notion of a rich picture of the issues being explored which depicts the problem arena as a system. Comparisons of this 'caricature' with the real world allow opportunities for mutual insight and learning about the problem. Important at this stage is the framing of the problem within a particular world view (which gives meaning to the problem being explored) and within a particular set of constraints or limitations on the 'solution' space. The stakeholders also are clearly defined and drawn into the dialogue at this stage, including the designated 'decision maker(s)'.

5.3.1 The Specification of Criteria.

Keeney (1992, p22) advises: "When you are faced with a difficult decision situation, start by thinking about your values. Do not start by thinking about alternatives, as that will limit you." He goes on to list (Keeney, 1992, p57) a number of different ways in which the objectives or criteria can be elicited, namely :

- Wish lists (an attempt to stimulate creative thinking by removing obvious barriers and constraints)
- Alternatives (a comparison of specific alternatives can be used to extract the criteria that give rise to a preference structure)
- Problems and shortcomings (use the problem areas to define what is needed to correct the shortcomings to uncover objectives)
- Consequences (ask participants to articulate the consequences of given actions or alternatives and explore the desirability or otherwise of these)
- Goals, constraints and guidelines (a discussion of existing or perceived)
- Different perspectives (stimulate creative thinking by asking participants to view the problem from the perspective of a different stakeholder)
- Strategic objectives (i.e. the articulation of the ultimate overall objectives for any given decision maker in *all* decision situations)
- Generic objectives (i.e. specification of the objectives that are true for *all* decision makers in a given decision situation)
- Structuring objectives (develop an overall structure of objectives in terms of how they relate to each other; this process in itself usually gives rise to more objectives)

- Quantifying objectives (usually through the identification of *attributes* whereby we can measure attainment of the objectives and thereby build a value model).

There are a number of different approaches to laying out the criteria that are to be taken into consideration. One can start with the fundamental, higher level objectives of the process and then break these down into the sub-criteria and break these down further and so on. Alternatively one could begin with listing all the lower level criteria or considerations of the decision problem and group these in like clusters into higher level criteria (the so-called top down and bottom up approaches, as described by von Winterfeldt and Edwards, 1986). The choice between these approaches will depend on the nature of the problem and the individuals (including the facilitator) involved.

In general though one needs to look for a balance between completeness and conciseness in this exercise (Keeney and Raiffa, 1976). It is important to have enough complexity in the model (i.e. sufficient criteria) to be able to adequately differentiate between alternative actions. It is not desirable however to have an overly detailed model which makes the process of choice unnecessarily laboured and can create a situation of 'not being able to see the wood for the trees'. One also needs to guard against spurious accuracy, in other words defining a model which has a very high level of detail (and therefore apparent power of discrimination) but for which there is no available data or information to inform choices.

Roy (1999) defines the following as being requirements for a coherent criterion family:

- Exhaustiveness (if a and b have the same performance on all criteria in the family then a cannot be preferred to b)
- Cohesiveness (if a performs better than b on one criterion of positive weight and a and b perform the same on all other criteria in the family, then a is preferred to b)
- Nonredundancy (one of the above requirements is violated if one of the n criteria is left out of the family)
- Understanding (the meaning of each criterion is clear to each stakeholder) and
- Commitment (the set of n criteria seems appropriate to each stakeholder with respect to the main objective).

An important issue is that of independence of the criteria in the family. Preferences that are measured using value functions require that the criteria be preferentially (or judgementally) independent. In other words:

A pair of attributes $\{X_1, X_2\}$ is preferentially independent of the other attributes $\{X_3 \dots X_N\}$ if the preference order for consequences involving only changes in the levels of X_1 and X_2 is not affected by the levels of attributes $\{X_3 \dots X_N\}$. For example consider the choice of buying a new house where the criteria involved are cost, size and location. These criteria would *not* be preferentially independent if the decision maker was prepared to pay more for a larger house in city X but was not prepared to make this same trade-off in city Y.

The family of criteria that are selected at this stage can be structured into a value tree which represents the decision makers values.

5.3.2 The Development of Alternatives

This step generally refers to specifying what alternative courses of action the decision maker can choose between. As evident from the defined problematiques, there may be situations in which the alternatives are quite readily and clearly defined and there may also be instances where the alternatives will need to be surfaced through the process of the analysis. The structuring process itself will have already given some ideas on what alternative courses of action are available. Keeney (1992) suggests some creative approaches to broaden thinking around the development of alternatives including asking stakeholders to focus on consequences and how to avoid extremely negative situations.

5.4 Preference Modelling

According to Belton and Stewart (2002) there are three broad schools of thought on modelling preferences, namely:

- a) Value (and utility) measurement approaches
- b) Satisficing methods (also referred to as goal based, aspiration level or reference point approaches)
- c) Outranking approaches¹⁶

¹⁶ Note that others have given alternative typologies of MCDA. Methods have also been classified according to the mode of interaction with the decision maker of which there are two approaches; a) interactive (progressive articulation of preference information) and b) a priori interaction (followed by subsequent technical analysis of this information by the analyst). Stewart (1999) gives an overview of interactive methods. Another approach is to classify methods according to aspects of the decision problem; such as the problematique typology referred to earlier; or discrete vs continuous problems (with reference to the specification of the set of alternatives), see Korhonen et al (1992). Single decision maker vs group decision making is another possible classification.

I will give a broad overview of these methodologies and attempt to give an indication as to the problematics for which they may be most useful.

5.4.1 Value Function Methods

(Also called Multi-Attribute Value Theory or MAVT approaches). The preferences of a decision maker are captured in the form of a value function $V(a)$ for an alternative a . A value function is constructed such that $a \succ b$ (i.e. "a is preferred to b") if and only if $V(a) > V(b)$

Such methods are generally called compensatory as they allow for trade-off between criteria i.e. more of one criterion is allowed to *compensate* for less of another. The value function allows for a complete ordering of all the alternatives (i.e. either a is preferred to b , b is preferred to a or a is indifferent to b for all pairs of alternatives a and b). Also this preference relation is transitive (i.e. if a is preferred to b and b is preferred to c then a is preferred to c).

Keeney and Raiffa (1976) showed (p111) that:

If (and only if) the attributes $X_1 \dots X_n$ are mutually preferentially independent then there exists an additive value function:

$$V(x_1 \dots x_n) = \sum_{i=1}^n v_i(x_i)$$

Note that one can also associate the value function with an alternative a , $V(a)$ where a is described by particular levels of the attributes X_i

Allowing for each of the $v_i(x_i)$ to be scaled from 0 to 1 is a more convenient way to bound $V(x_1 \dots x_n)$ and results in the additive value function having the form

$$V(x_1 \dots x_n) = \sum_{i=1}^n \lambda_i v_i(x_i)$$

where V and v_i , for $i = 1$ to n are scaled to lie between 0 and 1 and

$$\sum_{i=1}^n \lambda_i = 1, \lambda_i \geq 0$$

A pair of attributes $\{X_1, X_2\}$ is preferentially independent of the other attributes $\{X_3 \dots X_N\}$ if the preference order for consequences involving only changes in the levels of X_1 and X_2 is not affected by the levels of attributes $\{X_3 \dots X_N\}$. For example consider the choice of buying a new house where the criteria involved are cost, size and location. These criteria would *not* be preferentially independent if the decision maker was prepared to pay more for a larger house in city X but was not prepared to make this same trade-off in city Y.

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Note that the assumption of preferential independence implies that there is no true 'zero-point' for the value function $V(x_1, \dots, x_n)$ and this in turn implies that the scale of measurement of the values is essentially 'interval'. In other words differences between values assigned using this preference function have meaning but ratios do not. (For example if $V(a_1) = 4$, $V(a_2) = 8$, and $V(a_3) = 6$, we can meaningfully say that the difference between the values associated with alternatives 1 and 3 is the same as the difference between alternatives 2 and 3. However we cannot claim that alternative 2 is valued twice as much as alternative 1.)

To evaluate performance on individual criteria, it is necessary to assess the $v_i(x_i)$, namely the marginal value functions for each criterion. There are a number of methods for doing this, however a widely used technique is that of SMART (Simple Multi-Attribute Rating Technique, proposed by von Winterfeldt and Edwards, 1986). Essentially the worst and best outcomes for a particular criterion (attribute) are allocated values of 0 and some convenient maximum value (eg 1, 10 or 100) respectively. These may be the extreme outcomes actually observed in the set of alternatives under consideration (local best and worst) or the actual best and worst cases possible (or conceivable) for each attribute, i.e. global best and worst outcomes. The values associated with attribute levels in between these extremes are allocated by either

- Directly indicating the relative positioning of specific alternatives with respect to the given criterion (such that the gaps represent the relative gains/ losses in moving from one alternative to another (direct scoring of alternatives)
- Estimating a value function for a measurable attribute using trade-off information
- Constructing a qualitative, descriptive scale for the given criterion which allocates scores (values) to specific descriptions of levels of the criterion (which act as benchmarks).

Note that an extension of the value function approach to preference modelling is to be found in expected utility modelling which essentially concerns modelling preferences under uncertainty. Utility functions are thus far more difficult to model as they involve subjecting a decision maker to a very demanding schedule of

questioning to determine his values under conditions of uncertainty. Moreover, in order to use an additive expected utility model, which has obvious advantages in ease of use and of understanding, it is necessary to investigate far more stringent independence relations between the criteria (than is the case for additive value functions).

On the issue of the adequacy of an additive value function model, Belton and Stewart (2002, p103) concluded that "... in practice the use of additive models for decision making under uncertainty is likely to be more than adequate in the vast majority of settings. The imprecisions and uncertainties involved in constructing the partial utilities, which need to be addressed by careful sensitivity analysis, are likely to far outweigh any distinctions between the additive and multiplicative models. ... it would appear that for most realistic problems it may be preferable simply to construct an additive value function by direct assessment, ..., rather than to use conceptually more difficult lottery questions."

One of the most widely known and used MCDA methods is the Analytic Hierarchy Process (AHP) developed by Saaty (1980). I will spend some time describing this method on account of its widespread availability and usage. Zahedi (1986) reviews the applications that have made use of this technique. The AHP also uses a weighted sum of scores approach and as such can (arguably) be classified as a value function method. Alternatives and decision criteria are identified at the beginning of the process and the criteria are structured into a value tree in keeping with other value function approaches. No distinction is made between criteria and alternatives, however, and alternatives are really seen as the lowest level of the value tree.

The AHP parts company with other value function approaches in the way in which the alternatives are scored as well as the way in which the weights are evaluated. The alternatives are scored by direct comparison of all pairs of alternatives, with respect to each of the criteria. Strength of preference for one alternative over another is measured according to a fixed semantic scale where verbal descriptions of preference are linked to specific scores (ranging from 1 to 9). These preferences are ratios (unlike other value function approaches which use interval scores) and are reciprocal i.e. if the preference of a over b is scored as 5 then the preference of b with respect to a is $1/5$. A criticism that has been levelled against the use of ratio

scores for the alternatives is that it is only meaningful to employ a ratio scale of measurement in the presence of a true zero point by which all alternatives can be compared. It is hard to imagine that this will be feasible for many non-numerical criteria (eg, it is not meaningful in a general sense to talk about an alternative having zero 'safety').

As all $n(n-1)/2$ possible comparisons of the n criteria are elicited from the decision maker, there is substantial repetition of information (as only $n-1$ comparisons are actually required in order to get a preference ordering of the n alternatives), which allows an assessment of consistency of the information. These preference scores are stored in a matrix A and the aim is to reduce this information into a vector of preference scores $(v_1 \dots v_n)'$ such that the ratio v_p/v_q approximates the matrix value a_{pq} as closely as possible. This is done by extracting the largest eigenvector in the matrix vector equation: $Av_q = \lambda v_p$. Whilst this is mathematically appealing, this step makes the AHP extremely difficult to explain to lay participants and makes it appear very much the proverbial 'black box' of science.

The weighting of the criteria is also achieved by pairwise comparisons of criteria within criterion families, also using a similar nine-point semantic scale. In its original (and most used) form the AHP does not anchor these comparisons in any contextual information about the range of alternatives or outcomes. Instead the decision maker is asked absolute questions about the relative importance of the different criteria, a practice which is open to criticism about the influence of various cognitive biases which have been shown to affect decision makers (see for example Kreel, 2002 and Bazerman, 2002).

The weights are used to aggregate the evaluations made by the decision maker, working from the lowest level criteria up through the value tree. There has been much debate over the AHP which I will not repeat here but suffice to say that, largely on account of

- (i) the complex and opaque way in which the scoring information is synthesised by the use of eigenvectors and
- (ii) the onerous task of effecting $n(n-1)/2$ comparisons,

the AHP is not, in my opinion, a suitable method to support participative public sector decision making.

5.4.2 Satisficing methods

These methods do not attempt to explicitly model the preferences of the decision maker (Wierzbicki, 1999, p7) but rather to explore the decision space for solutions that are 'good' relative to some articulated benchmarks. The general thrust of this school of preference modelling is that the decision maker is required to specify goals or aspiration levels for each of the criteria, as well as identifying the relative importance of each of the goals. The criteria must be quantifiable and measurable and the aim is to reach minimum levels of achievement or to come as close to (possibly unattainable) goals as possible. Goal programming was one of the first MCDA methods, proposed as early as 1955 by Charnes, Cooper and Ferguson (Lee, S.M. and Olsen, D.L., 1999). The early methods were structured around variations of linear programming and hence their suitability for criteria which are essentially quantifiable.

For example, an approach based on that proposed by Charnes and Cooper (1961) is to formulate the problem as a mathematical optimisation with the following objective function:

$$\text{Min } \sum_{i=1}^k (w_{in} d_i^- + w_{ip} d_i^+) \quad \text{where } k \text{ is the no. of objectives and}$$

w_{in} is the weight associated with minimising the negative deviations from the i -th objective and

w_{ip} is the weight associated with minimising the positive deviations from the i -th objective

Reference point methods can be classified according to their approach to aggregating the deviations (eg minimising a weighted sum of the goals; minmax or minimising the maximum deviation; and pre-emptive goal programming); or by the type of problem they address (eg fractional programming; nonlinear; linear or discrete problem settings). Wierzbicki (1999, p36) states that: "...optimization in the reference point methodology is used not necessarily in a sense of the goal of choice, but rather in the sense of a tool of learning... This approach is thus devised

for a specific type of decision process which typically arises when using environmental or economic models for generating future development scenarios or when using engineering models for computer-aided design.”

Satisficing methods are thus potentially useful for screening large sets of alternatives or for situations of routine, frequently recurring decision making (Belton and Stewart, 2002).

5.4.3 Outranking methods

This class of MCDA methods focuses on comparing alternatives and determining the evidence to support the conclusion that one is preferred to another. They are often referred to as non-compensatory, meaning that they “can be characterised by the limited degree to which a disadvantage on a particular viewpoint may be compensated by advantages on other viewpoints” (Pirlot, 1997, p86). The first of the outranking methods of MCDA was proposed by Bernard Roy in 1970, as a complementary approach to multiattribute utility theory.

Roy defined the outranking concept as follows: “An alternative a outranks b , if, given the information about the preferences of the decision maker, there are sufficient arguments to affirm that a is at least as good as b and there is no really important reason to refuse this assertion.” (Vincke, 1999, p4).

There are now many different ways of conceptualising the outranking concept as captured in methods such as ELECTRE I, II, III, IS and IV; and PROMETHEE and II (see Bouyssou and Vincke, 1997).

Outranking methods have the appealing feature of allowing for the fact that in some cases we do not have the means (i.e. information, knowledge, appetite, ability) to compare two alternatives (i.e. they are incomparable¹⁷). As a consequence, outranking does not impose the convenient and neat mathematical properties of transitivity or completeness on the preference relations between alternatives. This in turn makes the construction of a rank-order of alternatives a non-trivial task, thus the outranking methods usually have two steps. Firstly, they

¹⁷ Note that the concept of *incomparability* (meaning the decision maker is unable to compare options) is very different to that of *indifference* (meaning the decision maker is unable to choose between given options on account of their equivalence).

begin by constructing an outranking relation and then secondly this relation is manipulated to construct a set of preferred alternatives.

The strength of evidence for alternative a outranking alternative b is captured in a concordance index. Outranking methods also allow for decision makers to institute a 'veto' by either directly indicating veto thresholds (which operate by not allowing that a can outrank b if b performs better than a on any particular criterion by more than the veto threshold for that criterion) or by the use of a discordance index.

By way of example, ELECTRE I (the earliest version of this class of methods) uses the following concordance index:

$$c(a,b) = \frac{1}{W} \sum_{j: g_j(a) \geq g_j(b)} w_j, \text{ where } W = \sum_{j=1}^n w_j \text{ and } w_j \text{ is the weight of the } j\text{-th criterion}$$

The weights associated with the criteria can be interpreted in a sense of "voting power" (in ELECTRE I), although in later versions of ELECTRE they also indicate some degree of "trade-off between degrees of outranking and preference" (Vincke, 1999, p18).

The concordance index varies from 0 to 1 and measures the strength of evidence in favour of ' a outranks b '. By choosing a concordance level, s we can declare that a outranks b , iff

- (i) $c(a,b) \geq s$,
- (ii) $g_j(a) - g_j(b) \leq$ the veto threshold for criterion g_j

(Note that in some versions of ELECTRE, use is also made of a discordance index measuring the strength of evidence refuting the claim that a outranks b .)

The outranking model is used to define a subset of the alternatives A , called the kernel. The kernel excludes all those alternatives that are outranked by at least one alternative in the kernel. All alternatives in the kernel are deemed to be incomparable. The kernel does not necessarily exist and may in some circumstances not be unique (i.e. there may be more than one kernel if there are intransitivities in the preference relations between alternatives).

In specifying the kinds of problem situations for which outranking methods are ideally suited, Vincke (1999, pp 3-4) cites the following from Roy and Bouyssou (1993)

- “when at least one criterion is not quantitative...
- when the units of the different criteria are so heterogeneous that coding them into one common scale seems to be very difficult or artificial
- when the compensations between gains on some criteria and losses on other criteria are not clear
- when some preference or veto thresholds have to be taken into account”

However, Belton and Stewart (2002, p258) point out that despite the appeal of outranking methods mainly as a result of their having fewer assumptions about the structure of the preference model, there are a number of drawbacks. “The major drawbacks of outranking methods arise from the many rather non-intuitive inputs that are required, such as : concordance and discordance threshold levels; indifference, preference and veto levels...[particularly] when efforts are made to extend the outranking methods to produce explicit preference orderings over the full set of alternatives. The impacts of the various inputs are difficult to appreciate intuitively, and the algorithms themselves tend to be complicated for unsophisticated decision makers fully to understand.” They conclude that outranking methods are generally more suitable for “backroom” analyses rather than for use as support tools in decision workshops as a means of interacting with the decision makers.

5.5 Assessing Weights

This step of the preference modelling procedure concerns the choice of a multi-criteria aggregation procedure (MCAP) which usually involves the articulation of some or other weights of relative importance. The way in which the weights in each multi-criteria preference model should be interpreted is directly related to their function in the particular MCAP used.

I review the assessment of weights for different preference modelling approaches below:

5.5.1 Value function approaches

If a simple additive model (i.e. weighted sum) is used as a MCAP then the weights have a specific algebraic interpretation and are essentially scaling constants. They represent trade-off information between one criterion and another and care should thus be taken to capture this information in an appropriate manner. It should be noted that:

- a) The origins of the marginal value functions are arbitrary, i.e. any shift in origin simply adds or subtracts a constant to $V(a)$ and does not affect the ordering of the alternatives
- b) Multiplication of every weight in $V(a)$ by the same positive constant does not affect the ordering of the alternatives and therefore only *ratios* of weights have absolute meaning
- c) Any marginal value function may be arbitrarily rescaled, provided that there is a corresponding rescaling of the corresponding relative weight of that criterion.

The last point implies that the weights assigned to the marginal value functions are entirely determined by the scales used to measure these individual value functions. It is therefore critical to explicitly select reference points to determine the weights for each criterion. Usually (but not strictly necessarily) the points selected are the 'best' and 'worst' points on the performance scales and this may be interpreted either

- i) in a *local* sense, i.e. the reference points selected are the worst and best performance levels amongst the specific set of alternatives under consideration or
- ii) in a *global* or extended sense, in which the scale of potential performances considered is wider, and may even extend to a theoretical notion of 'the best' and 'the worst'.

There is no fundamental reason for selecting either local or global scales. Local scales may be easier for participants to conceive of (especially for abstract criteria) but global scales have the advantage that, weights do not have to be rescaled if new alternatives are introduced.

Note that the relative importance weights in an additive model are directly related to trade-offs between criteria. Consider the following two alternatives which are identical on all criteria except i and j :

Alternative 1: $z_i^1 = z_i^0; z_j^1 = z_j^*$

Alternative 2: $z_i^2 = z_i^{\equiv}; z_j^2 = z_j^0$ where $(z_i^0 < z_i^{\equiv} < z_i^*)$ (1)

It is established that the decision maker is indifferent between the two alternatives. Thus we know that

$$w_i v_i(z_i^0) + w_j v_j(z_j^*) = w_i v_i(z_i^{\equiv}) + w_j v_j(z_j^0)$$

and therefore, assuming that the value functions have been standardised so that

$$0 \leq v_i(z_i) \leq 1$$

$$\frac{w_j}{w_i} = \frac{v_i(z_i^{\equiv}) - v_i(z_i^0)}{v_j(z_j^*) - v_j(z_j^0)} = v_i(z_i^{\equiv}) \quad (2)$$

This is referred to as the swing tradeoff property of the weights of an additive value function.

It is also clear from the algebraic properties of the weights that if new alternatives are introduced which display performance measures which fall outside the reference points previously used, then the weights will need to be rescaled.

Because of the swing tradeoff property of the weights in an additive value function, a natural way to assess them is through a swing weighting process such as proposed by von Winterfeldt and Edwards (1986).

This method captures the amount of one criterion that a decision maker is prepared to trade for an increase in one unit of another criterion. As the 'swing' refers to a swing from the worst to the best outcome, it is important that the scales of measurement for the criteria are established before the weights are considered. Starting with the lowest level criteria (leaves of the value tree), the decision maker is asked to consider first the situation where all criteria are at the worst end of their performance scales. The decision maker is then presented with a number of options which are the same as this uniformly worst case scenario except that in each instance one criterion is at the 'best' end of the performance scale. The decision maker is asked to choose one of these m alternatives as the preferred option. Suppose they choose the option where criterion k is at its best level. This implies that w_k is the largest weight in the additive value function. The decision maker is then presented with a new set of alternatives to choose between, where criterion k is now fixed at z_k^* (the best level). Again the decision maker is asked to focus on a new worst case scenario where $z_i = z_i^0 \forall i \neq k$ and is then presented

with $(m - 1)$ alternatives where

$$z_j = z_j^* \text{ for each } j \neq k \text{ in turn and } z_i = z_i^0 \text{ for } i \neq j, k$$

The choice yields a second largest weight parameter and so the process continues until a rank ordering of weights is established (allowing also for ties).

To assign numerical values to the weights is the next step in the procedure. The most defensible method theoretically speaking is to ask the decision maker a series of trade-off questions which establish the indifference points, i.e. the z_i^* of (1), and then determine the weights from (2). This is however a very demanding procedure and not many decision makers are either prepared or able to make explicit trade-offs. See, for example, an application of this approach to assessing the effects of toxicity in cancer treatments where medics were asked for their attitudes towards trade-offs between saving lives and creating permanent disabilities with chemotherapy in Dones et al, 1987.

Probably the most tractable way of assigning numerical values to the weight parameters is to ask the decision maker to directly estimate the relative importance of pairs of swings, i.e. $\frac{w_i}{w_j}$. This may be done by asking the decision maker to make the comparisons relative to the largest weight (all ratios then ≤ 1) or the smallest weight (all ratios assessed will then be ≥ 1). What is important at this stage is that these assessments need also to be made in the context of the importance of the *swings* rather than the importance of the *criteria* per se.

This process relies essentially on pair wise comparisons of criteria. Only $(n - 1)$ comparisons are actually required in order to obtain a rank ordering of a family of n criteria (once the largest/ smallest weight parameter has been identified). Methods such as AHP and MACBETH (see Bana e Costa and Vasnick, 1997) specify that all $n(n - 1)/2$ comparisons be undertaken (for a family of n criteria). This has the advantage of providing extra material for consistency checks, but becomes very demanding of the decision maker especially as the number of criteria becomes large. Various authors (eg Belton

and Stewart, 2000) do however suggest putting in a few extra comparisons (of swings between pairs of criteria) to provide some consistency checks.

Undertaking the comparisons when the value tree is extensive can become onerous. Belton (1999, p19) suggests either “specifying a reference criterion against which all others are compared (requiring the minimal number of comparisons)” [or it may be easier] “first to consider families of criteria (i.e those sharing the same parent criterion) and to compare across families.” This can be done by (i) undertaking the necessary $(n - 1)$ comparisons within each family of n criteria and then (ii) comparing the criterion with the largest parameter weight in each family across all families. The weights are then adjusted algebraically to make them comparable across the whole value tree.

Another approach to allocating numerical values to the rank ordered weight parameters is to apply the centroid method as advocated by Edwards and Barron (1994). This process uses the ordering provided by the decision maker and finds numbers consistent with this ordering by identifying a hypervolume defined by the intersecting planes implied by the order relationships between the weight parameters. Belton and Stewart, 2002 reported that this process appears to lead to an over-emphasis on the largest two or three weights, leading to a domination by these associated criteria. In terms of appropriateness of this method for a participatory process there is also the concern that it is mathematically complex and thus opaque to the majority of participants.

Fortunately, experience has shown that the results obtained using additive value functions are relatively insensitive to imprecision in the specification of the parameter weights (Belton and Stewart, 2000). It is however good practice to undertake sensitivity analysis to attempt to explore this issue and to ensure that the decision maker(s) are cognisant of and comfortable with the implications of their inputs on the model.

I have described above the issues pertinent to determining the parameters for an additive value model, namely to defining the weights or scaling constants associated with each criterion. In the section on ‘specification of criteria’,

discussed the requirement for preferential independence of the criteria consequent to the use of an additive value function. It should be noted that if another form of MCAP is used, for example a multiplicative model, then other parameters would need to be estimated as well. (See for example Keeney and Raiffa, 1976 for a more extensive discussion on estimating the parameters for multiplicative models.)

5.5.2 Goal / reference point/ satisficing approaches

These approaches do not necessarily specify weights associated with different criteria. Early versions of satisficing methods (eg Simon, 1976 as cited in Belton and Stewart, 2002) only require a rank ordering of criteria. Decision makers are then assisted to explore ways of satisficing the most important criterion, thereafter the second most and so on. However in those methods that do require weights to be specified (eg MINSUM goal programming, Charnes and Cooper, 1961 as well as Fractional Goal Programming, Kornbluth and Steuer, 1981) these also represent trade-off information with respect to the criteria and care should be taken that an appropriate method is used to elicit this information. The specification of the goals themselves is an allocation of 'importance' that already incorporates some implicit trade-off by the decision maker.

5.5.3 Outranking methods.

As mentioned previously, the weights here are generally accepted to represent some sort of 'voting power' or impact of a particular criterion in deciding whether or not a outranks b . The decision maker is also (varyingly) asked to specify 'cut-offs' in the form of veto thresholds. These are "not completely disconnected from the relative importance of the criteria" (Vincke, 1999, p17). However what is most important from a practical point of view is whether or not a change in scale of measurement for the criteria will/ should affect the weights assigned. According to Vincke (1999, p18); "A common aspect of all these [outranking] methods is that they are not affected by a change of units of the criteria; this means that the inequality $w_j > w_k$ implies that the role of criterion g_j is really greater than that of criterion g_k , so that the term 'weight' is well considered.". However, Belton and Stewart (2002, p290) caution that "...it does seem that in contexts in which there is a very wide range of possible outcomes for one

criterion, this criterion *should* have greater impact (i.e. greater weight) than when the range of outcomes is small, so that weights should still be adapted to the range of outcomes...”

5.6 Sensitivity Analysis

An important stage of MCDA is that of robustness or sensitivity analysis. The results or aggregated preferences obtained as a result of MCDA are to a greater or lesser extent dependent on the responses of the decision maker(s). Henig and Buchanan, (1996, p3) point out that the process of mapping criteria to measurable attributes and attributes to alternatives is not an exact one (“It is actually an art to model the problem, to distinguish between the objective and the subjective and to treat them appropriately”). Thus it is imperative that these relationships are explored by examining the extent to which important conclusions are robust to changes to the inputs. This involves testing the sensitivity of the results to changes in (i) the structure of the value tree (ii) the weights for each criterion and (iii) the scores assigned to each alternative relative to each criterion. Software packages such as VISA (Visual Interactive Sensitivity Analysis, developed by Valerie Belton of University of Strathclyde in 1986) allow users to explore the sensitivity of their choices with regard to criteria, scores and weights. A description of the use of this approach is given in Belton and Vickers (1990).

5.6.1 Confounding Effects

A number of authors have pointed out that the shape and structure of the value tree can affect the values elicited as responses from the decision maker. Weber and Borchering (1992) mention the effect of splitting a criterion into a number of sub-criteria and show that the sum of the weights of the sub-criteria is consistently larger than a direct evaluation of the main criterion weight. They also show that decision makers tend to weight a criterion higher if it appears at a higher level of the value tree. There is, however, no way of knowing which particular structure of a value tree is best able to support a given decision makers’ process of enquiry. The best practical approach would be that, through an awareness of influences of this kind, facilitators explore the sensitivity of results to changes in both the structure and the content of decision maker responses.

Other potential biases that decision makers are subject to have been extensively researched by Kahneman and Tversky (and reported in Kahneman, Slovic and Tversky,

1982). Notwithstanding the fact that the weights in a value function model act as 'scaling constants', there is also a level at which they measure impact or 'importance' for the decision maker (implicit in the notion of trade-offs). Belton (1985, p269) comments "The weight assigned to a criterion must reflect the significance of this differential [between worst and best outcomes] as well as the importance of the criterion". In eliciting weights from decision makers one is thus asking for an implicit assessment from the respondent of how much of an issue one criterion is relative to another given the current status quo and range of available options. The many biases and heuristics of decision making under conditions of uncertainty cited by Kahneman and Tversky are thus of relevance and facilitators should at least be aware of them. These are explored more fully in Kreel (2002) but for completeness, the more directly relevant of these include.

- Reference point effects. Decision makers make an assessment of probability relative to some given reference point which is important to clarify (so that, for example, difference in opinion due only to different points of reference can be avoided). Reference points also may need to be updated when circumstances change.
- Framing effects. Decision makers are known to respond differently to lotteries where the payoffs are presented as gains to where they are presented as losses, i.e. they tend to be more risk averse in the face of perceived gains. This has an important impact on how responses are elicited from decision makers
- Availability heuristic. A decision maker is said to employ this heuristic whenever he or she estimates a frequency of probability of an event by the ease with which instances or associations can be brought to mind.

5.7 The Application of Multi-Criteria Decision Analysis within Public Participation Processes

As I have outlined in Chapter 1, the decision arena of integrated developmental planning (IDP) within the sphere of local government is a particularly complex one, and one which poses some challenges for MCDA. I attempt to clarify these below:

- a) Stakeholders and decision makers. An issue here is to identify 'the decision maker(s)'. With reference to the activity of allocating the budget for a local municipality there are three broad groups of participants, namely the elected

politicians, the community or their representatives and the municipal officials. The body that has the power to make the ultimate decision as far as the budget is concerned is the elected municipal council (i.e. they need to provide final approval for the budget). However this body has a statutory obligation to show that they have consulted with the community and taken their views into account. The council are also usually heavily dependent for expert advice from municipal officials on technical issues such as service capacity, maintenance and logistics.

Thus each of these stakeholder groups have power to influence the decision but cannot *alone* take the decision (on how to allocate the budget). Note that this is materially different from eg a large commercial organisation *choosing* to consult clients/ shareholders for their views or perhaps to take expert advice. There is here a legal requirement for an in depth process of consultation and joint ownership of the problem as laid out in the Municipal Systems Act No. 32 of 2000 (South Africa, 2000). The selected MCDA approach thus needs to be able to enable the different stakeholder groups to impact on that aspect of the decision where they have a legitimate 'voice' and also appropriate expertise. In this regard, Keeney (1992, p23) points out that: "For most public problems, values, rather than facts, are the aspect of the problem about which many members of society will have knowledgeable viewpoints. Discussion of the details of the consequences of various alternatives often depends on technical and complex concepts from various professional fields. Hence, without discussion of values, many people are excluded from participation and others are limited to minor contributions." It is important therefore that the methodolog also makes allowance for a distinction between different levels of expertise. This impacts on all aspects of the methodology from the selection of criteria, to the scoring of the criteria and the articulation of weights as well as alternatives. It needs to be noted, too, that, the group of community representatives, in particular, is an extremely heterogeneous, constantly changing and ill-defined group of individuals. There is thus a strong need for an in built process of recording information and agreements in a way that can be passed on from year to year or how ever often the process is to be repeated.

- b) Alternatives. Part of the aim of the IDP process is to generate alternative strategies and projects that can address the identified priority objectives. Thus at the beginning of the process a complete list of possible alternatives does not yet exist. This list

becomes more defined as the process continues. There will eventually be a very large set of alternatives to contend with (say 50 to 500 projects, depending on the size of the municipality).

- c) Scoring and benchmarking. As a consequence of the above point, and because I have motivated that swing weighting is an appropriate way of allocating weights in most preference modelling approaches, it is important to develop a very clear measurement scale for objectives / criteria. This is necessary (i) to give reference points for the weighting process; (ii) to provide a currency for discussion and (iii) to allow for evaluation (scoring) alternatives at a later stage.
- d) Transparency and legitimization. The stakeholder groups are probably likely to be somewhat adversarial and may tend to view each other with suspicion. The process thus needs to be as inclusive and as open to scrutiny as possible so as to avoid being seen as a manipulative tool of one side or the other. Where possible the methodologist needs to focus on building understanding between stakeholders rather than on finding the best technical, most rigorously correct mathematical solution. The process needs to be as simple and understandable as possible so as to aid the decision making process at various levels including both technical and value focused. Ultimately the reasoning behind the final budget needs to be able to be unpacked and defended, providing legitimacy and the possibility of a broad sense of ownership of the final product.

5.7.1 What Preference Modelling Approach is Best Suited to Aiding Public Participation Processes?

The literature on group decision making should be particularly pertinent to this field of application. This body of literature tends to consist of two schools, viz the game theoretic approach, which usually assumes competing participants “each pursuing their own self interest and personal values” (Goicoechea, Hansen and Duckstein, 1982, p337); and the ‘ethics’ approach (as coined by Harsanyi, 1977 and quoted in the previous reference) in which the aim is to seek solutions that benefit the group as a whole. Clearly the latter is more applicable to IDP processes. Much of the literature referring to (applications of) group decision making in the public domain refers to either:

(a) Groups that consist of a number of parties *negotiating* a way forward (eg Teich et al, 1995). However, in the IDP scenario, despite an element of competition (as with all problems of allocation of scarce resources), there is also an interconnectedness between the stakeholder groups in that firstly; each is required (by law) to be included in the process. Secondly; the groups are spatially connected i.e. the solution chosen for another group will happen in one's 'own backyard' and not in some remote and 'invisible' place. This gives a very real sense of the importance of finding solutions that benefit the group (i.e. municipality in this case) as a whole.

(b) Instances where the public are either represented by government officials or by experts. Wenstøp and Seip (2001), for example, examines the use of MCDA in environmental policy where the public are represented by "high-level civil servants... unbiased, responsible experts [who have] great legitimacy" (p54). He defines 'legitimate' as meaning unbiased ("understand or represent important public and private interests but not represent their own interests out of proportion to their role as citizens"), responsible ("representative of knowledgeable and responsible citizens") and expert ("understand the choice of criteria and the implications of the scoring on all criteria"). Also Edwards, 1977, presents a methodology to use multiattribute utility functions for public decision making largely focussing on experts (either municipal officials or technical experts) as the decision makers. See also Hamalainen and Karjalainen (1992) for an example of modelling the preferences of a committee of energy policy experts. Also, Hamalainen and Leikola (1995) work with a group of elected politicians in using Spontaneous Decision Conferencing to aid problem structuring and support small co-operative group negotiations.

The IDP strives, however, for an application of *direct* democracy. In support of this aspiration one could argue that one needs to directly involve target communities as essential 'experts' on development within their own areas.

(c) Groups that exist within a formal, hierarchically structured organisation such as a commercial organisation. (See, for example, the chapter on "The Anatomy of Organisations" in Rivett, 1994, p213-221) The description given is of the typical organisation that many operational research tools are designed to assist or support in their decision making. By contrast, the organisation described as 'the municipality by the Municipal Systems Act No. 32 of 2000 (South Africa, 2000, pp 14-16)

includes the political structures and administration of the municipality; and the community of the municipality. The latter composed of: the residents; ratepayers; civic and non-governmental organisations; business and labour organisations; visitors and any service/ facility users and includes, “more specifically, the poor and other disadvantaged sections of such body of persons”. This makes the organisation or group that is involved in the IDP a very complex and wide ranging creature!

By way of a summary, the issues which influenced the choice of preference modelling approach include the fact that, in the context of IDP:

- There are different types of decision maker with differing areas of expertise and levels of legitimacy
- Not all stakeholders can be expected to be experts in any (technical) field or even to be literate
- Stakeholders often represent larger groups to whom they will need to provide regular feedback.
- There is an element of strategic level decision making (i.e. high level direction for the municipality) as well as lower level decision making on the choice between specific projects. (Kasanen, Wallenius et al, 2000 indicate that MCDA is rarely used for high level, strategic decision making and explore some of the reasons for this in terms of commonly held ‘MCDM myths’ about the conditions under which decision making takes place, particularly at the strategic level)¹⁸
- The ultimate right to approve the budget belongs to the council but they need to (and need to be seen to) be influenced by the values of the community and the expertise of the officials.
- The ultimate product of the IDP is the budget (a *portfolio* of alternative projects) but the currency of the debate will largely be around a comparison of individual

¹⁸ Note that in this regard, Wierzbicki (1997, p65) observed that “Any experienced decision maker would agree that *strategic, high-level decisions are actually of multicriteria type*, but also would protest against any formal aggregation procedure, particularly if it is based on a disclosure and estimation of his/her preferences. When faced with an argument that this attitude might result from the wish to have a better bargaining position in negotiations, an experienced decision maker answers that *he/she would rather preserve the right to change opinion and rely on his/her intuition.*” This is definitely an issue which makes this environment particularly difficult to work in, namely that although there is legislation directing the involvement of multiple stakeholders, the de facto decision makers are likely to be resistant to making the process “too transparent”.

projects (a specific requirement of the IDP process is to produce a priority ordering of the alternative projects/ strategies)

- The process will be under pressure of time (because of deadlines specified by legislation for the budget and because many stakeholders will be volunteering their time which will thus be limited)
- A vast number of alternatives will be generated as part of the IDP process
- There is a need for a very simple, transparent decision aiding procedure
- There is a *requirement* for an audit trail of the decision making process
- Indicators of development that can be extracted from the decision making process would be an advantage (the IDP legislation also requires these to be put in place and it would clearly be useful if they were generated from the same process)

5.7.2 Other Possible MCDA Approaches in Participative Public Decision Making

Have other proposals been made as regards the use of MCDA in participative public decision making? Lootsma (in Fourie, Lootsma and Olivier, 2000) proposes the use of a scoring approach to assist in the capital budgeting procedures of South African municipalities. However, the evaluation of projects to be considered for inclusion in the budget in this application is primarily intended for use by “politicians and the administrators” and mention is only made in passing to “the local population” (p7). The method proposed is set in the context of distributed decision making in which “certain steps of the procedure, such as the assessment of projects under the ECONOMY and QUALITY OF LIFE criteria, are delegated to non-political experts. The weighing of the criteria and the final selection of the projects are the prerogatives of the politicians” (p14) This effective exclusion of the community seems to me to be in direct contradiction of the terms of the Municipal Systems Act No. 32 of 2000 (South Africa, 2000). The Act specifies that the decision making must be *participative*, involving both politicians, officials and the community, where the community is defined in terms other than the possession of expertise or specific knowledge. The application takes a list of criteria defined by “the administrators, the politicians, and/or the local population” (p7) and combines them into six major criteria, viz Education, Economy, Quality of Life, Political Support, Adverse Effects and Cost. The first five of these criteria are assessed by scoring systems which combine two dimensions of the effects of projects (quality and quantity) into a single score as shown in Table 4.

Quality effect:	Enormous	4	5	6	7
	Considerable	3	4	5	6
	Noticeable	2	3	4	5
	Marginal	1	2	3	4
	Population affected:	0%-1.5%	1.5%-6%	6%-25%	25%-100%

Table 4: Categorical Assessment of Projects under the 'Education', 'Economy' and 'Quality of Life' Criteria

Essentially each of these criteria is thus regarded as having two sub-criteria: quality of improvement and quantity of improvement (in terms of the number of people affected). This is a potentially useful way to focus the participants' attention on these two important aspects in assessing the potential benefits of projects. However the above scale imposes the following on the decision making process without consulting the participants:

- (i) a geometric sequence (with progression factor 4) as a way of capturing the 'quantity' sub-criterion
- (ii) a linear relationship between this grouped 'quantity' sub-criterion and the categories of the 'quality' sub-criterion; and
- (iii) an assumption that the two sub-criteria are equally weighted.

I have no argument with these choices per se, but they are not the only ways to structure the scoring of these factors and I do believe that in *participative* decision making these are choices which the decision makers should make and not the facilitator. In general this approach of capturing two dimensions of decision making into a single score would think be very helpful if it were not for the fact that it is likely to be a very time consuming exercise to meaningfully calibrate this scale with a group of decision makers.

Lootsma (pers com, April 2003) objected to the use of swing weights. For clarity's sake I will recap the swing weighting approach: Suppose we have just two decision criteria for which we wish to estimate the parameter weights. The decision maker is presented with three alternative projects. Project 1: a worst case scenario for which both criteria are at their worst (bottom end of the scale). Project 2 wherein criterion one is positioned at the worst possible outcome and criterion two shows the best outcome. Project 3 wherein the situation is reversed and criterion one is at the best level and criterion two at the worst possible outcome level, viz:

Project 1 : $z_1^1 = z_1^0; z_2^1 = z_2^0$

Project 2 : $z_1^2 = z_1^0; z_2^2 = z_2^*$

Project 3 : $z_1^3 = z_1^*; z_2^3 = z_2^0$

The decision maker is then told that Project 1 is the status quo and asked : 'If you could choose to change the status quo from Project 1 to either project 2 or 3 , which would you choose?'. Suppose the response is 'project 2' indicating that the swing from project 1 to 2 is preferred over the swing from project 1 to 3. This is reflected back to the decision maker who is also asked to indicate: 'If we allocate a value of 100 to your preference for project 2 over project 1; how strong (relatively) would you say your preference for 3 over 1 is? Half as strong (i.e. a value of 50, 50% of the strength); ... 80%?; ... 65%?' Whatever the response, this ratio represents *algebraically* the ratio between the weight parameters associated with criteria 2 and 3. This is the swing weighting approach using a direct assessment of the relative importance of the pairs of swings.

Lootsma, on the other hand, suggests that the decision maker be presented with projects 2 and 3 only and that he/she state how far apart these two projects are relative to the scales used. This stated difference is used to assess the ratios of criterion weights. This seems to be a tautology as we are estimating the weights precisely in order to be able to derive a means of assessing how far apart the projects are. If we could clearly say how far apart two projects were, would we need a weighted scoring system in the first place?

The scales that Lootsma proposes be used for assessing projects are seven- or nine-point categorical scales. When a decision maker declares that two projects are five or seven points apart it is difficult to know what they actually mean and whether they will consistently use the same heuristic to make this assessment or not. With the swing weighting approach described above, the decision maker is asked to frame the comparison of the swings in terms of percentages because this is a currency in frequent everyday use that many respondents can confidently use. Those participants not comfortable with assessing percentages can be asked to make the assessment graphically. This framing of the question of weights in terms of asking the decision maker to assess the interval between two options is not, to my knowledge, advocated by other authors in the multiple criteria decision making field. Most of the established references in this field (von Winterfeldt and Edwards, 1986; Goodwin and Wright, 1997; Keeney and Raiffa, 1976, etc.) advocate estimating weights by eliciting ratio judgements from decision

makers. The alternative, assessing the relative importance of criteria through focusing on intervals, is difficult to justify because of the scale issues I have mentioned above, viz the posing of questions of preference in terms of a combined scale which does not yet exist, and which is only defined in terms of a number of points (i.e. a seven-point scale).

Once Lootsma has established the maximum ratio (say 16), he concludes that “in the absence of any other information..., subsequent pairs of criterion weights should be equal” (Fourie, Lootsma and Olivier, 2000, p11) and imposes a five point categoric, geometric scale (viz, 1,2,4,8,16) for assessing the relative importance of the criteria. Once again, this *may* be a reasonable way to represent the judgements of the decision makers, but it may well not be. In my opinion participative decision making implies that the facilitator opens rather than closes such mathematical black boxes for the participants. This entails providing them with a procedure flexible enough to capture their views while making explicit potential sources of unwanted bias. The approach advocated by Lootsma (in Fourie, Lootsma and Olivier, 2000) has many interesting innovations but I do not think that it fulfils the requirements for a participative decision making tool.

In the preceding sections I have given a broad overview of MCDA methods and laid out some of the complexities of participative decision making in the public sector. For the reasons outlined, I chose to apply a value function approach to preference modelling because in general this approach

- is mathematically simple to understand,
- provides the means to incorporate both quantitative and non-quantitative criteria,
- creates a solid audit trail of the decision making process, and
- can easily be used to create indicators (to monitor the budget/ development)

The likely presence of a number of qualitative criteria means that goal programming methods would not be ideally suited to this arena. Outranking methods were also not considered to be ideal given the vast number of alternatives to be screened and the limited time available. Interactive methods are less suitable for decision making in the public arena (see Stewart, 1999) as, although they typically build up good understanding of the complexities of the decision, they are not strong on leaving a clear, transparent audit trail.

Weighted value trees (although not necessarily tied to the use of value functions as a preference model) provide in themselves a useful means of capturing (and summarising) community values. They can be used to focus discussion between different stakeholder groups and to record information and pass it on to other participants in the process (eg other tiers of government). Keeney (1992, p98) also refers to the usefulness of objectives hierarchies (or value trees) for the purposes of communicating between groups and for approving “all that is fundamentally important in the problem area being addressed”. Also Wenstøp (unpublished paper) relates the “Theory of Management by Objectives” to the use of weighted value trees to convey company objectives.

5.7.3 Outline of a Participative Multi-Criteria Decision Analysis Method:

The following is a broad outline of the decision making process that I am proposing:

1. Value trees are constructed with each (sub) community using both a top down and bottom up approach. The upper level (top) criteria are assumed to provide political direction to the process and are used as a uniform starting point for the construction of value trees for each community. At community workshops participants table a mixture of concerns, issues, problems and projects (i.e. lowest level elements within each upper level criterion) which are then gathered into higher level (intermediate) criteria.
2. Descriptive scales of qualitative outcomes in each criterion are created (for each criterion and each community.)
3. Criterion weights are constructed by a swing weighting process.
4. Scoring and selection: a two-phase approach:
 - (i) Screening of the large set of alternatives. (This step also produces a rank ordering of all alternative projects). Each criterion is mapped to three attributes, viz: effectiveness; sustainability and technical need. Each project is attached to one criterion only (i.e. assumes non-zero scores within that criterion only). Descriptive, benchmarked scales are developed for each of the three attributes to create value functions. The use of a weighted average MCAP gives a ranking of all proposed projects relative to each other.
 - (ii) A number of plausible budgets (portfolios of projects subject to some given budgetary constraints) is selected and compared across sub-communities (using eg VISA). This selection can be made using principles of experimental design. The idea is to explore some combinations of projects, starting off with a comparison of those

that might best suit individual communities, with a view to looking for good compromise alternative portfolios.

Note that only step (i) of the scoring and selection phase above is actually required of the participative IDP process and I do not specifically cover step (ii) within the bounds of this thesis. However it is clear that the decision making involved in step (ii), i.e. selecting a combination of projects which together provide for the competing needs of the municipality as effectively as possible, is by no means trivial. The scores provided by the value functions can however be used as a currency for exploring the effects of different portfolios on different communities within the municipality.

I wish to express my sincere appreciation to Professor Theo Stewart of the Department of Statistical Sciences for very helpful discussions that have contributed towards the material in this section.

Chapter 6: Participative MCDA: A New Approach

6.1 Introduction and Background

This chapter lays out an MCDA method designed as a tool for participative decision making in the IDP process of local government. This tool was developed through a process of PAR, the details of which are given in Chapter 7. Because action research implies a continuum of theory development through action and reflection on the action, this tool is in a process of continuous evolution and is presented here in its 'latest form'. The annual budget cycles of the IDP process provide a natural rhythm for this cycle, and appropriate pauses for reflection. After the reflections post this 2001/2002 budget cycle (including, for example, the meeting with Stellenbosch Strategic Services Department, 24th May 2002) it is likely that the form of the tools used for the next IDP budget cycle will be different from those presented here.

The Municipal Systems Act No. 32 of 2000 (South Africa, 2000) requires that all local authorities prepare and submit for scrutiny an Integrated Development Plan. In short the IDP involves the integration of three aspects of democratic governance, namely (1) public participation; (2) public administration and planning; and (3) political leadership and guidance. There are thus three broad groups of participants to the IDP: the public, the municipal officials and the elected political representatives. The methodology proposed in this chapter focuses strongly on the public participation aspect of the IDP and on how the information gathered from this arena can be integrated with that from the other two participant groups of the IDP.

The IDP process involves specifying priorities for the municipality which requires agreement on value judgements, informed as far as possible by pertinent information. Furthermore the IDP requires that proposed alternative courses of action (in the form of strategies or projects) are evaluated by the participants. This also involves a degree of judgement as to the efficacy of proposed actions. We thus have a situation of multiple, (possibly conflicting) role players dealing with multiple conflicting goals. The proposed methodology outlines the use of MCDA tools to a) clarify the needs and aspirations of the communities; b) evaluate a number of alternative plans to address these needs and c) monitor progress in the communities.

Figure 6 summarises the inputs and outputs to the process of drawing up an integrated, participative budget.

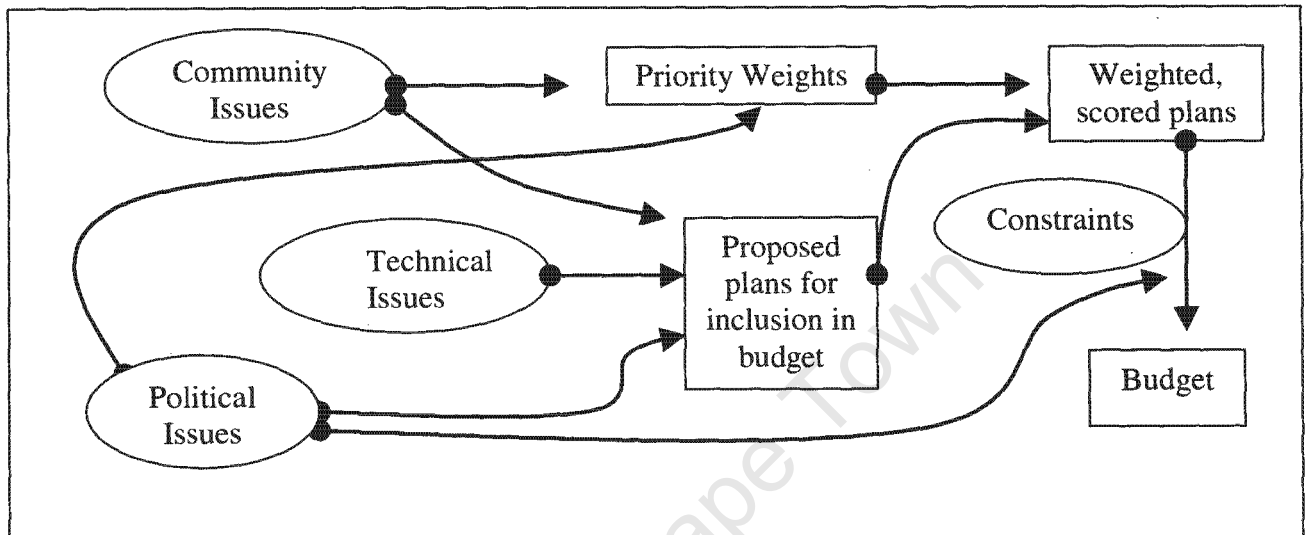


Figure 6: Inputs and Outputs for the Proposed Process to Compile an Integrated, Participative Budget

6.2 Stakeholders:

Who are the stakeholders involved and interested in the IDP process? I sketch below a broad outline of the participant groups:

Municipal officials and associated experts: This group consists of municipal managers, sector heads, treasury officials, and all those responsible for managing the execution of municipal functions. Also included with this group are any experts whom the municipality may choose to engage for assistance with their planning and budgetar processes. These participants are nominally responsible for implementing the budget, but they also have a responsibility to *enable* the other participants to meaningfully contribute to the process. This group has the technical knowledge and know-how about the functioning of the municipality.

Councillors / politicians: These are the democratically elected representatives of the people. They hold the ultimate decision making power as far as approving both the IDP

and the budget is concerned. They also have a role to play in ensuring that the IDP is an effective and coherent tool to implement an agreed set of policies.

Communities: This group includes residents, ratepayers, advocacy groups, civic organisations, labour organisations, employers and other interested and affected parties resident in or active in the municipal area. They may be divided into sub-communities (that may be geographically based). It should be noted that with respect to the IDP the 'poor and other disadvantaged groups' are specifically highlighted within the definition of a community as given in the Municipal Systems Act No. 32 of 2000 (South Africa, 2000). As such, specific measures should be introduced to ensure that their needs and issues are captured.

Figure 7 shows how the above three groups of participants are involved in the process of drawing up the budget.

Facilitators: Neutral (not having allegiance to any of the participant groups) person(s) who facilitate the workshops, collate the information provided by the various participants and ensure that the process retains momentum to reach the agreed deadlines. It is the role of the facilitator to ensure that the process is as participative as possible; and to assist participants to constantly be aware of the overall aims of the IDP whilst still doing justice to their particular constituents.

District, Provincial and National government representatives: These officials (usually in the form of IDP managers within the different spheres of government) are in the main recipients of information needed for their own IDP or other planning processes.

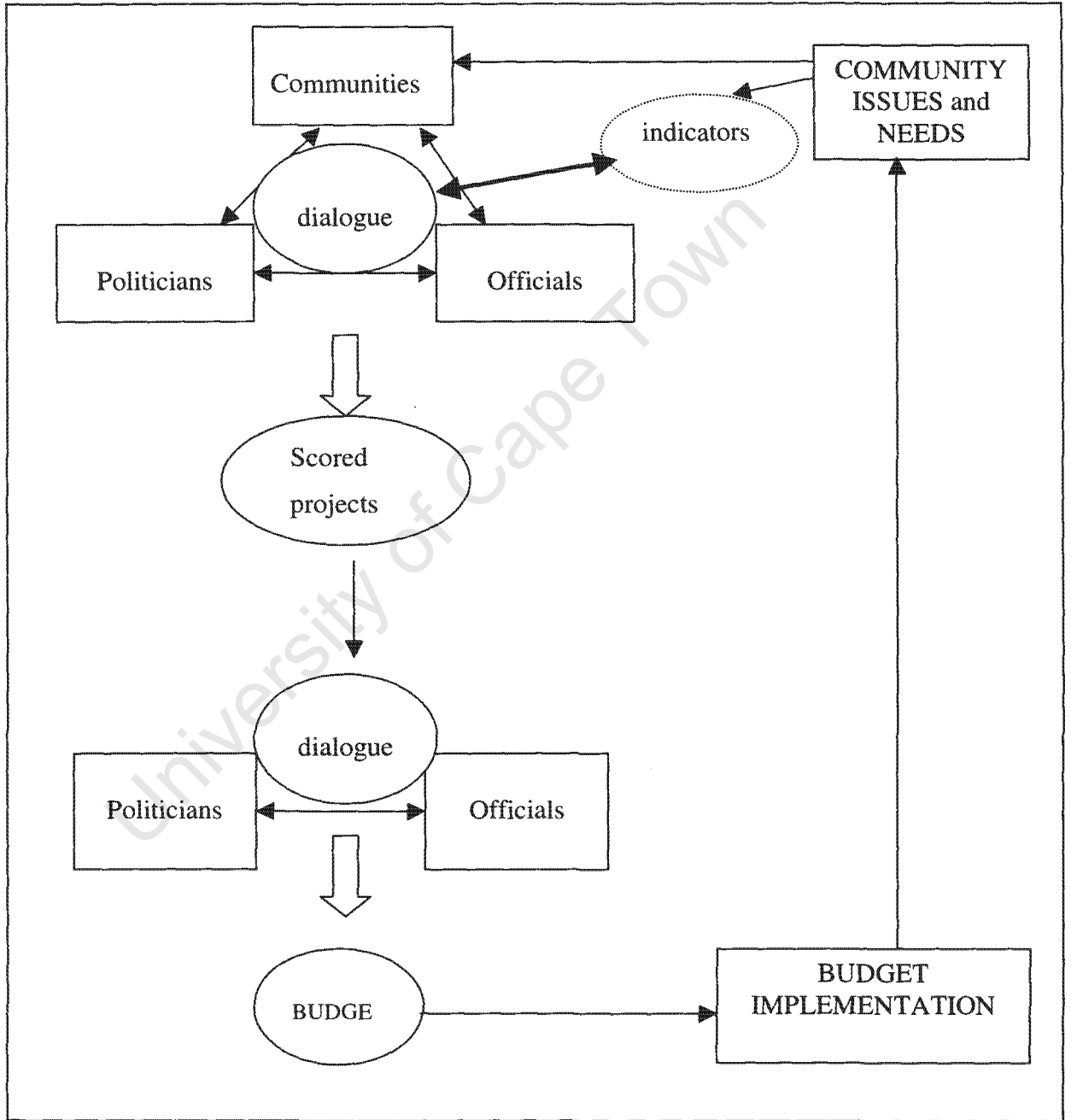


Figure 7: Participatory Budgeting

6.3 The Method

The proposed decision making method consists of the following steps (as outlined in Figure 8):

- **Step 1: Information gathering** : Collate (and share) input from the various roleplayers in the form of workshops, surveys, technical studies, etc.

Specify, Group and Prioritise Needs:

- **Step 2a: Draw up value trees for each community:** Each constituent community defines a hierarchy of criteria/ issues/ needs for their area or domain of interest.
- **Step 2b: Define community development measurement scales.** Draw up scales for each dimension of the value tree for each community. These scales may be linked to outcome measures (indicators) and specific means of collecting data to inform them.
- **Step 2c: Use weighting techniques to reach agreement on priorities** for the issues making up the value trees

Strategise, Evaluate and Plan:

- **Step 3a: Formulate objectives and strategies** . Specific alternative solutions to the identified needs or issues are generated. These may be in the form of broader strategies (ultimately groups of projects) or specific projects.
- **Step 3b: Evaluate the alternatives by scoring on a number of criteria.** The criteria used to score the identified alternatives should include impact (in terms of the community development measurement scales devised in Step 2), cost and sustainability of the solutions
- **Step 3c: Explore the set of alternatives to find the most efficient budget** (collection of alternative projects or strategies). Search for the combination of projects (or strategies) that will provide maximum impact for minimum cost and which is most sustainable. Note that this step is not specifically included in the participative process as laid out in the IDP documentation, however, because there are technical tools which could greatly assist this process, some suggestions are put forward in this thesis with the idea of exploring these further in future work.

The above steps are each further discussed and explained in the following sections.

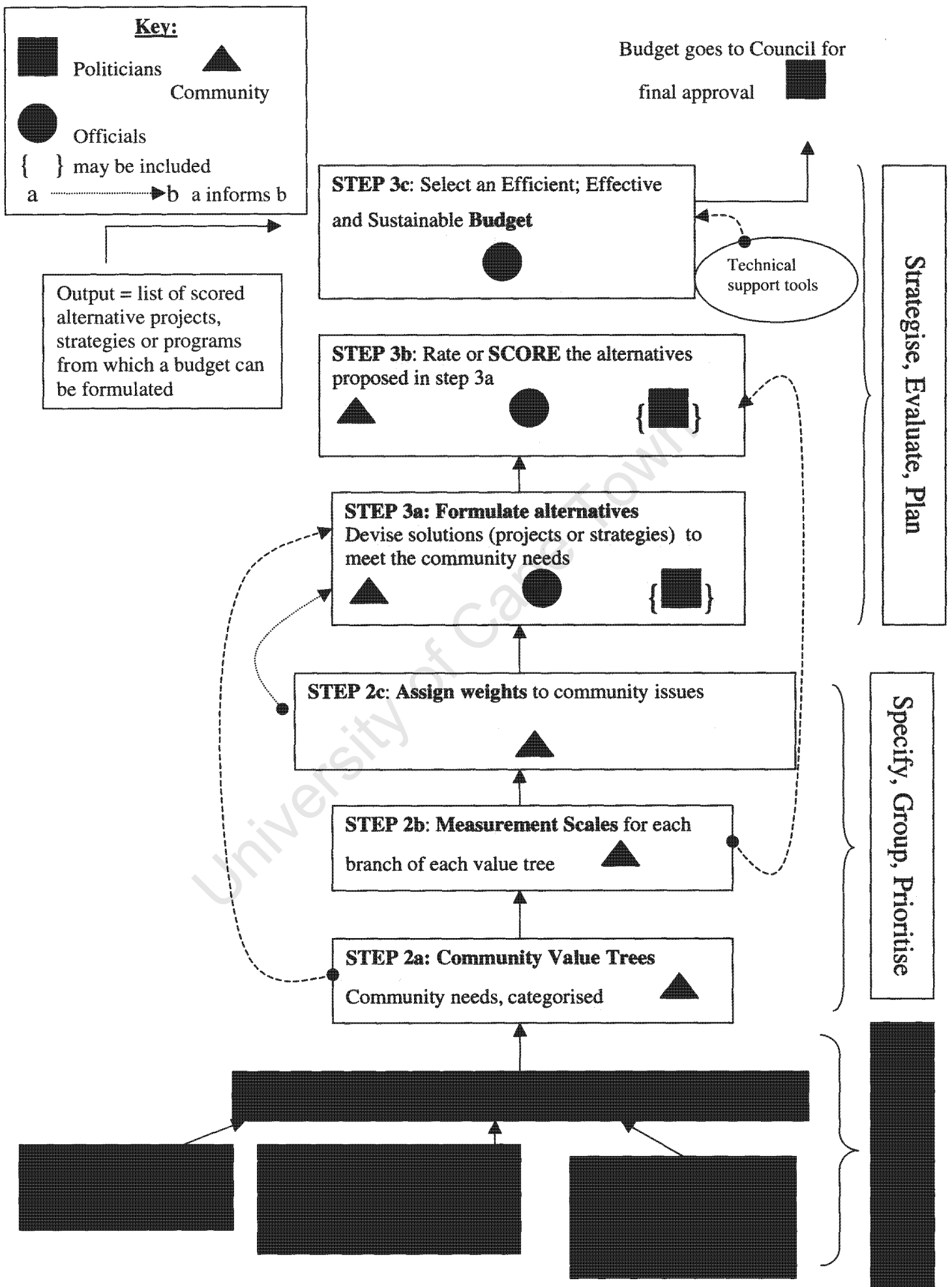


Figure 8: Steps Towards an Integrated, Participative Budget

6.4 Step 1: Information Gathering

All role players need to be involved in this step which is vital to the integrity and transparency of the process. There are likely to be information gaps (in terms of what it would be desirable to know before embarking on the process) and all parties need to have access to that information which is available, and be made aware of what remains unknown at this stage.

This is an opportunity for all players to inform each other from their strengths.

1. Municipal officials need to present to the public the status quo in terms of current community development (levels of housing; service provision; gaps in delivery) as well as outstanding issues to do with maintenance; challenges and opportunities facing the municipality; fiscal and statutory requirements and limitations and available resources. This information is generally held by (or accessible to) the municipal officials and is vital for the communities to provide a context within which to table their needs. Where possible information should be collected at the same scale for all areas and where not possible this must be made explicit. Problems of data availability or of scale frequently arise because of the involvement of differing authorities or service providers. Some examples of these problems include: i) Electricity may be provided to part of a municipal area by the municipality itself and to another area of the municipality by the electricity supply company, Eskom; ii) Some areas may have their health services provided by the municipality and some by the district authority, and information about health issues may well be collected by these two bodies using different area boundaries.

If there are gaps in required information at this stage or if the data is not current (e.g. if census data is used) or reliable, then this must be noted and addressed within the scope of the IDP.

2. Community representatives are given a chance to table their needs, issues and aspirations. These may be reflected as needs, issues, problems, comments, policies, values, projects or strategies at this stage. This information may be collected via (a mixture of) workshops, sample surveys, focus groups or targeted interviews. This information comes from the community's perceptions and actual experience of their

own levels of development and may well be supported by objective information where available (specifically that presented in Step 1).

If there are gaps which exist in this information it is likely to be due to under-representation of particular groups and the design of this stage should take into account the need to cover, in particular, marginalised and less well organised members of the community.

3. Politicians need to take this opportunity to clarify how the IDP is meant to be used as a tool to implement a certain political vision and to ensure that particularly important groupings and issues (such as poverty and AIDS) are not allowed to fall off the agenda. The facilitators may need to take up this role if it is not forthcoming from the politicians (for example, highlight the need to analyse gender, poverty and HIV/AIDS issues or note that the information around these issues is insufficient.)
4. Representatives from other spheres of government need to be kept informed of the process but may not be directly involved in this step, except to clarify their roles as service providers where appropriate.

6.5 Step 2: Specify, Group and Prioritise Community Issues

6.5.1 Step 2a: Drawing up Value Trees for each Community:

This step involves structuring the needs of the community into a value tree that will form the basis for defining needs and goals and measuring progress in the community.

A value tree is a structured (usually hierarchical) set of criteria or issues. Figure 9 shows an example of a simple value tree that displays the issues that might be relevant to a budget allocation problem for a typical household.

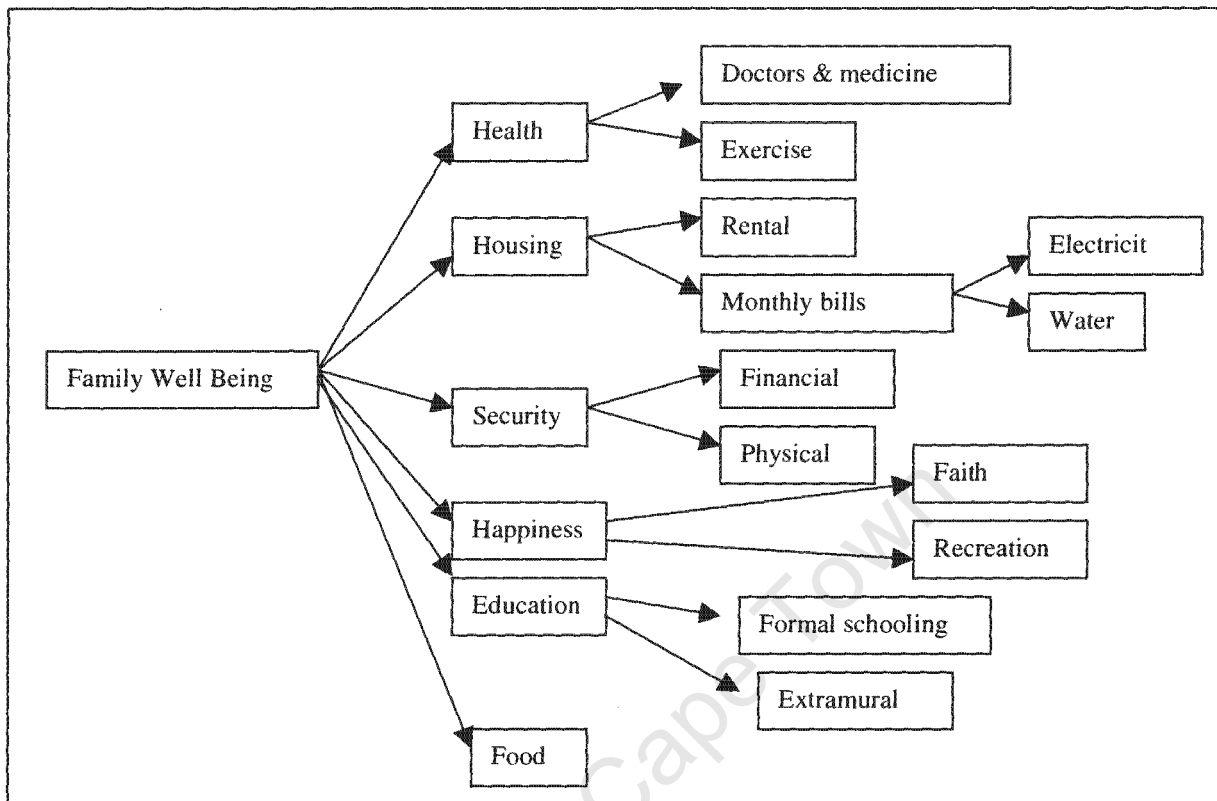


Figure 9: Value Tree for Allocations for a Typical Household Budget

It can be useful to structure needs in a hierarchy as above, in order to begin to more rationally and purposively allocate resources, and monitor consumption. Much the same process may be applied to the multiple demands on a municipal authority, the main difference being that the 'household members' of a municipality are more numerous and diverse and in fact the municipality may need to draw up a number of value trees for each constituent sub-community.

Although the IDP process encourages the integration of issues, it is important first to develop a representation of what the separate issues are and how they break down into sub-issues before looking at the effect of say a strategy *across* different issues. The value tree displays (catalogues) the issues for a particular community or area.

The roleplayers involved in this step are:

1. The community representatives.

- Each distinctive community structures their needs as far as possible making use of a generic template as a starting point.

- Each community has an opportunity to shape the template to accommodate their own distinctive needs and issues. In general the first tier of clusters remains generic for all communities (i.e. the major clusters) and the next tier (sub-clusters) differs from community to community.
- The information used at this stage is that tabled by the communities in Step 1.

2. The facilitator(s)

The facilitator chairs and co-ordinates the meetings or workshops needed for this step of the process and focuses the participants to find the preferred way to:

- provide a basis for comparing needs across areas, and to
- provide a basis for establishing priority needs for the municipality as a whole as well as for each area

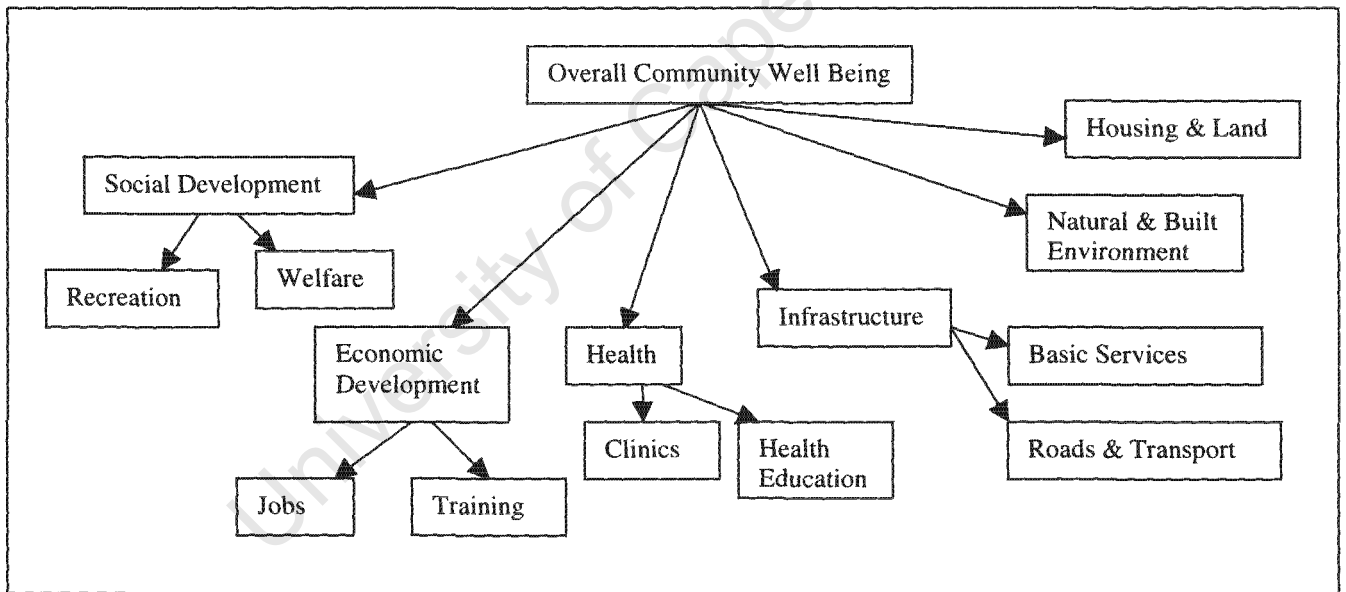


Figure 10: A Simplified Example of a Hierarchy of Issues for a Hypothetical Community

6.5.2 Step 2b: Define Community Development Measurement Scales for each Dimension of the Value Tree for each Community.

In order to be able to measure progress in the various dimensions that we ascribe to community well being it is important to define some endpoints and/or benchmarks in the journey. For each dimension (or issue or sub category) of the value tree, a qualitative scale should be devised which defines

- (i) the goal, or a description of the best the community would aspire to be in this dimension;
- (ii) the worst outcome, or the situation which the community is trying to avoid being in; and
- (iii) one or two intermediate points to the descriptions given in (i) and (ii).

Note that this descriptive scale is similar in approach to the use of 'critical points' by Drewnowski (1974) to divide an indicator into a number (he suggests four) of benchmarks or sub-ranges.

The more points that are defined on the scale, and the fuller these descriptions are, the more useful the scale will be in assisting a community to measure the impact of an intervention/ project/budget or the performance of a given period of municipal administration. Some examples of hypothetical best, worst and intermediate outcomes for clusters of the community value tree in Figure 10 are given in Table 5. (Note that these have been kept deliberately brief due to space limitations). Also tabled are possible indicators that might arise from the dialogue around defining these points of the scale.

As a guideline to drawing up these descriptive points, it is suggested that the community consider all the possible dimensions of the issues raised under a particular cluster (eg the issue of roads may have a safety aspect, a transport aspect, an employment opportunity aspect, etc.). Target groups within the community that need to be particularly monitored (eg the elderly, the disabled, children, etc) should be specified. Also important, is to include relevant associated or covariate issues (eg effect of housing on health, effect of education on social problems, etc). A covariate can be thought of as an issue which 'interferes' with another variable (either positively or negatively). For example, the presence of sturdy, weatherproof housing is likely to have a positive effect on the health of the community.

Measure Progress	Housing & Land	Roads and Transport	Recreational Facilities	Jobs	Health Education
100	<p>Best Outcome:</p> <p>All people have access to adequate, weather proof, safe houses that are effectively financed, close to job opportunities and amenities and linked to affordable services.</p>	<p>Best Outcome:</p> <p>There is a safe, effective and efficient system of roads and public transport which links peoples homes to their places of work, school, recreation and other amenities</p>	<p>Best Outcome:</p> <p>The community have adequate spaces and structures in which to congregate, to socialise and to play. There are effective facilities for the elderly, the disabled, the youth and children.</p>	<p>Best Outcome:</p> <p>All who are able and available to work have access to employment or an acceptable means of generating an income. Youth in particular have access to employment.</p>	<p>Best Outcome:</p> <p>All people have access to clear and accessible information about healthy lifestyles and safe practices. There are effective campaigns to encourage adherence to these principles.</p>
50	<p>Roughly three quarters of the community are adequately housed</p>	<p>Roughly three quarters of the public have access to some form of public transport that is affordable to them. There is limited provision for the transport of school children.</p>	<p>There are some recreational facilities for the community but they are either too few or they are inappropriate for the above designated groups.</p>	<p>Around 50% of the community (or of youth) are unemployed OR less than one quarter of the community derives income from drugs/ crime/ prostitution.</p>	<p>There is effective health educational material but it is estimated to reach and educate around 50% of the population only</p>
0	<p>Worst Outcome:</p> <p>More than half the population does not have access to adequate housing.</p>	<p>Worst Outcome:</p> <p>Roads are inadequate and unsafe. Public transport is unaffordable or unavailable to most. Pedestrians, especiall children are at risk on the roads.</p>	<p>Worst Outcome:</p> <p>There are either no or ver inadequate recreational facilities for the community.</p>	<p>Worst Outcome:</p> <p>More than three quarters of the community is unemployed with no prospects OR at least one third of the community derive income from drugs/ crime/ prostitution.</p>	<p>Worst Outcome:</p> <p>No or ineffective or inaccessible information on healthy lifestyles and practices.</p>
Possible Indicators:	<ul style="list-style-type: none"> • Percentage population housed • Average distance to work • Proportion with access to services • Proportion of houses with defects 	<ul style="list-style-type: none"> • Road/ pedestrian fatalities • Average time/ cost to work • Average time/cost to reach school 	<ul style="list-style-type: none"> • Community facilities per unit of population • Average distance to nearest sportsfield/ hall/ youth centre 	<ul style="list-style-type: none"> • Unemployment rate • Youth unemployment rate • Female unemployment rate • Crime statistics 	<ul style="list-style-type: none"> • Community perceptions of Aids • Compliance rates (TB meds) • Alcoholism • Drug dependencies • Teenage pregnancies • FAS • Distance to nearest clinic

Table 5: Hypothetical Community Development Measurement Scales

Ultimately it would be beneficial to describe 3 to 5 points on the community development measurement scale. Nominally assign the best outcome a score of 100 and the worst outcome a score of 0, then the point mid-way between these two would score 50, etc. This scale creates a very basic tool for a community to measure progress in a particular issue (or dimension) allowing for interpolation between the benchmarked points where necessary. The process of defining points on the qualitative scales and the ensuing debate very often leads naturally to the identification of objective and directly measurable indicators of progress through the nature of the descriptions used for the benchmarks (examples as given in Table 5).

The roleplayers involved in this step are

1. The Community Representatives.

Representatives of the community co-operatively write scenarios that describe a lack of development, partial development and full development in each of the dimensions identified in Step 2a. These are informed by the information tabled in Step 1.

2. The facilitator(s) assist by clarifying the aims of this exercise (as laid out above) and may also provide examples as a starting point from which the community can work.

3. The politicians receive the information from this step

4. The municipal officials receive the information from this step.

6.5.3 Step 2c: Use Weighting Techniques to Reach Agreement on Priorities for the Criteria in each Value Tree

One of the underlying aims of following a quantitative approach to monitoring the IDP process is to be able to measure the impact of a budget on the issues identified as important by communities. In order to do that we need to build in two measurement processes :

(i) measuring the relative importance (weight) of the identified issues; and

(ii) measuring (scoring) the impact of a proposed intervention (budgeted programme or project) on the identified issue.

An overall 'value' can be estimated for a budget or budgetary intervention by using a weighted average of the impact taken over all the different community issues. There are more sophisticated ways of combining scores and weights but an advantage of this approach is that it is fairly simple and transparent and does not involve complicated mathematical formulae. (A summary of the technical issues pertinent to the aggregation of scores into an overall index is covered in Chapter 5.)

There are various ways to elicit the weight parameters associated with the different criteria.. In order to use a weighted average as a means of obtaining an overall score for an intervention/ budget, it is important that these weights are measured on a ratio scale. Ratio scales have the property that ratio relationships between two numbers are meaningful but differences are not. Recall that in Chapter 5 we concluded that the 'swing weighting' approach was the most appropriate for an additive value function such as is being proposed here. Thus not only must the weights be measured on a ratio scale, but they must also reflect the relative importance of a swing from worst case to best case scenarios. In other words we need to develop concepts like 'to bring about the envisaged change in A is the most important , the change in B is only half as important as that in A, and the importance of effecting a change in C lies somewhere in between these two.' A way to accomplish this task is to ask community representatives to imagine 'filling up beakers' to represent the importance levels assigned to bringing about a change from worst to best in the different criteria, as in Figure 11 below:

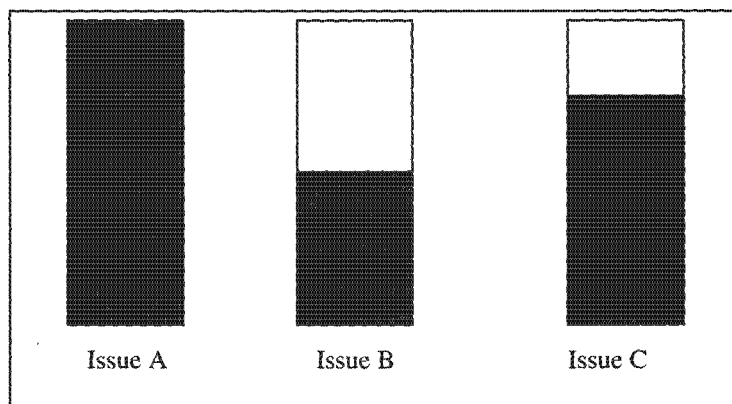


Figure 11: A Pictorial Representation of the Swing Weights Allocated to Community Issues

The issues are assigned a weight equal to the amount of liquid ¹⁹ added to each beaker, so weight of A = 100; B = 50 and C = 75

The representative groups adjust the weights by iteratively comparing the levels of liquid in each pair of beakers until consensus is reached as to the relative importance of all issues. This process involves, in some cases, many hours of discussion and ‘lobbying’ before consensus can be reached and may only be possible if there is not extreme polarisation in the group to start with. In some instances it may be necessary to split an issue into component sub-issues before agreement can be reached. In other words, disagreement on weights may represent fundamental differences in the way in which a cluster is viewed. (For example the word ‘Health’ may represent different things to different people so if we break it down into ‘mental’; ‘physical’ and ‘emotional’ health this may clarify the picture and allow weights to be allocated more unanimously)

The weighting procedure is essentially two-stage:

- a) Determine internal weights: Work separately within each cluster to determine the relative weights of each of the issues *at that given time and prevailing circumstances for the community*. Participants are asked to consider the defined descriptive scale (or more specifically the best and worst case scenarios) for each issue. They are asked to consider the situation where the community is at the worst case scenario for each of the criteria. They are then asked to consider the situation where they could change one of the criteria to the best case scenario as defined for that particular criterion. They are asked to select which criterion that would be (or criteria if they would choose more than one criterion that they (equally) most wanted to swing from worst to best case). Participants are given a visual analogue tool in the form of filling up beakers in order to specify the relative magnitudes of the weights. Thus within each cluster, the issue which participants rate as the most important or pressing (to swing from worst to best) is assigned a weight of 100 (a ‘full beaker’) and all other issues are given a weight relative to this maximum value of 100. This “swing weighting” approach effectively creates an equivalence scale between the units of measurement of the different issues.

¹⁹ Note that, technically speaking, we are asking the respondents to compare the heights of the ‘liquid’ in each beaker and not the volume, i.e. we are looking at a cross-section of the beaker so that filling it to the 50 mark means it is half full; and filling it to the 75 mark means it is three quarters full, etc

- b) Determine the relative priorities of those issues that score 100 in each of the major clusters (cross-cluster weighting). This is done by repeating the procedure in a) for the group of criteria consisting of those scored as 100 in each cluster of sub-criteria. The weights are then adjusted algebraically to get an overall relative weighting for each issue and sub-issue.

The above steps ensure that all major clusters are given attention, as against an approach of directly ranking all issues simultaneously, which usually leads to issues such as roads and traffic falling off the list at a very early stage (see Knysna IDP Rep Forumt, 2001).

An example of priority weights for the issues identified in Figure 10:

Suppose that within the cluster of Social Development, the particular community identify that a swing from worst to best for 'Recreation' would be more desirable and pressing than the same swing for 'Welfare', then Recreation would be assigned a weight of 100. If the swing for 'Welfare' is regarded by the participants as roughly half as important as that of 'Recreation' then they might assign 'Welfare' a weight of 50. Continuing in this vein, the internal weights of each of the main clusters might look as follows:

Social Development: Recreation 100; Welfare 50

Economic Development : Jobs 100; Training 30

Health: Clinics: 100; Health Education 80

Infrastructure: Roads and Transport 100; Basic Services 100

Natural and Built Environment: no sub-clusters

Housing and Land: no sub-clusters

Note that the above weights do not represent some intrinsic worth or importance level of the conceptual issue itself but rather reflect the relative magnitude and depth of the problems currently facing the community in each of the sub-clusters.

At the second stage of weighting each sub-cluster which was assigned a score of 100 (and those clusters which are not subdivided) are compared against each other. Thus the community need to compare the following:

- Recreation
- Jobs
- Clinics
- Roads and Transport and Basic Services
- Natural and Built Environment
- Housing and Land

Of these issues suppose the community choose that faced with the choice the issue which they would choose to swing from worst to best would be 'Housing and Land'. This cluster is then assigned a weight of 100. The second most important swing is identified to be for 'Jobs' and indicated to be almost as important and thus assigned a weight of 90. Recreation follows with a relative weight of 85, Clinics 70 , Roads and Transport and Basic Services equally at 65 and Natural and Built Environment at 50.

This would allow us to claim by simple algebraic manipulation that the weights of each of the sub-clusters are as shown in Figure 12.

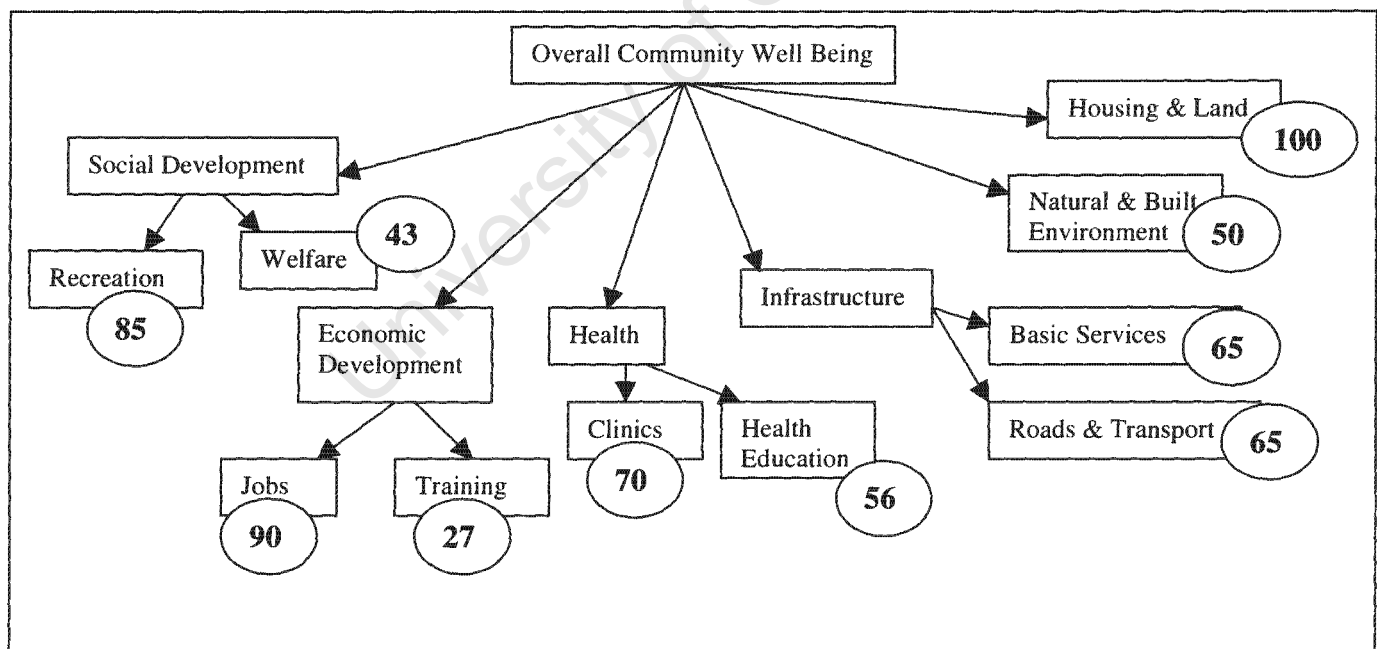


Figure 12: Prioritised Community Value Tree

The figures in the bubbles attached to each sub-cluster in Figure 12 reflect a priority weight or assessment, such that 100 represents maximum priority and 0 minimum or no priority.

Note that it is important that a skilled facilitator is used to guide this process as studies have shown (see Mousseau, 1992 and von Nitzsch and Weber, 1993) that people may find it relatively easy to 'assign weights' to issues but might actually fail to adequately take into account the context of the decision problem and especially the range of alternative options available. They need to be constantly directed to focus on the swings so that the weights do not represent some nebulous intrinsic level of importance but are algebraically appropriate as 'trade-off multipliers' in the additive value model.

The roleplayers involved in this step are:

1. The community representatives, who may need to consult more widely within their communities to get a consensus view of their input at this stage
2. The facilitator(s) who ensure that the participants are supported and assisted to follow an appropriate weighting procedure. They also need to indicate the consequences of, for example, allocating high weights to all issues (i.e. resources become very thinly spread). The facilitator should reflect back the final weights to the participants and allow opportunity for adjustments to be made to them until the community are happy that the weights give a fair representation of their current priority issues.
3. The municipal officials, who receive the information on priority issues from this step, and who may need to clarify points of understanding and also to begin to compile information on what proposed interventions are already approved, on budget, or in progress.
4. The politicians receive the information from this step.

6.6 Step 3: Strategise, Evaluate and Plan

6.6.1 Step 3a: Formulate Objectives and Strategies:

The IDP is intended to closely inform and link to the budget which consists, amongst other things, of specifying a large number of budgetary programmes or projects (aimed at addressing the identified priority issues). The number of interventions or projects specified can, depending on the size of the municipality, be very large. For a category B municipality

(i.e. smaller than a metropolitan municipality and falling under a district municipality) this could range from fifty to five hundred or more projects.

The needs of the community are likely to be specified in terms of specific projects (eg build a road from *a* to *b*, provide a clinic at *y*, etc). For each major group of issues (cluster) it is suggested (by the IDP Guide Packs) that the priority themes be formulated into a number of key objectives and that strategies be formulated around addressing these objectives. These strategies will ultimately be translated into a number of specific projects, possibly coinciding with the suggestions raised in the initial round of workshops. However, the step of strategising around priority themes forces the participants to rethink the issues and possibly explore alternative solutions before deciding on a chosen route.

Participants in this step, probably working jointly in task groups:

1. Municipal officials.

Before the task groups convene, the officials need to ensure that all of *their* needs and requirements (usually relating to the technical demands within each sector) are tabled alongside those identified by the communities. It may also be necessary to bring in financial (municipal) expertise in order that the different routes to meeting identified needs can be explored. Rudimentary costing of strategies needs to be provided by municipal officials at this stage of the process.

2. Community representatives.

The community representatives need to work with the officials to identify strategies that may help address the priority needs identified by communities.

The information that the participants are using in this step of the process is the priority needs as well as the specific issues tabled in Step 1 by communities and augmented by the officials.

6.6.2 Step 3b: Evaluate the Programmes or Strategies by Scoring

Each option (programme or strategy) is scored with respect to a number of criteria that include impact, technical need and sustainability of the proposed interventions. There is an advantage in working with strategies rather than projects at this stage in that one is able to

conceptualise a budget as a combination of strategies rather than a combination of projects. Apart from encouraging a joint and planned vision of the way forward this is also much more tractable numerically in terms of sheer numbers of options and combinations to be evaluated. Note that at this stage the officials are asked to provide ballpark estimates of the cost of proposed alternatives. This information is kept separate at this stage and the participants are not asked explicitly to consider cost when scoring the alternatives. The reason for this is that in practice the municipality does not actually operate from a fixed budget. Expenditure can be either financed from the internal capital budget of the municipality (which is relatively fixed) or from ad hoc sources (such expenditure needs to be applied for and motivated) which are not fixed. In practice, officials have the ability to shift proposed expenditure from their capital to their ad hoc budgets and so free up more available budget on the capital budget (pers comm, Leon Fourie, IDP manager Stellenbosch Municipality, 2002). In addition, part of the rationale behind the IDP is to encourage participants to source creative ways of financing options which have a high degree of impact on community needs (South Africa, 2001). Thus the approach here is to leave cost as a separate criterion in the process until the final stage of budgeting when it must be reconciled with impact (benefits).

In order to choose between strategies it is necessary to devise a consistent and transparent scoring system to measure the attractiveness of different strategies that can be adopted. Because the combinations of possible strategies that can be adopted to form a budget is very large, a simple scoring procedure is necessary to initially screen all the proposed strategies for combinations which might be most beneficial across all areas.

Scoring can take into account different aspects or dimensions of a decision situation, the most obvious usually being benefit and cost. In the case of the IDP it is important that sustainability of solutions be considered as well.²⁰ The community development measurement scales for each main cluster of issues can be used to measure the impact of a proposed strategy in each area .

²⁰ The IDP has three overriding objectives (see Guide Pack 3): to provide for poverty reduction and sustainable municipal development whilst maintaining a sound environment.

A scoring system should be as simple as possible whilst still being transparent and consistent. If using an ordinal scale, it is important to define the meaning of different points on this scale to try and ensure that the scores are consistently applied.

The scoring systems shown in Tables 6 to 8 are proposed as possible ways of scoring different alternative strategies. These were drawn up by the participants of the 2001/2002 Stellenbosch Municipality IDP process. One could expect that different scales would emerge from different participant groups.

University of Cape Town

A. Impact scoring system

This scoring system (Table 6) refers to the community development measurement scales defined in Table 5 for each sub-cluster of issues, to evaluate the impact that the proposed strategy can reasonably be expected to have:

Impact:	Score:	Definition:
no impact on the issue	0	no discernible impact on the scale defined in Table 5
low impact	1-2	an increase of 5-7 % points on the scale
Moderate impact	4-6	an increase of 10-15 % points on the scale
high impact	9-10	an increase of at least 20 % points on the scale

Table 6: Scoring System for Impact on Community Needs

For example, consider the measurement scale for Housing & Land shown in Figure 13.

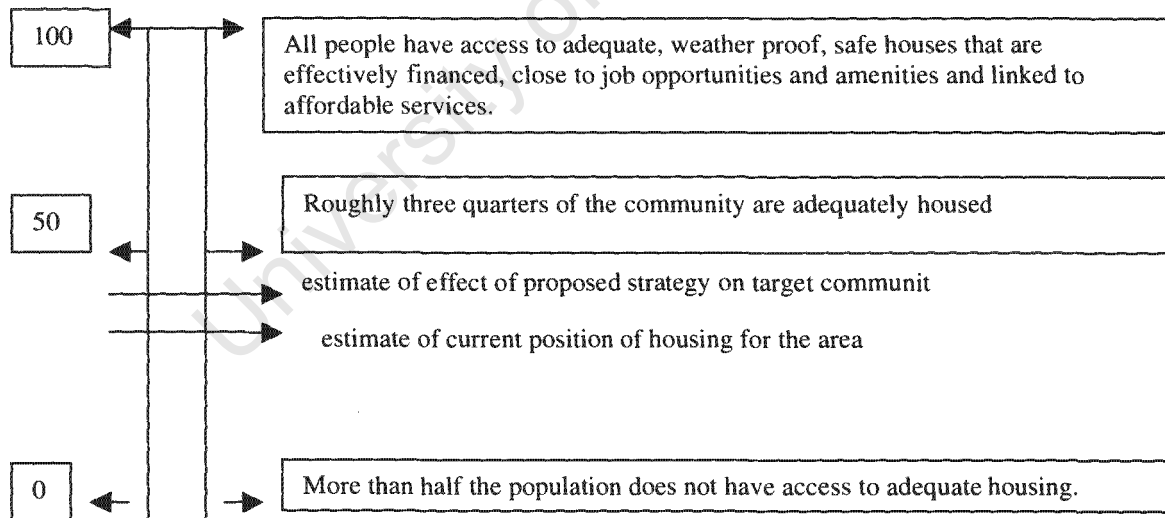


Figure 13: Measuring Impact on Housing

A project/strategy that can be expected to house 10% more people than are already housed, or to move the community up 10 percentage points on the defined community development measurement scale for the issue, could thus be scored as a 4 for impact (Figure 13).

B. Sustainability scoring system

This scale (Table 7) measures whether the impact of the proposed strategy is sustainable in terms of money and in terms of possible negative effects on people or their environment:

Question : Is this strategy/ project sustainable

Sustainable?:	Score:	Definition:
Not sustainable	0	Unaffordable, extremely negative to people and environment
No, but...	1-2	Can be sustained if substantial capital/ resources can be made available from future budgets OR if strongly negative effects on people and/or environment could be tolerated/ counteracted
Sustainable, if...	4-6	Can be sustained if fairly moderate amounts of capital/ resources are made available from future budgets OR if fairly moderately negative impacts on people/ environment can be tolerated/ counteracted
Yes, definitely sustainable	9-10	Proposal is financially, socially and environmentally sustainable

Table 7: Scoring Instrument to Measure Sustainability

C. Technical Urgency/ Necessity scoring system

This scoring dimension captures the impact that the municipal officials perceive that the proposed strategy will have on their ability to perform their function(s).

Urgency/ Necessity:	Score:	Clarification:
Not urgent/ necessary	0	
Nice to have but not explicitly required	1-5	
Required in order to reach objectives of job/service	6-8	
MUST be done NOW or service/ dept will collapse	9	
Legally prescribed (NO choice)	10	Quote relevant Act

Table 8: Scoring Instrument for Technical Urgency

Note that all three scoring instruments above allow for interpolation between the defined points.

An example of scoring alternative proposals:

As a simplified example of this weighting and scoring approach to budgeting decisions, consider the case where the community has represented their priority issues as in Figure 12. Suppose that, inter alia, the following alternative proposals have been put forward for consideration in the forthcoming budget:

Plan A: Build houses with associated basic services for 10% of the community

Plan B: Provide for an educational health programme and build two new clinics

Plan C: Build a community development centre providing facilities for trading and small enterprises as well as assistance with small business development.

Plan A: The proposed housing project would score a 4 for Impact on Community Needs. In terms of Sustainability, there are concerns that the proposal might be financially very demanding in future years (uncertainty about costs of future services being met, creating debt for the municipality) and the proposal scores a 5. For Technical Urgency the plan receives a score of 7 (required in order to reach the objectives of the Housing Department).

The overall score for Plan A is found by combining the scores for the three scores (Suppose that in this instance the participants have decided to weight all three dimensions of scoring equally, although this need not be so).

The overall score is thus $16/3 = 5.33$.

This quantity is then multiplied (weighted) by the priority weight²¹ of the Housing and Land cluster to give a weighted score of $5.33 \times (100/651) = 0.82$

Plan B: The Health package proposed is assessed by the community to have a moderate to high impact on the community and is scored at 8 for Impact. The sustainability score is judged to be a 6 (in the light of the fact that there will be future financial implications in terms of operating the facilities proposed). For technical urgency the officials deem that the proposal is long overdue and award it a score of 8.

The overall score for plan B is then $(22/3) = 7.33$

The weighted score for plan B is then $7.33 \times (70/651) = 0.79$

²¹ Note that the priority score is expressed here as a percentage of the sum of the weights (necessary for the weighted average manipulation)

Plan C: The community assign an Impact score of 7 to the proposed plan; a score of 8 for Sustainability and a score of 8 for Technical Urgency.

The overall score for plan C is then $(23/3) = 7.67$

The weighted score for plan C is $7.67 * (90/651) = 1.01$

The maximum score for any proposal would be $10 * 100/651 = 1.54$

Thus all proposals could be expressed relative this number and expressed on a scale of say 0 to 10:

Plan A: 5.32

Plan B: 5.13

Plan C: 6.56

This approach leads to an ordered list of proposed budgetary interventions. This information can now form the basis around which the actual budget is constructed.

The information can, in the simplest possible approach, be used to allocate the budget to the highest scoring proposals. However, using the weighted scores as input we can explore more interesting questions around the *combinations* of plans which would give the most effective budget (taking into account both cost and effectiveness). These possibilities are explored in Step 3c.

The participants involved in Step 3b are:

1. Municipal officials, who need to score the proposed interventions from a technical point of view (as viewed from the perspective of their department and their job descriptions)
2. Community representatives, who score the projects from the perspective of impact on needs.

(Note that both the above groups of participants need to be involved in scoring the projects in terms of their sustainability.)

The following two groups of roleplayers are recipients of this information, which is also advertised for public comment.

3. The politicians
4. Representatives from other spheres of government.

6.6.3 Step 3c: Explore the Set of Alternatives to Find the Most Efficient Budget (Collection of Alternative Projects or Strategies)

The IDP Guide Packs describe a process in which the community are involved in identifying and prioritising their issues, in co-operation with the officials and politicians. They are also then involved in developing strategies to address these issues and articulating a number of consequent projects of these strategies. However there is no recognition in the Guide Packs, or other documentation supporting the IDP process, of the complexity of subsequently choosing a combination of (prioritised) projects into an effective budget. This task is left over to the officials who make a recommendation to the Council who then have the ultimate responsibility for approving the budget. This comes about after many hours of 'horse trading' between officials, negotiating about projects and departmental budgets in an effort to squeeze the needs of each department to within overall budget. I propose that this process could be supported by technical tools (which I outline very briefly below) and made more transparent and participative, while still allowing Council the final say.

The aim of step 3c is to finally compose the budget by selecting a 'good' combination (portfolio) of projects or strategies. Tools such as integer programming could be used to select a set of possible budgets that maximise impact on the expressed community needs subject to given budgetary and other constraints, and which reflect different weights or priorities. The outputs of the community weightings and scorings would be used as direct input to an integer programming exercise

An integer programming approach to the problem would be formulated as follows:

Objective to be maximised: the *value* (or benefit) derived from the budget (in terms of criteria such as impact on the community, sustainability and ability to fulfil the functions and objectives of the municipality)

Constraints:

- (i) budget constraints and
- (ii) (optionally) a 'fair and reasonable' distribution of resources across communities and
- (iii) (optionally) given guidelines about the distribution of resources across sectors
- (iv) other legal obligations of the municipality

The solution to the above will specify the strategies/programmes to include in the budget so as to maximise the above objective, given a particular set of weights

As the councillors are the final decision makers in the IDP/ budgeting approval process, a number of different budget options could be presented to them, each corresponding to different weights (and/ or constraints).

The weights could be chosen to reflect (as a starting point)

- (i) the different community priorities, and
- (ii) a Council view of priority issues

so that it will be possible to explore how different communities are affected by different budget allocations.

This step is essentially a technical step and the participants would be

1. the facilitator (or person with expertise in the programming or evaluation tool) , working with
2. the municipal officials, to establish the constraints that must be applied in order to produce a realistic and effective budget.
3. the Council, as the final decision makers.

6.7 Conclusions

A method to link members of the community to the planning and budgeting process of the municipality has been proposed in this chapter. Although the primary focus of this approach is on community participation, important interfaces and linkages are made with other key participant groups such as municipal officials and, to a lesser extent, the elected political representatives. The tools used to quantify subjective and objective inputs and outputs to this process assist by

1. making the subjective information more transparent, and
2. combining information in a logical, rational and scientifically justifiable manner, and
3. providing a valid platform for making comparisons across the various dimensions of the decision making problem (i.e. the issues that make up the 'quality of life' of a community)

Specific tools have been proposed such as scoring systems and weighting techniques which can be varied to suit the needs or tastes of different communities. In other words the specific tools used are not as important as the process which is outlined in Figure 8.

Important to the process is that Step 1 emphasises the need to build decision making on a solid platform of information. When that information is lacking it is important to create an awareness that this information is in fact a *community* need. This is further underlined when (in Step 2b) the community begin to define indicators which can be linked to the scales which describe 'states of development' of their community (as in Table 5). Once there is an identified need to monitor a certain aspect of development in a community, it begs the question as to where the information is to come from, whether available information is accurate and reliable and whether resources exist to initiate data collection. The community can thus become involved in monitoring and evaluating their own outcomes.

The method proposed above needs ultimately to be integrated with processes which are centred within the municipal authority and which feed into the more technical requirements of the IDP and budgeting. However having consistent, defensible quantitative data as an output from the community participation aspect of the IDP is a starting point to this process.

The scoring mechanism proposed in Participative MCDA is not the conventional value function approach of scoring each project with respect to each criterion as, with a conservative estimate of some fifteen criteria per each of the nine development areas, and some several hundred projects to evaluate, this would be a very demanding task! The proposed method is to score each project on just three criteria, viz impact; sustainability and technical urgency in this case. This, in effect proposes a value tree where each sub-criterion has three associated sub-sub-criteria (impact, sustainability and technical urgency); and all projects score zero in these dimensions except for the criterion (KRA) in which they originate. This provides for a quick screening of a large number of projects, although unfortunately does not allow for the usual MCDA cross-dimensional effect of eg a Housing project scoring well in the Health dimension. This also highlights the need for the process to

6.3 The Method

The proposed decision making method consists of the following steps (as outlined in Figure 8):

Gather Information:

- **Step 1: Information gathering** : Collate (and share) input from the various roleplayers in the form of workshops, surveys, technical studies, etc.

Specify, Group and Prioritise Needs:

- **Step 2a: Draw up value trees for each community:** Each constituent community defines a hierarchy of criteria/ issues/ needs for their area or domain of interest.
- **Step 2b: Define community development measurement scales.** Draw up scales for each dimension of the value tree for each community. These scales may be linked to outcome measures (indicators) and specific means of collecting data to inform them.
- **Step 2c: Use weighting techniques to reach agreement on priorities** for the issues making up the value trees

Strategise, Evaluate and Plan:

- **Step 3a: Formulate objectives and strategies** . Specific alternative solutions to the identified needs or issues are generated. These may be in the form of broader strategies (ultimately groups of projects) or specific projects.
- **Step 3b: Evaluate the alternatives by scoring on a number of criteria.** The criteria used to score the identified alternatives should include impact (in terms of the community development measurement scales devised in Step 2), cost and sustainability of the solutions
- **Step 3c: Explore the set of alternatives to find the most efficient budget** (collection of alternative projects or strategies). Search for the combination of projects (or strategies) that will provide maximum impact for minimum cost and which is most sustainable. Note that this step is not specifically included in the participative process as laid out in the IDP documentation, however, because there are technical tools which could greatly assist this process, some suggestions are put forward in this thesis with the idea of exploring these further in future work.

The above steps are each further discussed and explained in the following sections.

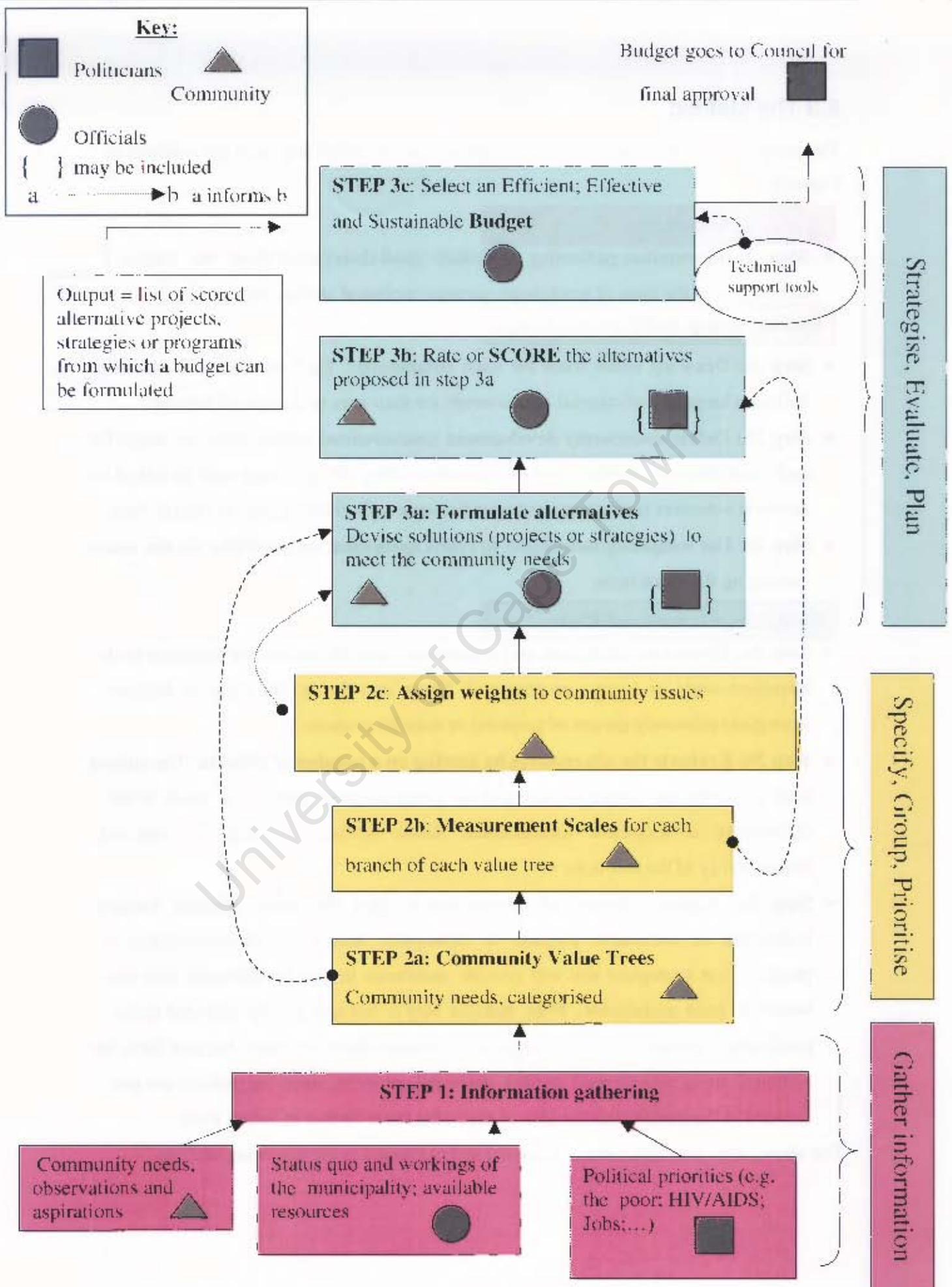


Figure 8: Steps Towards an Integrated, Participative Budget

be taken a step further (i.e. to include Step 3c of the method). This provides an opportunity to explore portfolios of projects that have a synergy across the different dimensions or criteria.

Introduction to Part IV

The first section of this part of the book is devoted to the introduction of the concept of a portfolio of projects. This is followed by a discussion of the various dimensions or criteria that can be used to evaluate projects. The second section of this part of the book is devoted to the discussion of the various methods that can be used to evaluate portfolios of projects. This is followed by a discussion of the various applications of portfolio evaluation. The third section of this part of the book is devoted to the discussion of the various methods that can be used to evaluate portfolios of projects. This is followed by a discussion of the various applications of portfolio evaluation. The fourth section of this part of the book is devoted to the discussion of the various methods that can be used to evaluate portfolios of projects. This is followed by a discussion of the various applications of portfolio evaluation.



Part IV: Participative MCDA in Stellenbosch

Introduction to Part IV

My involvement with the Stellenbosch IDP process arose out of my participation as a researcher in a SANPAD (South Africa Netherlands Programme for Alternatives in Development) funded project in the period 2000 to 2003. This project, entitled FARCODE (Fair Allocation of Resources for Community Development), was undertaken as a collaborative initiative between researchers from the University of Cape Town, Delft Technical University, University of Stellenbosch, Peninsula Technicon and Organisational Development Africa, a public sector consultancy group.

The aim of project FARCODE was to use multi-criteria decision tools to assist in the budget allocation process. During the course of 2000 we selected Stellenbosch, a municipality which falls within the Winelands District of the Western Cape province (Figure 14), as the case study for the research. At this stage, Stellenbosch still consisted of three separate municipalities, Pniel, Franschhoek and Stellenbosch town, which later amalgamated to form the new Stellenbosch Municipality (Figure 15). Over the period June to December 2000 we held community workshops with each of the three separate municipalities.

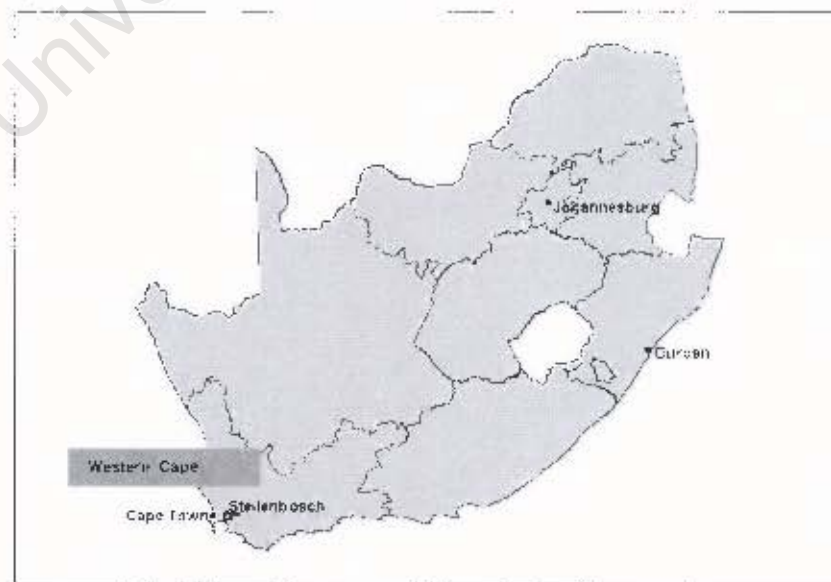


Figure 14: The Stellenbosch Municipality

After the municipal elections in December 2000 which marked the beginning of the new municipal demarcations, and in accordance with the provisions of the Municipal Systems Act No. 32 of 2000 (South Africa, 2000), Stellenbosch Municipality began to design a process of public participation to ascertain the needs of the municipality. At this time Mr Leon Fourie, the IDP manager of the Stellenbosch Municipality met with the project FARCODE team and both parties agreed that it would be mutually beneficial to work together. Project FARCODE would benefit from developing budget allocation tools and procedures within a real world application and Stellenbosch Municipality would benefit from the technical expertise of the researchers involved in the project. I was 'seconded' to the Stellenbosch IDP team, working partly in a voluntary capacity (as a researcher from FARCODE) and partly as a paid consultant. Mr Willie Ward from the Foundation for Contemporary Research (FCR) was also appointed as an IDP consultant. The Stellenbosch IDP team referred to in this thesis thus comprises: Mr Leon Fourie (Stellenbosch IDP manager), Mr Willie Ward (FCR) and myself.

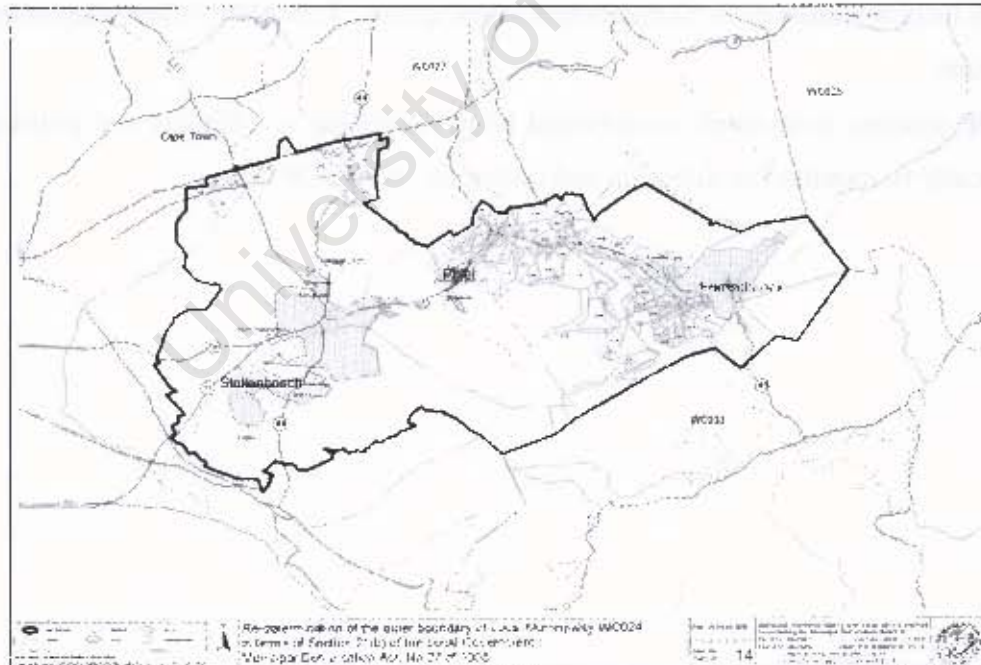


Figure 15: Demarcated Municipal Area of Stellenbosch as from December 2000

My specific role in the IDP process was to manage the process of (i) prioritising issues within the communities of Stellenbosch and (ii) evaluating projects as envisaged by the IDP process. Willic Ward's role was to assist the IDP manager to manage the process and in particular the Analysis phase of the IDP. He was responsible for facilitating many of the large meetings in the first two rounds of Community Workshops (see below) and I facilitated and co-ordinated the community workshops in the third round

Part of my role as facilitator of the prioritisation process was to support and guide the exchange of information between the officials of Stellenbosch Municipality (mainly the sector heads) and the representatives of communities of the municipality. These two groups met together periodically within the fairly formal structure of the IDP Representatives Forum (as recommended by the Department of Provincial and Local Government in the IDP Guide Packs) as well as in the more informal Task Groups for the different functional areas of the municipality. The IDP Representatives Forum was made up of two representatives from each area forum as well as 12 councillors, representatives of 23 area wide organisations and the officials (sector heads) from Stellenbosch Municipality. This body is hereafter referred to as the Forum.

The IDP steering committee, a municipal body consisting of officials and politicians, met periodically to monitor the direction and outcomes of the IDP process.

Chapter 7: The Developmental Challenges in Stellenbosch

7.1 The Newly Demarcated Stellenbosch Municipality

This thesis looks at applying MCDA methods within a participative action research framework to assist in formulating an IDP for Stellenbosch Municipality. For our purposes, Stellenbosch is an excellent example of a municipality that is faced with the conflicting needs of a multitude of different community stakeholder groups. Following the new demarcation of municipal boundaries which took effect after the local municipal elections of December 2000, the new Stellenbosch Municipality consolidated the former municipalities of Stellenbosch, Franschhoek and Pniel as well as surrounding rural areas which were formerly managed by the Winelands District Council into one local authority.

This newly formed municipal authority was poised to implement a new concept of local governance in a brand new territory. The jurisdictional boundaries defining the jobs of municipal officials grew exponentially overnight, and communities, previously separate and each with their own distinctive and definitive character, were suddenly all lumped together as 'residents of Stellenbosch'. Research studies and data surveys pertaining to Stellenbosch did not include the areas of Pniel and Franschhoek and there was a great disparity between socio-economic information available for the former Stellenbosch (town) and the newly added areas. The roles and responsibilities of all participants in the new participative paradigm were unclear. These conditions created uncertainty and anxiety for all. This situation made Stellenbosch an ideal case study for this research as all the elements of complex decision making as laid out in Chapter 1 were present.

7.2 Conflicting Demands on the Budget

The Stellenbosch Municipal area is an area of great contrasts. By way of a brief synopsis, it is, on the one hand, an area of great natural beauty as well as significant historical and cultural interest, making it a prime tourist destination. Coupled with this it is also an area renowned for its fruit and wine exports, boasting a number of prestigious wine farms. These conditions have resulted in this region showing excellent growth over the last 4-5 years (an

average of 7.5% real Gross Regional Product p.a., Stellenbosch IDP 2002). On the other hand, many inhabitants of the area live in poverty stricken conditions in dwellings that are unhealthy, unsafe and lacking in basic services. Figure 16, for example, shows a damp backyard shack that is rented out to a family of four in Ida's Valley, and Figure 16, a shack settlement in a cemetery on the outskirts of Raithby.



Figure 16: Damp backyard Shack in Kreefgat, Ida's Valley

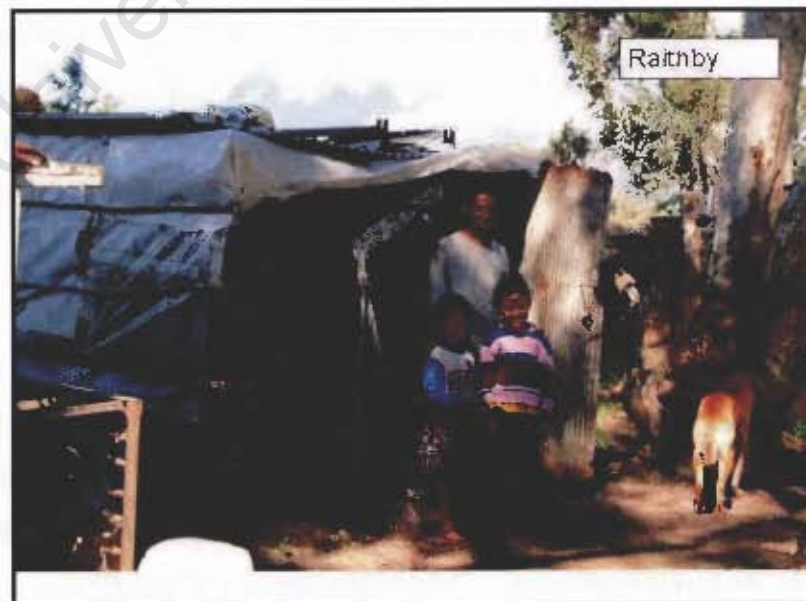


Figure 17: Shacks in the Cemetery

The only official statistics available to support this picture of deprivation, amongst plenty come from the 1996 Census which showed that:

- Overall 16% of the population of the region live in informal (shack) dwellings (although this figure is highly skewed, eg in Groendal more than 50% of the inhabitants live in informal dwellings)
- Overall 75% of the population have water piped into their homes, but this figure is as low as 26% for some areas (Klapmuts). Some residents pay for the use of water from outside taps (Figure 18) of nearby formal houses but are then bound to pay the amount set by the owner, and are excluded from any free allocations of water that the municipality might concede.



Figure 18: Finding Clean Water from a Nearby Tap

- Overall 85% of the population have flush toilets in their dwellings but this figure is as low as 29% in Klapmuts (and in Groendal 34% had *no* access to sanitation in the form of toilets, pit latrines or bucket systems). In a squatter area of Jamestown, one bucket toilet serviced some twenty people living in a tent (Figures 19 and 20)

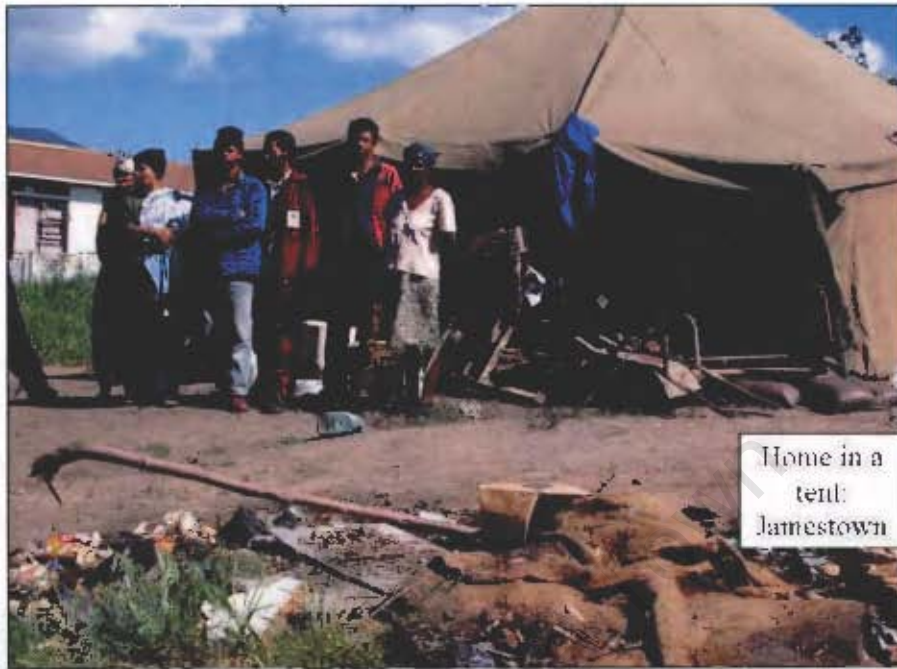


Figure 19: Home in a Tent, Jamestown



Figure 20: A Bucket Toilet

- Despite the fact that most urban areas have regular waste disposal services, this is not so for rural areas such as Raithby, Klapmuts and Groendal, nor for the urban area of Kayamandi where up to 20% of households rely on making use of dumps or other devices. Figure 21 for example shows the polluted state of the area where children play behind backyard shacks in 'Kreefgat', Ida's Valley. The general squalor and filth that people live in, in an informal settlement on the outskirts of Stellenbosch town, for example, is reflected in Figure 22. This kind of pollution contributes to health and environmental problems experienced in the area.



Figure 21: Children's Play Area



Figure 22: Living Amongst the Rubbish

- Strict unemployment (i.e. percentage of the economically active population that are unemployed, which figure excludes those not actively looking for work or not wishing to work, housewives, students, etc) was estimated at 7% of the workforce by the 1996 Census figures.

These development figures represented the status quo in 1996 and almost definitely underestimate the size of the current problem due to the apparent relative growth in size of the informal settlements in the past five years as well as the fact that these figures do not include the homeless. Despite living and working on some of the most valuable real estate in South Africa, and despite changes in legislation to improve the living conditions of farm workers (Land Reform Act No. 3 of 1996 (South Africa, 1996b)), many farm workers, in particular, still live under conditions of extreme poverty and insecurity.

The Stellenbosch region has until recent years been an area of substantial activity and employment in the forestry sector, however this is now in decline due to various restructurings and privatisations in this sector. Further adding to the complexity of managing the needs of the Stellenbosch Municipality, the region incorporates a University (University

of Stellenbosch), has many up-market tourist establishments and attractions, incorporates large areas of low-cost housing and has several areas of conservation-worthy significance. It is also home to a former mission station (Pniel) which is no longer able to support either job opportunities or housing for the growing population, leading in turn to an exacerbation of associated social and health problems. Many of the urban and peri-urban settlements have serious social problems associated with unemployment and a lack of facilities for the youth, resulting in crime and security related problems. During the course of carrying out a fieldwork survey in the poor areas of Stellenbosch (described in Chapter 9) we frequently met up with young people whose main concern was for jobs. Figure 23 shows a group of unemployed youths who asked us to advertise their plight.



Figure 23: "Take our photo and tell them we need jobs"

The nature of the problems and perceived priorities vary widely from community to community. Thus the IDP of Stellenbosch needs to consider and juggle responses to issues as diverse as: a lack of adequate fire fighting services in the informal settlements ; the need for safer roads and transport, as well as access to clinics and health services for communities living in remote areas ; the need to preserve the area as a prime tourist destination and thereby promote possible job opportunities ; the problem of youth with no facilities in poor

areas and no job prospects; the need to educate people about HIV/AIDS and provide health services to deal with the growing numbers of people living with AIDS ; the need to tackle the problem of housing provision ; issues of safety and security such as gang related crime and violence; and many more.

In a nutshell then; how do we gather all these issues in such a way that all constituencies are heard, their issues tabled and summarised into a coherent structure, and community members given a say as to what the priority issues are and what might be preferred strategies and solutions



Chapter 8: The Research Process

8.1 The Approved Process Plan for the IDP in Stellenbosch

The Stellenbosch IDP Process Plan ²² (Stellenbosch Municipality, 2001c) laid out a participatory process (Table 9) which closely followed that laid out in the IDP Guide Packs. The participatory structures (Figure 24) did not involve direct participation with individuals but rather with representative organisations. The plan broadly approved the following encounters:

- Meetings with communities to explain the IDP process and to identify the issues of the Stellenbosch community (Analysis Phase)
- Meetings of the Forum to prioritise issues (Analysis Phase)
- Meetings of the Task groups to strategise and develop projects (Strategies and Projects Phase)
- Council and municipal officials use priority information to compile a budget (allowing for the Integration Phase as an internal process for the municipality, whereafter the budget is advertised for Approval)

²² Drawn up by the IDP Steering Committee as a guiding document to the IDP process for the period 2002-2006 and adopted by the Stellenbosch Council in June 2001 (Stellenbosch Municipality, 2001c).

<p>Phase 1: Analysis</p> <p>To give communities and stakeholders the chance to analyse their problems and determine their priorities and to ensure decisions are based on</p> <ul style="list-style-type: none"> • priority needs and problems; • knowledge on available and accessible resources; and • proper information and a profound understanding of the dynamics influencing the development in a municipality.
<p>Phase 2: Strategies</p> <p>To ensure a broad inter-sectoral debate on the most appropriate ways and means of tackling priority issues, considering policy guidelines, principles, available resources, interlinkages, competing requirements and an agreed vision. It must help find more appropriate, innovative and cost-effective solutions under due consideration of various options. It is the phase of making choices.</p>
<p>Phase 3: Projects</p> <p>To ensure a smooth link between planning and delivery through a detailed and concrete project design process which provides proposals with tentative target figures, technical standards, locations, time horizons and costs estimates. This phase will give sector specialists their appropriate role in the IDP process, thereby contributing to a smooth planning – implementation link.</p>
<p>Phase 4: Integration</p> <p>To ensure that the results of project planning will be checked for their compliance with the vision, objectives, strategies and resources and that they will be harmonised. The harmonisation process will result in a consolidated spatial, financial and institutional framework as a sound basis for smooth implementation.</p>
<p>Phase 5: Approval</p> <p>To ensure that, before being adopted by Council, all relevant stakeholders and interested parties, including other spheres of government, have been given a chance to comment on the draft plan, thus giving the approved plan a sound basis of legitimacy, support and relevance. A strategic approach is followed, making best use of limited resources considering the given conditions and policy guidelines:</p> <ul style="list-style-type: none"> • prioritising on a few crucial issues rather than trying to deal in a comprehensive manner with all issues; • focusing analysis rather than wasting resources for collection of useless information; • addressing the root causes of problems, rather than only symptoms; • taking given resources and relevant context into account; and • identifying and analysing alternative strategic options (asking the “how-question”) rather than going for preconceived solutions.

Table 9: The Stellenbosch IDP Process as Defined in the Stellenbosch Process Plan

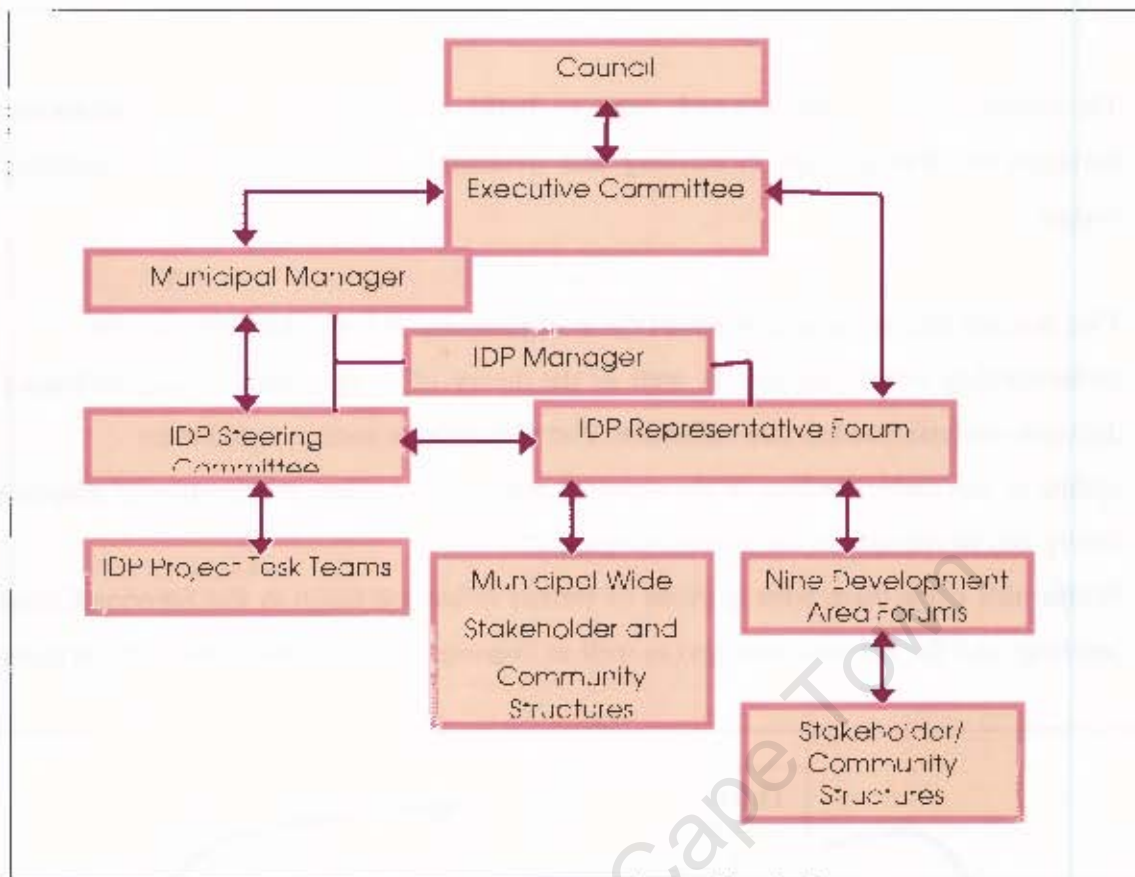


Figure 24: Stellenbosch Municipality IDP Structure ²³,

8.2 My Own Research Guidelines

Broadly speaking I approached this research from the perspective of PAR and the guiding principles of my involvement were:

- (i) To value and enable the participation of all
- (ii) To make participation as inclusive as possible
- (iii) To build bridges of communication and to promote skills development and empowerment of participants
- (iv) To highlight the importance, power and limitations of data or the lack of it
- (v) To constantly reflect on the process and to adjust it where necessary in the light of a review of actions and consequences

The overall aim of this research was to build a framework for the continuous and participative development, monitoring and evaluation of municipal plans, including the budget.

This process resulted in a continuous cycle of planning (informed by our current understanding of the situation as well as the theory of participation, local governance and decision analysis), action and reflection. The reflection in each case led to an update of our understanding of the situation and in some cases an adjustment/ adaptation of theory and to changes in the process (Figure 25).

Within this cycle there were periods of formal reflection (such as the Steering Committee meetings and the Forum meetings) as well as ongoing (daily, weekly) meetings or planned

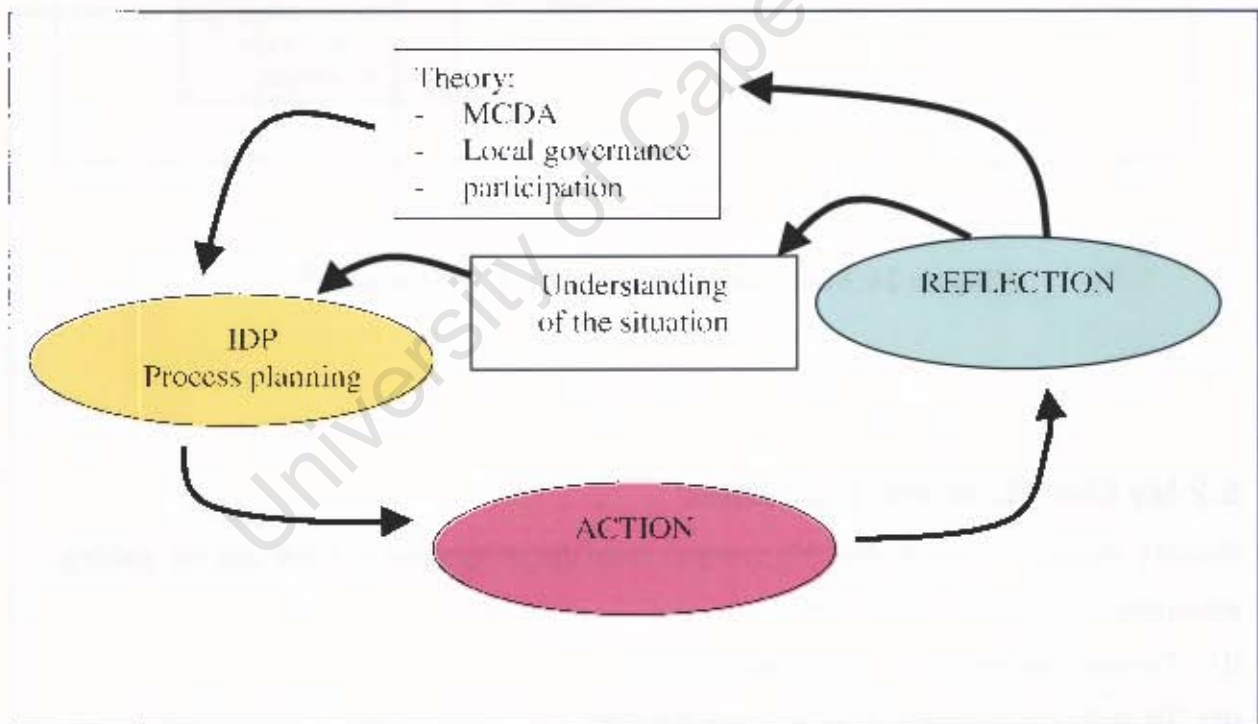


Figure 25: Continuous Cycle of Planning, Action and Reflection

²⁵ Available on the Stellenbosch Municipality Web site (www.stellenbosch.org)

periods of informal reflection between the IDP Team; community groupings; and municipal officials, both separately and together. The IDP team met at least once a week at a café away from the municipal offices and discussed the process and redirected it in the light of input from community representatives, politicians and officials.

The synthesis of PAR and MCDA presents some inherent difficulties and perhaps even some contradictions. From the material covered in Chapter 3, it is clear that PAR promotes the idea of a joint ownership by the participants and the researcher of the research process and outcomes. This implies that the participants would decide for themselves what methodologies and tools to use. One of the requirements of the IDP process is however, to develop ways of integrating the views of different communities; the needs of different sectors; and the solutions to different priority areas. It is thus beneficial to the aims of the IDP to agree on a common means of doing this. An appealing feature of MCDA is that it provides a common framework within which different participant groups can express their views. MCDA was suggested as such a framework for participants to use and adapted by them in their workshops. A specific type of MCDA was proposed for the reasons outlined in Chapter 5. However it became apparent that there are some aspects of decision making with MCDA that need augmenting to make it a truly participative and developmental tool, and these will be discussed in Chapter 8.

There may be other more qualitative modes of enquiry (eg cognitive mapping, focus groups, etc.) more suitable to actively engage communities and to capture the fullness of their needs (and in fact there is scope to use these as complementary approaches in Step 1 as described in Chapter 6). However, an important focus of the IDP is the budget which involves tackling the very difficult process of making choices between specific options. Linking people's needs to the budget means, ultimately, expressing desires, visions and priorities in terms of committed resources. This does *not* imply converting all information into 'cash-equivalents'. MCDA is a tool that can comfortably accommodate both qualitative and quantitative information and still focus the debate on the *choices* to be made.

There is also a possible tension between the PAR notion of the researcher as an involved and interested party and the concept of the independent facilitator in MCDA. Many texts (eg

Schein, 1999; Eden, 1990) refer to the need for the facilitator to *manage process* and to *analyse content*. It is accepted that the facilitator should not intrude into the content and so remain independent from the decision making process itself. The fact that the facilitator is committed to the process of change and to supporting the broader aims (i.e. of the IDP in this case) is not in my opinion incompatible with his or her neutrality (in terms of affiliation to any of the participant groupings). It does, however, mean that they should consequently pay extra attention to ensuring that marginalised parties are adequately represented, and their cases supported by adequate data. This is a vital part of managing process.

8.3 An Account of the Action Research Process in Stellenbosch

I began the research process by conducting a series of interviews with the different sector heads of the Stellenbosch administration. This assisted me to develop an understanding of the challenges, complexities and inter-relationships of the different municipal departments; as well as to begin to build a relationship with key players in the process.

The main participant groups (the communities; the councillors and the municipal officials) interfaced at a variety of different meetings and workshops outlined chronologically in Figure 26.

In terms of the Process Plan, organisations with a constituency in Stellenbosch, or a part of the Stellenbosch municipal area, were required to register their intent to take part in the IDP process. As registrations came in, it became apparent that the poor people of Stellenbosch were underrepresented (in terms of area-wide advocacy groups) and furthermore that very few representative stakeholder or community groupings within the poorer areas of Stellenbosch (Kaya Mandi, Cloetesville, Ida's Valley) had registered to participate in the process. The IDP team agreed to a proposal put forward by Mr Willie Ward and myself that manage a parallel process of fieldwork to capture input from informal settlements and poor housing areas in particular. At the same time the IDP team put in extra effort to work through the councillors and other community leaders to encourage key players to register for the process. In order to allow for individuals (as against registered organisations only) to participate in the process, extra meetings were also scheduled in each development area. The

Steering Committee approved this change of plan at a meeting on 14th September and also agreed that the fieldwork results would be tabled directly at the Forum.

The fieldwork continued over the period 19 September 2001 to 24 October 2001, while the first round of community workshops were happening.

At the first round of community meetings it became clear that there was not sufficient time to accomplish both (i) an overview of the status quo of the development of the municipality, as well as an explanation of the IDP Process Plan and (ii) identifying the communities' issues.

The identification of community issues was left over until the second round of workshops. The large-scale mass meetings of all registered organisations were platforms for much posturing between different community groupings, each claiming their legitimate ground. They were also tense and troubled meetings with much outpouring of feelings from the community groupings with respect to perceived unfulfilled mandates by the municipal authorities. At the first workshop of the second series of community workshops (Franschhoek 17 October, 2001), the Stellenbosch IDP team proposed to the registered community representatives that we augment the process by adding a further (third) round of community workshops. This proposed change in the Process Plan had been approved by the steering committee at a meeting on the 12th October 2001. All the communities at this and subsequent area forum meetings acknowledged the apparent difficulty of progressing and agreed to elect smaller committees to represent them at these workshops where I would work more intensively with a smaller group from each community to prioritise their issues.

At the third round of workshops I allowed each group to schedule as many workshops as was (logistically) possible and necessary to achieve a consensus package of prioritised needs and descriptive community measurement scales.

The first Forum meeting on 27 November, 2001, was again a very large meeting filled with tension and mistrust and more posturing as the different participant groups appeared to look for opportunities to gain (or regain) some form of control. There was a lot of ill feeling about the way in which the rules and regulations were drawn up for the meeting and considerable time was spent on points of protocol. Eventually a co-chairperson was elected from the

community representatives. The other co-chairperson was a councillor elected by the Stellenbosch Council (as specified in the Process Plan).

On reflection, the IDP Team felt that the municipal officials had appeared to be bystanders at the first Forum meeting, with no apparent involvement. This aroused the suspicions of the community that the officials were not taking the process seriously and that they might be paying lip service to public participation, whilst cynically proceeding with plans to draw up the budget with little cognisance of the community as participants in the process. Another reason for their non-involvement however, could have been that this was new territory for all involved and no-one was completely clear of their role or how to interface with their new partners in participation. On the strength of this, the IDP team organised a workshop (Friday 7th December 2001) which was facilitated by Price Waterhouse consultants. Broadly the aim of this workshop was to (i) generate a common vision on the role of the officials in the IDP process; (ii) agree on deadlines for specific IDP outcomes such as Disaster Management Plans, etc.; and (iii) promote better interfacing between the public and the officials. I will discuss this meeting further in the context of an evaluation of the Stellenbosch process in Chapter 8.

Unfortunately this was the last opportunity for action on the IDP process until the end of the school summer break at the end of January 2002. This long break put the process under severe time pressure but seems unavoidable as many South Africans take their annual holidays over this period, making it very difficult to schedule meetings or workshops.

At the second Forum meeting (22nd January, 2002), I presented the results of the field study and highlighted some observations and misgivings, as outlined in Chapter 7. There was, however, still much friction between the community groupings and the municipal officials, with the communities still querying issues which they felt highlighted the presence of a 'parallel process' where the real budget decisions were being made. The elected politicians were present but did not make their presence felt or show their support for any particular viewpoint. It was not clear that the information I presented could really be digested in such a highly contested space. However, I felt it was valuable that, at the very least, this information

was tabled and a precedent set for representing the poor at this level through a mechanism other than a formal organisation, (in the absence of such an organisation choosing to participate in the process).

I also presented a summary of the priority needs constructed by each of the Development Area committees. Importantly, too, this information, given as a resource file to each of the Forum members, was formally accepted by the Forum as the final product of the analysis phase of the IDP, representing the prioritised needs of the communities of Stellenbosch.

Within a few days (25th January, 2002) the IDP Team convened a day-long workshop with all the municipal sector heads to develop the concept of working in task groups with the community to strategise, formulate and evaluate projects. This was a demanding process for municipal officials, who, accustomed to grappling with the technical complexities of meeting the demands on their departments, now had to also contend with opening up this process to public participation. A difficult job to accomplish, as successful participation requires that the major debates are presented without too much technical detail and that technical complexity is not used as a reason to exclude debate. This requires substantial extra effort, and supreme patience in dealing with an often antagonistic public. The knee jerk reaction was for some officials to dismiss the process as ‘unnecessary’. “I don’t need to ask the public what their needs are because I have worked here for [many] years and I know better than they do what they need” (comment by sector head at workshop, 25th January 2002, Franschhoek Council Chambers).

Some sector heads, however, were far more amenable to the idea of a scoring system to put projects onto an equitable footing as particularly the ‘softer’ disciplines (such as environmental management or economic development) felt their needs were overwhelmed by the demands made for ‘hard’ engineering projects.

At the end of the workshop, despite some fairly strong, although largely silent resistance, we had agreed upon the rudiments of a scoring system for projects which the sector heads could take as a starting point to the task groups, and develop further with participants.

The task groups, originally envisaged as being appointed by the Steering Committee (15), were at the request of the communities, nominated by the Forum at a meeting days later (28th January 2002). After some disagreement as to how these groups should be constituted it was agreed that the groups would essentially be open, so that any member of the Forum could join any or all of the task groups. The groups were formed around the major themes of the needs analysis with some extra groupings to accommodate some particularly vociferous groups. The task groups were thus: Natural and Built Environment; Infrastructure; Housing; Health and Social Development; Economic Development; Safety and Security; and Agriculture. The relevant municipal sector head for that sector convened each task group.

Over the period 29th January 2003 to 21st of February 2003, the task groups met to strategise around the material presented as the Needs Analysis to the Forum on 22nd January. The outcomes of these meetings were a series of proposed projects or programmes for each task group. There seemed to be some degree of co-operation between the groups over areas of common interest. These task groups were also responsible, in conjunction with the IDP Manager, for collating community issues and needs that fell under the jurisdiction of other spheres of government (eg education, not a local government function, is dealt with at provincial level) and passing these on to the appropriate authorities. All information from the Needs Analysis was retained within a database maintained by the IDP manager and cross referenced to strategies, projects and the budget.

The IDP team held a further meeting with the sector heads on the 8th March 2002 to finalise the scoring systems for the evaluation of projects or programmes. Some heads had misgivings about how the scoring would work in practice and we agreed to try it out and be open to the need to rethink the process should it arise.

The task group meetings happened in parallel over the period 11th to 18th March 2002. This meant that in practice it was very difficult for anyone to be a member of all task groups but several enthusiastic community members managed to be active on more than one task group. The logistics of this process, again shaped by time constraints, meant however that there was a tendency for poor people to be excluded. It was problematic for them to get transport to the

meetings; and also to devote the required time (meetings were convened from 5pm to 10pm every night of this period). I will explore the implications of this point further in the discussion in Chapter 10.

Around this time tension between the community representatives on the Forum and the officials reached a peak, with the community feeling strongly that the officials were not operating in good faith. They complained that the Spatial Plan was being drawn up without consultation with the Forum. This plan forms a fundamental spatial blue print for development in the municipal area and thus needs to be informed by and inform the community priorities. The community representatives resigned en masse from the Forum. There was an effective impasse and the municipal manager called for outside arbitration. At an arbitration meeting between the officials and community representatives, the concerns of both sides were tabled and a working group set up to address them. The Rep Forum was patched together again and the process continued but the mistrust was not resolved and continued to be present at future Forum meetings.

The IDP Steering committee met on the 20th March 2003 to review the scoring of the projects. There was clearly a problem with the way in which the scores had been applied, with both officials and communities accusing each other of over-scoring 'their' projects. The co-chairperson of the Forum for the community, Mr Derrick Hendrickse put a proposal forward that the scoring be redone using more strictly defined scoring categories, especially for the higher scores. He also suggested that because of the severe limitations on time (the IDP document, including the prioritised projects, needed to be advertised by the end of March) that I work with each of the task group chairs to ensure that the re-scoring was fair. This was a serious deviation from the agreed format in which the communities are responsible for scoring their own projects. However, there was no time to reconvene the task groups and by this stage some serious concerns had been raised about the representivity of these groups, especially as time pressure meant that again the meetings would be scheduled at unfavourable times for poorer community representatives. Mr Hendrickse stated that, given the logistical constraints, the preferred option for the community would be for myself to review and monitor the re-scoring process. In this instance I represented a neutral person,

cognisant of the individual community issues and priorities and also proactive in promoting the aims of the IDP itself.

I held a series of meetings with the task group chairs over the period 22nd March 2002 to 25th March 2002 during which all the projects were rescored using a revised scoring system. These scores were then returned to each of the community groupings for review and possible correction and also advertised for public comment as part of the broader IDP document.

Once the project prioritisation phase was complete an internal process began within the municipal administration. This was the Integration Phase of the IDP process and involved deskwork to fully plan and cost projects and to align proposals across departments. The various other plans and programmes required by the IDP and other local government legislation, but which are not the focus of this thesis, were completed during this period.

The Rep Forum met again once on the 18th April 2002, to review the IDP document and draft budget.

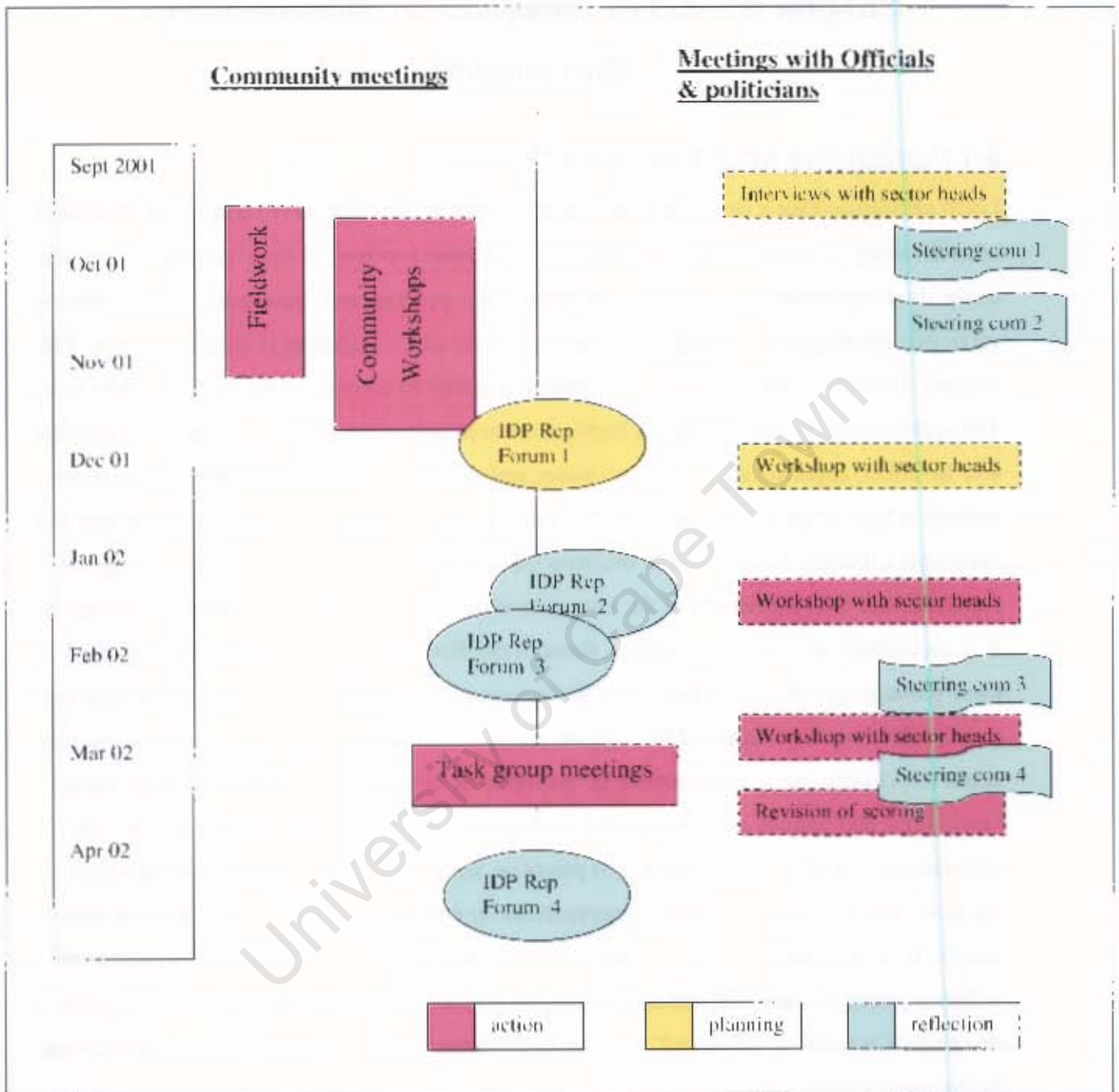


Figure 26: Time Line of Meetings and Workshops

Chapter 9 : Action Research in Stellenbosch Municipality

9.1 Participative MCDA and the IDP Process

Local authorities face a situation of having to apportion their budgets to address an extremely wide diversity of issues. They are required to deliver services to their community, whilst being developmental (in the sense of alleviating poverty and inequality and promoting economic development) as well as being democratic and transparent in their processes. The budgets available to municipalities are small in contrast to the size of the problems they face. The apportioning of funds is thus a highly contested and emotive exercise, as municipalities are, in effect, apportioning 'value' to issues and problems. The stakeholders or decision-makers in this process are a very variable collection of communities, elected politicians and municipal officials. Each of these decision makers have their own area of knowledge or expertise, and thus perception of the issues, as well as their own set of values (or 'agenda'). It is incumbent on local governments, through the IDP process, to integrate the views of these participants into a coherent and effective plan that prioritises the needs of the area and ensures that they are addressed through the budget. This task can be monumental in that one needs to (1) integrate a vast amount of information in a manner in which all reasonable viewpoints and inputs are documented and included in the process; (2) summarise this information so that it can be used ; (3) prioritise the issues, needs and problems which surface ; and (4) assess proposed interventions or projects in terms of efficacy. In other words, it is necessary to have a methodology that is able to accommodate a number of different points of view and that also allows for both an assessment of efficacy ("how good is this project at tackling the issue?") and an assessment of value (" how important is this issue in the current status quo?").

This thesis is proposing that MCDA is a methodology that can be adapted as a tool to assist municipalities in integrated development planning. A hallmark of MCDA approaches is that the designated decision maker(s) are required to identify and prioritise decision *criteria* whereby the selection will be made. MCDA is useful, in particular, in helping decision makers to think of their task in a *structured* way. (This has obvious associated benefits for decisions in the public sector, in which there is a need for decision making to be seen to be

consistent, coherent and transparent and for there to be a 'visible trail' through the decision making process that can be scrutinised and challenged.) Thus, in the IDP situation, the MCDA approach would assist the decision makers to firstly crystallise their nebulous set of problems, concerns, desires and needs into a set of defined criteria (or issues). These are usually captured in such a way as to represent a hierarchically structured view (or views) of the problem situation.

In situations involving complex, highly contested decision arenas, participants may well feel driven to focus on solutions before clarifying the problem situation. The proposed solutions will usually be influenced by perceptions of the problem and by values (i.e. perceptions of importance of aspects of the problem). Another advantage of the MCDA approach is it allows for a clear distinction between 'the problem' and 'the solution'. The decision makers are encouraged to first explore the problem and produce some sort of consensus view (or views) of the situation.

MCDA also has the ability to capture preference information in terms of numbers, which, despite the fact that caution needs to be used in how the results of this process are interpreted and communicated, has the distinct advantage of making the information practically useful and usable. Once decision makers have produced a structured view of the problem situation, they are assisted to prioritise the defined criteria by assigning numerical 'weights' to them. In terms of the IDP process, each weighted hierarchy captures the current status quo and aspirations of a community in the form of a very broad graphical summary for each decision maker/ community. Already this is a powerful tool to assimilate information across communities in a form that is comparable and consistent.

Further to this process of valuing different issues, specific proposed plans or projects can be considered by the decision makers (for each community). Again, this process is made concrete (as well as transparent and comparable) in that simple scoring mechanisms can be used to numerically evaluate the efficacy of proposed projects.

By combining (mathematically) the information on the values that each community attaches to their issues with the scores that they assign to different projects, it is possible to produce an overall rank ordering of proposed projects for a municipality.

But, rigorous quantitative tools are not sufficient to ensure a successful, legitimate IDP process. A key feature of the IDP is that it is, by nature, participative and inclusive. As such MCDA needs to be adapted to be suitable for a participative environment. This is achieved through applying it within a PAR framework

The government's response to the complex resource allocation problem outlined above has been to structure a stepwise process called integrated development planning, to be managed by local authorities. This process is a tool of local government to ensure that resources are effectively focussed on the areas of greatest need, as determined by a partnership of councillors, officials and local communities working together. The IDP process is designed to integrate planning, budgeting, monitoring and evaluation in a way that is coherent, efficient, sustainable and accountable. Used effectively, the IDP allows communities to be active partners in the process of local government (as stated in the preamble of the Local Government Municipal Systems Act No. 32 of 2000 (South Africa, 2000)) with the ultimate aim of reducing poverty and uplifting communities in a sustainable way.

The IDP Guide Pack (South Africa, 2001) published by the Department of Provincial and Local Government defines the following phases of the IDP process:

- The Analysis phase: essentially a 'needs analysis' phase, wherein the current realities of the municipality are determined and the priority issues identified through a process of stakeholder dialogue
- The Strategy Phase: the articulation of a vision and specific objectives for the municipality and, in the light of these, the selection of strategies to address priority issues
- The Project Phase: the translation of strategies into projects
- The Integration Phase: wherein proposed projects are aligned with municipal resources and legal requirements and it is ensured that projects for the municipality as a whole are harmonised and integrated.
- The Approval Phase: wherein the public have a final opportunity to scrutinise the proposed budget which is then sent to council. Council must determine whether the proposed budget does address the priority issues of the community.

Guide 0 of the IDP Guide Pack, which gives an overview of Integrated Development Planning, describes the IDP as a process designed ultimately to bring about sustainable poverty reduction. An integral element of this process is monitoring and evaluation. How do we define poverty or development in our community and how do we measure progress towards identified developmental goals? This chapter describes the use of MCDA tools to effectively identify and monitor aspects of community development within a participative framework, and to help allocate resources for poverty reduction.

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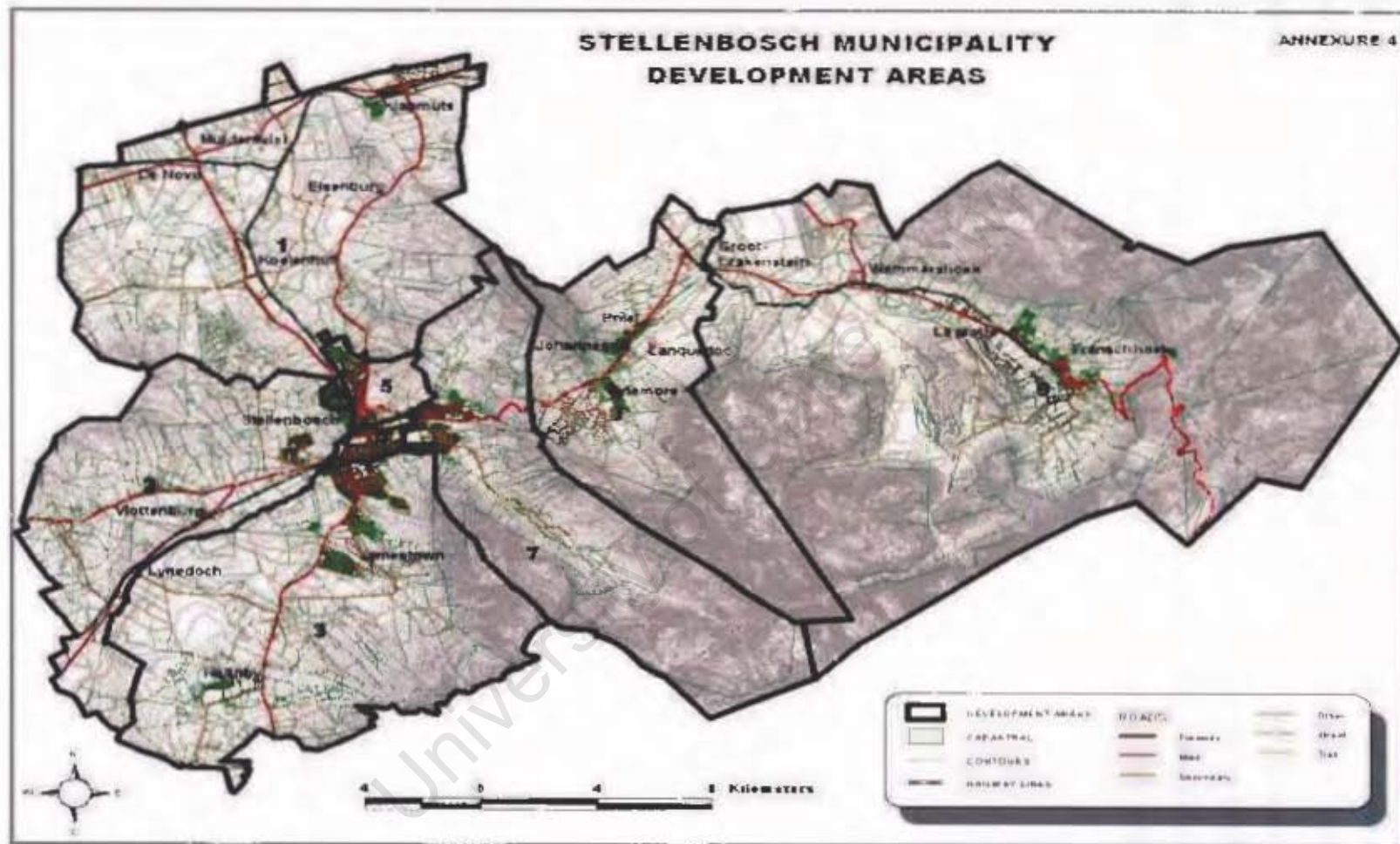


Figure 27: Development Areas of the Stellenbosch Municipality

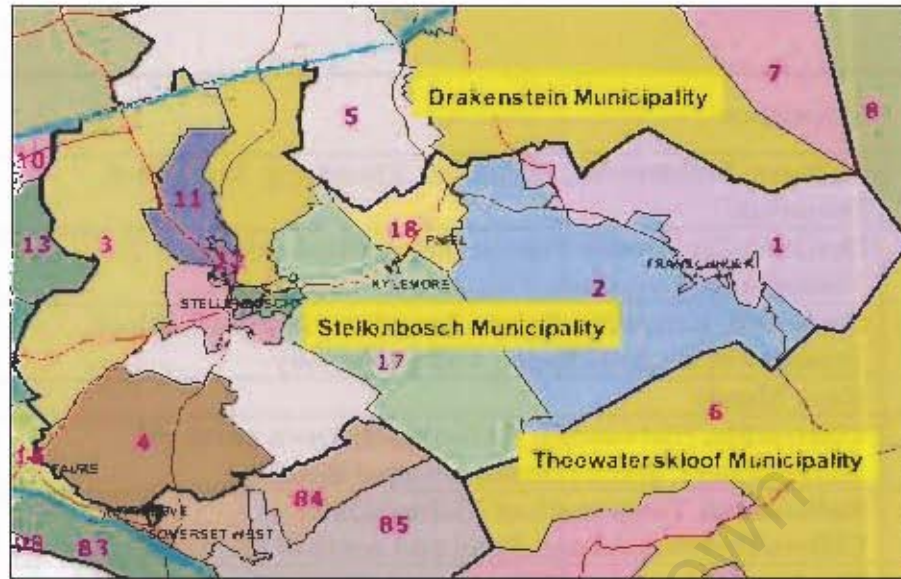


Figure 28: Ward boundaries for Stellenbosch Municipality

9.2 The Public Participation Process in Stellenbosch

Unlike other provinces, the Democratic Alliance-lead Western Cape²⁴ chose not to use the ward system as the basis for defining public participation areas. Rather the municipality defined nine different geographical areas within the Stellenbosch Municipality and referred to them as ‘development areas’. This decision created some difficulty and confusion as to how councillors (particularly ward councillors) should be involved in the process, as the new boundaries cut across ward boundaries in many cases (see Figures 27 and 28). The criteria for determining the boundaries are not completely clear, but referred to in the Process Plan are: the need for “co-operation between areas of different character” on the one hand and “common interests” on the other. There were people who contested the boundaries for the development areas on the grounds that they divided areas that had already worked together to form community structures along ward lines. (Cited at a meeting with area 1, Wed 14th November 2001 and area 2, Tues 13th November 2001, third round of IDP workshops). Table 10 describes the nine development areas.

²⁴ At the time of this research, the Western Cape was one of two provinces of South Africa not under ANC rule.

Area	Description	Population	
		Number	%
1	De Novo, Muldersvlei, Klapmuts, Elsenburg, Koelenhof, Devonvale	11 000	10.6
2	Devon Valley, Onder-Papegaaiberg, Plankenbrug, Vlottenburg, Lynedoch, Polkadraai	6 400	6.2
3	Die Boord, Krigeville, Dalsig, Brandwacht, Paradyskloof, Jamestown, Blaauwklippen Valley, Raithby	14 700	14.2
4	Kaya Mandi	10 300	9.9
5	Cloeteville, Nietvoorbij, Stellenbosch Town north of Molteno/Jan Cilliers/Hammandshand Road	16 600	16.0
6	Stellenbosch Town south of Molteno/Jan Cilliers/Hammandshand Road and north of the Eerste River	11 000	10.6
7	The Idas Valley, Idas Valley suburb, Simonswyk, Uniepark, Rosendal, Mostertsdrift, Karindal, Jonkershoek Valley	12 300	11.8
8	The Dwars River Valley (Kylemore, Johannesdal, Pniel, Lanquedoc, Great Drakenstein)	8 700	8.4
9	The Franschhoek Valley (Wemmershoek, La Motte, Franschhoek)	12 800	12.3
TOTAL		103 800	100.0

Table 10: Development Areas of Stellenbosch Municipality

As outlined in Chapter 8, the Process Plan allowed for structured public participation through the institutional structures outlined in Figure 25. Organisations with a constituent base within a development area were entitled to register as Area Forum members. This process was later modified to allow for:

- (i) Field surveys in deprived areas to record the issues of importance on a standardised template (managed by myself).
- (ii) Public meetings in each development area, advertised by means of a pamphlet handed out to schools and clinics and to individuals during the field survey. Individuals were given the opportunity at these meetings to table their issues on the same template as that used in the field survey.

9.3 Public Participation and Needs Assessment in Stellenbosch: Are Forum Meetings

The IDP office of Stellenbosch invited organisations that had a constituent base in the municipality as a whole or in any of the development areas, to register as participants in the IDP process. This invitation was advertised through local newspapers (Afrikaans), libraries and the municipal website. Individuals were only allowed to register in this process if they had claim to being a 'resource person'²⁵.

The Stellenbosch IDP office sent written invitations to all registered parties to attend an Area Forum meeting in their area. Area wide organisations were entitled to send a representative to each area forum meeting. (This also caused some concern as the notion of an 'area-wide organisation' was fairly vague and open to misuse and consequently some organisations were able to claim more 'seats' than others). Many organisations felt that the process was dominated by Stellenbosch town and that many 'area wide organisations' actually only had constituencies in Stellenbosch town (eg NG Studentekerk, Studenteraad US, etc)

(a) First round of meetings with each Area Forum

At the first Area Forum meetings the officials (sector heads) from Stellenbosch Municipality presented the 'current reality' of the level of development in Stellenbosch. Each department indicated to the communities, as briefly as possible, their areas of jurisdiction as well as the perceived complexities, challenges and pressing needs. This information was presented in the form of a travelling road show, by the sector heads and IDP manager, to each of the nine development areas, tailored to reflect the context and pertinent information for each area. Participants were informed, for example, whether the authority responsible for performing the service had changed since the re-demarcation of municipal boundaries and how this could affect their services. For example:

"The refuse collection in the farm areas was previously done by the Boland District Municipality and was taken over by Stellenbosch Municipality as from 1 July 2001. Not all

²⁵Resource persons were defined in the Stellenbosch IDP Process Plan (2001) as "persons with a specialised knowledge in a certain field that was obtained through formal study and/or extensive experience".

farms, smallholdings and areas such as Vlottenburg, Lynedoch and Koelenhof are included in the refuse removal service. The current service delivery in the farm areas is not up to standard and a proper investigation will be done as to how to improve the service. The same investigation should be done to investigate a uniform tariff structure.” (Stellenbosch Municipality, 2001a)

The sector heads also indicated the key areas that need to be addressed. The Head of Electrical Services, for example, indicated that in Franschhoek town :

“An upgrading of the Eskom intake point needs to take place. The existing 11 kV intake point can no longer supply the demand for electricity. The new intake point will be at 66 kV combined with a 66/11 kV substation and needs to be commissioned by the end of 2003. Estimated cost of the project R10 500 000”. (Stellenbosch Municipality, 2001a)

The IDP manager explained to the forums the aims and objectives of the IDP process as prescribed by national government and also described the way the Stellenbosch Council had chosen to interpret and implement these directives. He informed them of the plans for future meetings and of the structures for participative decision making, as envisaged in the Process Plan. Unfortunately, the sector heads had vast amounts of information to present to the public and no opportunity was left for public participation or debate at these meetings which, in some instances, lasted as long as four and a half hours (Franschhoek meeting, Tuesday 25th September 2001). This caused some tension amongst the area forums and a feeling persisted that the Municipality was attempting to prescribe and ‘talk at’ rather than listen to the views of the public. This theme was to reoccur frequently in the next few months.

In accordance with the Process Plan approved by the Stellenbosch Council, a second round of meetings followed after the first round of meetings with area forums.

(b) Second round of meetings with Area Forums

A second meeting was then held in each development area, at which the area forum members were given the opportunity to table issues pertinent to the development and wellbeing of their area. These meetings were facilitated by myself and/or the IDP manager and Willie Ward from the Foundation for Contemporary Research. The structure was very informal in these meetings and opportunity was given over to the floor for airing the community issues with very little input from the municipality.

Participants were requested to list their issues in the following groups, referred to as **clusters** from here on:

- Economic Development
- Social Development
- Housing & Land
- Health
- Natural & Built Environment
- Infrastructure

I proposed these categories after consulting the Interim IDP of Stellenbosch of April 2001 (Stellenbosch Municipality 2001b); and they were approved by the Steering Committee on 14 September 2001. The participants of each meeting were first asked to consider whether these categories were adequate to capture their inputs or to consider whether there was another structure that would more adequately capture them. The reason for proposing an initial structure as a starting point to the process was (i) because time was limited and (ii) to promote uniformity between the areas. A common structure at least in terms of major criteria or groupings allows for more direct comparisons, for example, on budget allocations across development areas.

A variety of comments, issues, projects, policy suggestions, strategies and observations were collected under the above categories at each of the Area Forum meetings. No attempt was made to debate the issues tabled or to avoid repetitions. Participants were asked to list issues of importance in their area, regardless of whether they overlapped with existing municipal functionality. Participants spoke a mixture of English and Afrikaans and an interpreter was present to assist with translations from Xhosa where necessary.

It is important to note that this process (of gathering the needs of the community) was deliberately designed not to mirror the existing functional structure of the municipality. This was in response to the directives from the DPLG to relate planning to people's problems and needs, rather than view the latter from the perspective of municipal departments (South Africa, 2001, IDP Guide Pack 3). Additionally, the municipality was at that moment (September – November 2001) undergoing a process of institutional restructuring, making it

even less desirable to build the needs analysis around the existing departmental structure of the municipality.

As some of the area forums consisted of as many as 80 registered participants, a smaller committee was elected for each forum, to co-ordinate and facilitate communication between the area forums, the municipality and the Forum. It was also important to have a smaller group able to work more intensely on the decision criteria and values, as the larger group was very unwieldy and tended to be very polarised. The area forum committees were selected by consensus on the broad premise that (i) there should be reasonable geographical coverage of the settlements in each development area ; (ii) there should be fair representation of women ; (iii) major stakeholders should be included ; and (iv) developing communities should be fairly represented. The size of the committees chosen for each development area ranged from two (area 7) to seventeen (area 1) including a chairperson. Despite the fact that the selection criteria were left very vague, all areas managed to select committees without resorting to voting. (This latter point was significant, given the concerns that participants had with regard to the composition and constitution of the area forums.)

After two rounds of meetings with the area forums, a broad collection of community concerns and issues had been tabled for each development area, but no prioritising had yet taken place. This was mainly due to time being taken up with negotiating the political issues of representation. It was clear that unless these issues were satisfactorily dealt with, the entire process would be derailed. Thus the original planned process of two rounds of community consultation meetings needed to be redesigned to allow time and space for further meetings around prioritisation. This was to be a recurring feature of the process of consultation, i.e. that the process needed to adapt and respond to the issues which surfaced in the process. In general, I feel that it is important, as far as possible, for the process to be flexible to the needs of the constituents. The first two rounds of area forum meetings described above, as well as the fieldwork, form Step 1 of the process as outlined in Figure 8.

It was agreed at the end of the second round of area forum meetings that the process of prioritising the issues would be delegated to the development area committees, working closely with their communities to clarify issues and provide feedback to all.

(c) A third (unscheduled) round of meetings with Area Forums

The third series of meetings held with each of the area forums included the elected committee members only, working with myself. The aim of these meetings was to prioritise the issues tabled by the area forums at the previous round of meetings for each area (step 2 of the process as described in Figure 8). Prior to these meetings, I spent some time gathering the issues listed in each cluster into similar groups that I called sub-clusters. This is a step which is usually done with the decision maker(s), as it also gives them a chance to explore the range of issues and to develop their own sense of what the groupings are or might be. However, we were extremely pressurised for time and needed to have the structuring and prioritising of the issues completed within a four week period for all nine development areas. Although one could argue that this outside influence could have biased the results, it would have been impossible to complete the task had I not done some preparatory work for each meeting.

As part of this preparation, I also made a start at defining the end points of a descriptive scale (community development measurement scale) to measure progress in each of the sub-clusters (see Table 12 for example). The reason for developing these scales was to create a means for communities to both visualise and benchmark their own progress in development. These scales could be used to compare potential projects or strategies to address the defined problems. Based on the issues which were raised at the previous round of meetings, I put forward a possible starting point (seed definition) of a best outcome (goal) and worst outcome for each separate dimension represented by the sub-clusters.

By way of example of the kind of information that was then presented back to the committees in this third round of meetings, Table 11 shows how the information tabled by the communities of Development Area 1 (during the second round of IDP meetings) was grouped into a number of sub-clusters for the main heading: 'Infrastructure'. Table 12 shows the corresponding (final) agreed best and worst outcomes for the area.

Within the meetings the committees examined the structure that I suggested for their issues and, with the aid of some debate, rearranged the tabled issues as they saw fit. This involved in different cases both adding and removing sub-clusters, renaming sub-clusters, moving issues from one sub-cluster to another, clarifying what was meant by very vaguely described

issues and so on. The discussion on this structuring of the issues was important in clarifying exactly why, for example, 'Roads' was regarded as a problematic issue. Some people were concerned about the roads from a pedestrian (safety) point of view, while others were concerned about congestion on roads or accessibility to remote areas. The result was that there was no longer a standardised template of community issues across all development areas, but there were the beginnings of separate community-owned products and a sense of buy-in to the process of participation.

The committees also rewrote the descriptions of 'best outcome' and 'worst outcome' until they (and their wider area forums) were satisfied that the descriptions were adequate for their areas. In some groups this was done by people with knowledge of a particular sector being asked to work on that dimension, rewrite the scenarios and bring it back to the group for comment and revision. Other groups accepted the proposed descriptions with minor tweaking. These newly defined descriptive scales may be used as the basis for future community evaluations of proposed interventions/ strategies in their areas.

Once the above task was complete, the participants were asked to allocate relative weights to each of the sub-issues within each cluster. I asked them to use what is essentially a 'swing weighting' approach (as detailed in Chapter 4). Working with one cluster at a time, I asked the groups to weight the sub-clusters by focusing on the descriptive scales which they had developed and looking at the gaps between worst and best. They then selected that sub-cluster which they would most like to move from worst to best scenario as being the highest priority and gave it a weight of '100'. In other words, communities would place a high weight (close to 100) on a particular sub-cluster (say, for example, Clinic Services) where there is a large gap between where they are and where they want to be, and where the consequences of a shift between best and worst scenarios are considered profound. The weights of the other sub-clusters were then assigned relative to this maximum weight for a given cluster. Table 12 shows the weights assigned by Area Forum 1 to the sub-clusters found in the Infrastructure cluster. The shaded areas in the rectangles represent graphically the relative weights apportioned to each sub-cluster.

Once the committees had established the relative weights assigned to the sub-clusters within each cluster, I presented them with a list of those sub-clusters that they had assigned a weight of 100, i.e. the highest priorities across all clusters. The groups were asked to do the same weighting process as above with these sub-clusters, i.e. to select the sub-cluster that they thought was the most important to swing from worst to best and to weight it at a value of 100. The other sub-clusters were then weighted relative to this maximum, as before.

The tasks outlined above can be very time consuming, depending on the degree to which the groups choose to, or are able to, grapple with the issues. Given that the committees, by design, represented a large cross-section of interests in their communities, there was potential for much conflict and difference of opinion. There were differences of opinion on how to structure the problem, how to word benchmark scenarios (best and worst) and on what values (weights) should be assigned. However the within-group conflict that was very apparent at the first development area forum meetings, lessened considerably when work began on prioritising their issues. Most participants showed a sense of understanding the need to 'pull together' in the face of stiff competition for resources from other areas

Meetings typically lasted for three hours (with refreshments, but usually without breaks or with very short breaks only). Most areas managed to accomplish the tasks in two meetings, with two areas requiring only one meeting (areas 1 and 4) and two areas (areas 6 and 7) stretching the task to three meetings. It is difficult to say what determined how long the process took, but it seemed to be related mainly to group dynamics. Broadly speaking, those groups with either a high degree of cohesion or a very dominant member completed the process quickly.

By way of example of the results of this public participation process, Figure 29 shows how all the issues in Area 1 were finally clustered and Table 13 gives a priority weighting for each sub-cluster. These sub-clusters were later defined as community determined Key Result Areas (KRAs).

Development Area 1 lies in the northwestern corner of the Stellenbosch Municipality. It comprises the settlements of De Novo, Muldersvlei, Klapmuts, Elsenburg, Koelenhof and Devonvale. It covers some very prosperous agricultural land (Devonvale), as well as some

very poor, informal settlements around Klapmuts and De Novo. Thus concerns range from job creation and provision of basic services (water, sanitation and electricity) to preserving the area as a scenic tourist attraction. At the start of working with this area, it was evident that there was tension between some of the participants and the municipality. This was because some of the (mainly farm owner) community from Devonvale had already invested time and energy on creating a public participation forum with Devon Valley, now assigned to Development Area 2. They were eventually convinced to accept the status quo of the development areas as defined by the municipality and to work within the new process to define and prioritise the needs of their area.

Table 11 shows that the issues that were listed in Area 1, under Infrastructure, were grouped as follows:

- (1) Basic Services: many dwellings without sanitation, water or electricity
- (2) Pedestrians: many informal and low cost settlements are close to large, busy highways (Development Area 1 borders on the N1 to the North). School children are particularly vulnerable, as they make daily use of roads that have no provision for pedestrians (such as pavements, crossings or subways).
- (3) Public Transport: there is a general lack of public transport facilities in the area, making the problems of pedestrians even more keenly felt.
- (4) Traffic Management: there is a need to manage the traffic in the area better, to make the roads safer to travel on. Specific examples were mentioned of where measures are needed to route traffic, slow traffic, police traffic and generally calm traffic.
- (5) Roads: The roads need to be better maintained to improve their safety. Also, new roads are needed to provide better access for remote areas (especially for farm workers).

Through discussion, the participants agreed on descriptions of the worst and best case scenarios in each of the above sub-clusters. These are shown in Table 12. These were formulated by the group considering the tabled issues and trying to define how the area would be if these problems were all sorted out (best case) and alternatively what would the consequence be of the problems being left unattended and worsening (worst case).

Figure 29 is a value tree which shows a hierarchy of issues for Development Area 1. The figures attached to the highlighted boxes show a comparison between the 'highest priority'

issues in each cluster. Thus it can be seen that all three Housing and Land sub-clusters were regarded as the most important of these 'most important' issues across all clusters. Training and Education is the most important aspect of Economic Development for this area, but it is regarded as relatively less important than the other 'most important' sub-clusters. The weights attached to all the sub-clusters are gathered and ranked in Table 13. From this table we can see that the key focus areas for this development area are : Housing and Land issues; the provision of basic services to those who do not have them; improving the safety of pedestrians; and addressing crime and issues of safety and security in the area.

From the results of the prioritisation meetings with the area forums, it became clear that certain issues received a surprising lack of attention from area forums and that decision makers at this level need support in the form of knowledge. For example, those areas which had (recent) experience of disasters such as fires (e.g. Franschhoek informal settlements in area 9) rated disaster management fairly highly. However, other areas (eg area 2) rated it as a low priority or did not even include it as an issue at all (e.g. area 1). It is well known that decision makers are subject to biases which influence their decisions. One such bias is that of being strongly influenced by recent events (the availability heuristic, Tversky and Kahneman, 1973) and this may well have had an effect in this case. I would argue that there needs to be stronger data support for decision making at this level and that more baseline information is needed than that provided at the first round of area forum meetings. Also, important is that this information should be area specific. People should be given the opportunity to 'value' one issue more highly than another, but need to be supported with as much relevant information as possible when they do so. Of course, the issue of what information and in what format then becomes important. In fact it appears as if what is needed is an independent (of the communities and the municipality) process manager with a clear understanding of the purpose and mission of integrated developmental planning. In other words an interested, informed and committed person whose role it is to manage the process in such a way that it remains truly participative within a supportive environment of access to knowledge and information.

Traffic Management	Public Transport	Pedestrians	Basic Services	Roads
<p>Including issues of managing and calming traffic and making the roads safer to travel on</p> <ul style="list-style-type: none"> a) No traffic signs – traffic officers to be more visible. b) Koelenhof – traffic control – proper control in area – skills and training of local people c) Traffic calming measures needed – from N1 to Stellenbosch – R304 d) Safe exits needed to eg farms such as Delvera. e) De Novo – traffic control is a major source of worry and hardly exists. f) Traffic circle with subway for children pedestrians needed- Koelenhof g) Roads – in rural areas preference should be given to traffic circles instead of robot controlled intersections – h) Elsenburg – bad (unsafe) roads in the rural areas i) Koelenhof – need proper management of roads eg Elsenburg road, also need speed bumps. 	<p>Including issues about taxis, busses and trains</p> <ul style="list-style-type: none"> a) Transport – bus service to and from Stellenbosch b) Koelenhof – public transport – owner taxis; also need taxi ranks c) Transport – train service should be improved e.g. shorter trains, perhaps 2 carriages, and should run every 15 minutes d) Elsenburg – bad public transport 	<p>Making the roads safe and usable for pedestrians</p> <ul style="list-style-type: none"> a) Elsenburg road – pavements needed (also for Klapmuts) b) Pavements on road to school – on Kromme Rhee road until R44. Also upgrade subway and streetlights at Koelenhof station. c) Need pavements on Muldersvlei because it is unsafe for pedestrians. d) Protect children at road crossings: need rumble strips or robot or more visible policing . e) Bus shelters needed for pedestrians (especially people on farms). f) Koelenhof – crossing at Bottelary Road – make it safe for children through deploying trained traffic officials – use local labour for this. g) Improve safety for pedestrians crossing the N1 	<p>The need for water, sanitation and electricity</p> <ul style="list-style-type: none"> a) We need all the minimum basic services at De Novo. b) Water, electricity, toilets, fencing and refuse removal needed at Koelenhof 	<p>The need for roads and the maintenance of roads</p> <ul style="list-style-type: none"> a) Roads everywhere are in a bad condition b) De Novo – all dirt roads are in a terrible condition c) De Novo – the R101 is full of deep potholes, forcing cars to drive on the wrong side of the road. d) De Novo – storm water drainage non-existent for dirt roads. e) Klapmuts – improve roads between houses. f) Safety on R101 is of concern. g) More regular grading of Klapmuts roads needed in winter (Protea Rd) h) Who is responsible for the de Novo and Devon Vale Roads?

Table 11: Sub-criteria of 'Infrastructure' in the Value Tree for Area 1

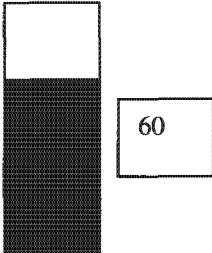
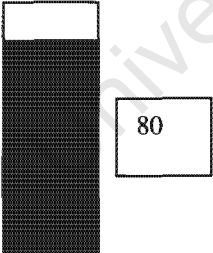
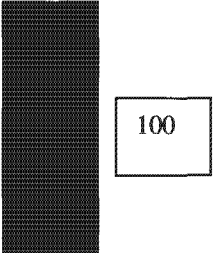
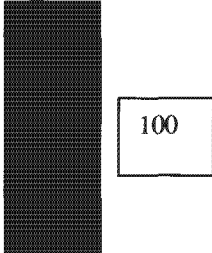
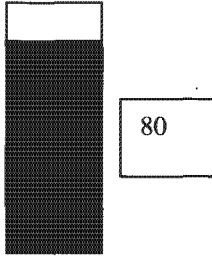
Traffic Management	Public Transport	Pedestrians	Basic Services	Roads
<p>Best Outcome:</p> <p>Traffic is effectively monitored and managed resulting in reduced levels of mortality due to road accidents</p>	<p>Best Outcome:</p> <p>There is a safe, convenient and well managed public transport system which includes affordable alternatives.</p>	<p>Best Outcome:</p> <p>Pedestrians using the road system, especially children and elderly people, are catered for with safe, convenient and well maintained facilities such as sidewalks, subways, effective lighting, shelters and pedestrian crossings.</p>	<p>Best Outcome:</p> <p>All homes have access to affordable electricity, sanitation systems and safe drinking water. Natural resources are well managed in a sustainable manner</p>	<p>Best Outcome:</p> <p>There is a safe system of roads linking the main settlement and economic zones of the area. These roads are well maintained.</p>
<p>Worst Outcome</p> <p>Traffic is poorly managed and speed limits are not effectively enforced. Road mortality rates are very high and there are no initiatives in place to reduce them.</p> 	<p>Worst Outcome</p> <p>There is no public transport service or it exists but is very poorly run, inconvenient and/or dangerous.</p> 	<p>Worst Outcome</p> <p>Pedestrians, especially children and elderly people, are not catered for when using the roads. The road mortality rates amongst pedestrians remains unacceptably high.</p> 	<p>Worst Outcome:</p> <p>Many homes are not able to have access to basic services. Lack of sanitation and safe drinking water leads to environmental health problems, especially for children and old people. Poor management of resources results in shortages</p> 	<p>Worst Outcome:</p> <p>The road system is poorly planned, unsafe and inconvenient. Roads are deteriorated to such an extent as to make some areas inaccessible</p> 

Table 12: Community Development Measurement Scales and Priority Weights for Sub-clusters in Infrastructure (Area 1)

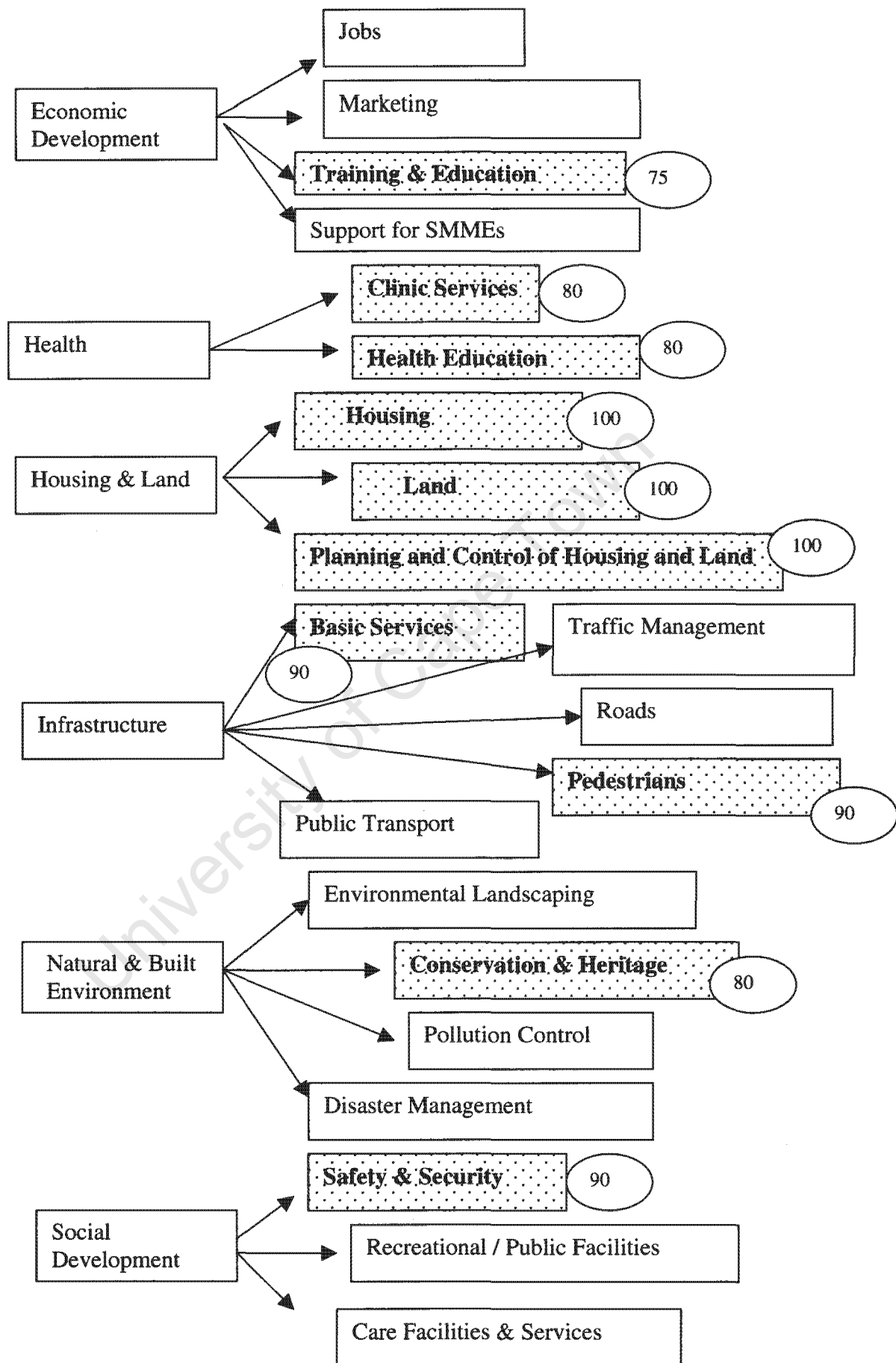


Figure 29: Value tree Showing Hierarchy of Issues for Development Area 1

Issue	Priority
Housing	100
Land	100
Planning and Control of Housing and Land	100
Basic Services	90
Pedestrians	90
Safety & Security	90
Clinic Services	80
Conservation & Heritage	80
Health Education	80
Training & Education	75
Environmental Landscaping	72
Pollution Control	72
Public Transport	72
Recreational/ Public Facilities	72
Roads	72
Jobs	68
Support for Small Business (SMMEs)	68
Care Facilities & Services	63
Marketing	56
Traffic Management	54
Disaster Management	40

Table 13 : Prioritisation Weights Assigned to Sub-Clusters (Area 1)

9.4. Prioritisation of Issues: an Overview of Outcomes.

9.4.1 Fieldwork Priorities

The objective of the fieldwork was to establish the needs and issues of those people living in the municipality who come from poor, marginalised communities which may be overlooked by the IDP process. (Recall that the Stellenbosch IDP Steering Committee decided not to include individuals in the public participation structures, except those individuals having specialist knowledge, i.e. resource persons). The target group for this survey was thus informal settlements; poor communities and farm worker communities.

Farmworkers:

Because of the difficulty in obtaining access to farms to consult with farm workers, especially given the short time available, farm worker needs were analysed separately. This was done via structured interviews with organisations representing farm workers rights, such as Women on Farms, the SA Wine Industry Trust and the Centre for Rural Legal Studies or from an analysis of studies undertaken by these organisations. These reports were tabled at the Rep Forum. Broadly speaking there was a great degree of overlap between the issues raised and prioritised by these groups, as summarised below, and those surfaced by the fieldwork questionnaires

- **Housing.** On many farms the condition of the housing provided for the workers is very poor. Complaints of leaking roofs, mouldy interiors, lack of ventilation or damp proofing resulting in health problems; broken drains and open sewerage pipes seemed common across all the farms represented. Some houses do not have toilets or running water. Workers are obliged to rent their accommodation (and pay for their electricity) from the farmers but do not seem able to secure maintenance of these homes in return. Many houses had only one bedroom for a whole family to sleep in.
- **Security and safety.** Women complained of lack of privacy and security in terms of doors that can lock and areas that are secure for children to play in. Some farms have no care facilities for children and the women are forced to leave their children without supervision. Road safety, especially for children walking to schools or playing near busy roads is a major concern for many farm workers. Many women expressed the desire for a safer environment for their children as homes are often built in areas where there are many hazards for children (fire,

roads, ravines, etc). Children need bus shelters, scholar patrols or safer transport to schools, safe playing areas, proper care and supervision during work hours.

- Transport. Many of the roads which provide access to workers' homes are so bad that they are inaccessible at certain times of the year and often result in damage to vehicles. Very few farms seem to provide transport for children to schools and they often have to walk along very dangerous roads with no proper pedestrian facilities. Speed control on these routes is urgently needed.
- Social problems such as family violence and abuse of alcohol and drugs. Many of the women believed that poor living conditions and a sense of lack of control over their futures fueled social problems that, in turn, worsened their living conditions even further. There were some reports of farmers turning a blind eye to shabeens and of police being ineffective in assisting with reported problems. Many women are reluctant to report their husbands as they do not believe that locking them up in jail will solve the problem. They want there to be a deeper and more profound response to the problem of alcohol abuse and violence. Programmes of help are needed for youngsters who get caught up in drugs and alcohol abuse.
- Poor communication between farmer and workers especially about workers' rights. Some reports of farmers threatening and discriminating against workers who are aware of their rights. Workers appeared suspicious of having to sign many unexplained documents for the farmer. They felt these documents undermined their rights and yet felt powerless to refuse because they could not risk losing their jobs/ houses/ transport, etc. Some schools refuse reports or access to further schooling for pupils whose fees are not paid. Some workers who opt to take a package deal when there is a shortage of work are not aware of the implications of this on access to housing.
- Insecurity of tenure especially for children, spouses of workers and retired workers. In many instances, children have to leave the farm after their schooling if they are not given work on the farm. Many have no place to go. Spouses who do not work for the farmer are sometimes discriminated against in terms of access to facilities on the farm (such as creches). Retired farm workers can stay on in their farm houses (and pay for services) but they often lose other benefits such as transport to the clinic/ doctor. Despite the law, some workers feel that they are in a

precarious position when the farm is sold and at times the farmers attempt to buy them off the land. People are tempted by the money but then end up homeless.

- **Land.** Most of the women indicated a need to have their own land for housing off the farms, where they would no longer be beholden for paying rent for poor housing and where their older children could stay and live with them after school.
- **Health problems.** A Sister visits the farms once a week but the staff may only be attended to in their lunch hour. The time is too short for proper examinations. A nearby clinic will not give sick certificates for Mondays and Fridays and 'refuses to help people who smoke'. Some farmers do not take responsibility for injury at work (strained backs etc.). Many reported sickness due to damp conditions in the houses and bad sanitation (overflowing drains and running sewerage) and complained that the health inspector did not respond to calls for assistance. There were complaints of poor response times and indifferent service from ambulance services.

The top eight issues listed by this group were (in rank order) : Creation of Jobs and Access to Training; Housing; Facilities for the care of the aged, youth and the disabled; HIV/AIDS; Health; Access to basic services; Safety & Security; and Infrastructure.

Questionnaires:

The IDP office of Stellenbosch provided a budget of R6000 (including transport and refreshments) for fieldwork with the rough aim of interviewing 100 to 300 persons from informal settlements/ very poor areas in each development area. This was based on an estimate of between 5 and 10 fieldworkers working a full day in each development area. The density of the settlements in each area was expected to influence how many persons could be targeted in each area (roughly 15-30 per person day).

I formulated a structured questionnaire (Appendix 1), based loosely on the categories identified in the previous IDP processes of Stellenbosch, Pniel and Franschoek (Stellenbosch Municipality Interim Integrated Development Plan, 2001). This questionnaire was shown to the sector heads at the municipality for comment and was reshaped, following on training role play sessions with the fieldworkers. The team of fieldworkers, comprising largely fourth year B. Tech students in Community Health and Public Administration from Peninsula Technikon was trained by myself over two two-

hour sessions. They were deployed over a five-week period. The Peninsula Technikon assisted us by providing them with transport to and from Stellenbosch. The municipality provided them with refreshments and transport around the municipal area.

Where possible the process of selecting respondents in the field was randomised using systematic random sampling. (i.e. I randomly selected a starting spot within selected informal and/or impoverished settlements and then instructed each fieldworker to select every fifth dwelling/ person to interview). However, in many areas the settlements were either too sparsely inhabited or the fieldworkers needed to stay together for reasons of safety and then all inhabitants within a selected area were interviewed. A law enforcement officer from the municipality accompanied the fieldworkers at all times. This was for reasons of safety of the fieldworkers, bearing in mind that violent crime and issues of safety and security were uppermost in the concerns of many of the areas we visited. To our advantage, the law enforcement officer assigned to us also knew the region extremely well and was able to locate any settlements we asked for. He remained unobtrusive as far as possible so as not to influence respondents. I accompanied the fieldworkers on all their excursions and collated the material which they collected.

The fieldworkers

- (i) explained the IDP process as well as the existence of the new amalgamated Stellenbosch Municipality to the selected respondents
- (ii) handed out a pamphlet on the process, including dates of forthcoming IDP meetings
- (iii) asked the respondents to indicate²⁶ which of the listed categories were (in their opinion) important issues in need of attention in their area
- (iv) captured specific issues which respondents were unable to fit into the categories of the questionnaire (or on which they wished to elaborate)
- (v) asked the respondents to rank at least (in their opinion) the top five most pressing issues (in order of decreasing importance) for their area

²⁶ Note that respondents were asked first to state (in their own words) what were important issues to be tackled in their areas. The fieldworkers then ticked off the categories which the respondent mentioned. When finished, the respondents were shown the list of issues in the questionnaire and asked if there was any other information they wished to give (i.e. tick more categories, add explanations, correct misinterpretations made by the field worker, etc.) Fieldworkers queried whether the respondents understood all terms used in the questionnaire and explained those which were not clear. Where possible fieldworkers were assigned so that at least one fieldworker was available to speak to respondents in their mother tongue.

Table 14 shows the numbers of forms captured in each development area.

Development Area:	Description of areas where interviews took place	Dates:	Field-workers	Interviews/Forms:
1 (Klapmuts; Koelenhof; Elsenburg)	Subsidy homes and informal settlements (shacks)	15/10/2001	8	158
2 (Vlottenburg)	Informal settlements (shacks); tenants in old buildings on farmland	10/10/2001	8	76
3 (Raithby/ Jamestown)	Informal settlements (shacks and tents); homeowners in Raithb	08/10/2001	6	76
4 (KayaMandi)	Residents interveiwed at entrance to Kaya Mandi	03/10/2001	9	135
5 (Cloetesville)	Homeowners and tenants in very poor area	03/10/2001	10	225
7 (Ida's Valley)	Tennantville ('Kreefgat')	08/10/2001	7	47
		24/10/2001	9	40
8 (Pniel; Kylemore; Johannesburg)	Homeowners in Pniel and Johannesburg; subsid homes in Kylemore	1/10/2001	8	236
9 (Franschhoek, Groendal)	Informal settlements (shack)	19/09/2001	9	153
		24/10/2001	10	75
Total forms completed				1221

Table 14: Fieldwork survey design

Note that Development Area 6 (central Stellenbosch) was not sampled as it does not accommodate the target groups specified for this survey.

Tables 15 and 16 summarise the results for the field surveys in the nine development areas. Table 15 shows the percentage of interviewees who indicated each issue as being important for their area, for all issues in the questionnaire. This table also shows (in brackets) the percentage of interviewees who ranked an issue within their top FIVE for their area (for all issues).

Table 16 shows, on the basis of a simple scoring system (i.e. an issue scores 3 points for ranking no 1; 2 points for being ranked no 2 and 1 point for being ranked no 3 on each form captured), the resultant top three priorities for each development area. Note that the choice of this particular scoring system was arbitrary and is just proposed as a means of

transforming the ranked data into interval-ratio data so that overall scores can be found for each issue.

It can be seen from both Tables 15 and 16 that there was a good deal of consensus across the different development areas. The issues of Housing and Jobs & Training were unanimously cited across all areas as being of high priority. Access to Basic Services and Safety & Security were also very high priorities for most areas. An exception to this was for Area 8 (Pniel and Kylemore) as well as Area 7 (Tennantville) where most of the homes interviewed were formal houses with basic services provided. In Pniel, however, people complained that the houses were overcrowded and that there was no opportunity for their children to get homes of their own in the area. Thus in this area the actual provision of *land* for housing was seen as more of an issue than in other areas (i.e 25% of respondents cited it as an issue). In Tennantville, most of the respondents lived in council-owned houses (although in some cases ownership had been transferred to the occupants), which were observed to be in very poor condition, damp and crumbling in parts. (Fieldwork in Tennantville, 24th October 2001)

Given that this survey was conducted in areas where people were living in shacks or as tenants in extremely dilapidated homes, it is not surprising that 'Housing' is a major concern. Even those areas where people owned their own houses (subsidy homes or old 'council houses'), there was an appreciation of the fact that the provision of housing was of paramount importance. The knock-on effect of not having adequate shelter is also clearly manifested in the areas of 'Health' and 'Pollution', with those respondents living in shacks also citing these two as major issues (particularly so for the respondents from Groendal, Area 9). Respondents here spoke about "running sewerage in the streets" and "public toilet blocks where the doors are all broken off and there is often a problem with the taps for washing afterwards" (Fieldwork interviews, Groendal, 24 October 2001)

On the whole, respondents across the board identified the need for 'Job creation & Training' but did not recognise 'Promoting business/ entrepreneurial opportunities' and 'Promoting Tourism' as significant issues to be pursued. This could be due to a lack of appreciation of how these issues are linked or to the fact that respondents didn't fully understand the terms used but didn't indicate this to the fieldworker. Ideally the forms should be translated into the mother tongues of the respondents to avoid such confusion

but, due to budget and time limitations this study relied on the fieldworkers to explain the questionnaires to the respondents. Area 8 had the highest proportion of respondents indicating that the promotion of business opportunities was an important issue (19%), and a relatively low proportion (55%) who earmarked the issue of 'Job creation and Training'. During discussions with respondents during the field work (fieldwork in Pniel on 1st of October 2001), and in the workshops with the area forums it was mentioned that "There is no possibility of jobs to be given to our children here".... "We need help for them to start their own enterprises" (workshop with Area 8 committee, 30th October 2001).

Safety & Security was seen as more of an issue in the older, more established housing settlements (Kaya Mandi, Cloeteville, Tennantville and Pniel). It was seen as a relatively low priority by the respondents of Klappmuts, De Novo, Vlottenburg, Raithby and Jamestown who were predominantly informal shack dwellers or occupants of very new subsidy home complexes.

Health was indicated as a major concern for respondents in Area 1,2,3 and 9. Many of the issues spoken about here related to the lack of access to clinics. This was particularly true for respondents from Area 2 (Vlottenburg). Here people spoke about having no means of transport to get to a clinic; the fact that the mobile clinic came very infrequently and didn't have the necessary medications when it did come. (Interviews with respondents, Vlottenburg, 10th October 2001)

Facilities for the care of children, particularly, featured highly in Tennantville (48%). Respondents mentioned their concern over children having "no place to play but the streets or in the river, which is dirty and makes them sick" (Interview with respondent, Tennantville, 8th October 2001). Facilities for the youth was also felt to be important as "they have nowhere to go and become involved in gangs". Roughly half the respondents of Tennantville indicated that beautification of their area is also an important issue. This is a very depressed area where residents were extremely angry and spoke of being 'forgotten by the municipality'. Crime is high and 36% put Safety & Security in their top five issues.

Emergency services, particularly fire fighting services, were spoken of a great deal in the informal settlements in Franschhoek. Fires that break out in these settlements spread

rapidly and can be devastating. There are currently no fire fighting services based at Franschhoek, the nearest being at Paarl. Over 40% of respondents in this area placed this concern within their top five issues.

Pniel is situated right on the extremely busy road that runs between Stellenbosch and Franschhoek (R45) and hence 'Traffic Control' is an issue in Pniel (for 32% of respondents). Transport also featured as an issue in this area as there is nothing in the way of public transport. Beautification of the area is also mentioned (by 57%) and ranked highly (by 31%). This appeared to be linked to the idea of promoting Pniel as a tourist destination ("Beautification [of the area] will lead to more jobs being created through tourism", Meeting with Area 8, second round of IDP meetings, October 22nd 2001)

Infrastructure, in terms of roads, sidewalks and cemeteries is an issue that featured particularly in informal settlements such as those at Vlottenburg (66%), De Novo and Klapmuts (54%).

There was throughout a surprising lack of cognisance of HIV/AIDS as an issue. At most one in five people thought it was an issue even worth mentioning. There was a similar lack of awareness with respect to natural disasters. Again these highlight the need for pro-poor professional input in terms of making available the necessary information to allow communities to evaluate their own position. I would argue, therefore, that the participation of communities is a necessary condition for designing effective solutions to community problems but it is not in itself sufficient.

Issue		Development Area							
		1	2	3	4	5	7	8	9
A	Promoting business/ entrepreneurial opportunities	7 (4)	1 (0)	5 (3)	8 (7)	11 (8)	10 (5)	19 (8)	7 (3)
B	Creation of Jobs and Access to training	75(63)	80 (57)	46 (39)	89 (79)	76 (67)	72 (55)	55 (36)	82 (71)
C	Promoting tourism	3 (2)	1 (0)	1 (0)	4 (1)	5 (3)	3 (2)	16 (4)	4 (2)
D	Access to basic services:	66 (50)	87 (67)	55 (46)	71 (48)	51 (36)	45 (24)	26 (13)	70 (62)
E	Governance, democracy and anti-corruption	8 (6)	3 (1)	1 (1)	3 (2)	8 (6)	14 (3)	9 (4)	9 (4)
F	Safety and security	34 (20)	17 (12)	28 (21)	59 (36)	60 (44)	57 (36)	44 (28)	47 (34)
G	Housing	72 (55)	83 (68)	61 (58)	90 (82)	58 (45)	48 (29)	41 (26)	90 (82)
I	Land	9 (3)	8 (3)	16 (12)	12 (10)	6 (4)	6 (2)	25 (14)	8 (5)
J	Pollution (land, water and air) and disposal of waste	36 (18)	32 (29)	28 (21)	37 (27)	23 (15)	31 (15)	19 (7)	40 (28)
K	Health	47 (29)	71 (42)	45 (29)	29 (16)	19 (9)	17 (6)	22 (14)	41 (27)
L	Facilities for the care of the aged, youth and disabled	27 (14)	39 (24)	25 (15)	21 (10)	27 (17)	48 (15)	39 (22)	41 (19)
M	Beautification of the area (parks, walkways, gardens)	42 (21)	41 (29)	37 (29)	33 (16)	42 (29)	49 (22)	57 (31)	21 (10)
N	Heritage and Preservation of history	3 (1)	1 (0)	1 (0)	1 (0)	1 (0)	2 (0)	7 (3)	0 (0)
O	Traffic control	11 (4)	8 (1)	14 (11)	12 (4)	24 (14)	21 (5)	32 (16)	15 (8)
P	Conservation of the natural environment (protected reserve areas)	6 (4)	1 (0)	1 (0)	1 (0)	2 (0)	1 (0)	9 (2)	0 (0)
Q	Public facilities, sport and recreation	32 (22)	42 (32)	21 (9)	29 (12)	23 (10)	36 (22)	30 (15)	35 (18)
R	Infrastructure (roads, sidewalks, cemeteries, ...)	54 (33)	66 (48)	39 (30)	44 (35)	29 (21)	28 (13)	41 (23)	34 (19)
S	Emergency services (fire, ambulance, etc)	28 (15)	28(16)	14 (12)	22 (13)	20 (12)	20 (10)	35 (15)	52 (41)
T	Promoting and preserving the special character of the area/town	2 (1)	3 (0)	1 (0)	3 (0)	3 (1)	0 (0)	7 (2)	2 (1)
U	Agricultural issues	3 (1)	3 (1)	3 (1)	1 (0)	2 (0)	0 (0)	4 (1)	3 (0)
V	HIV/AIDS	22 (10)	16 (9)	5 (3)	18 (14)	16 (11)	15 (7)	8 (4)	15 (7)
W	Transport	15 (7)	8 (7)	11 (7)	5 (2)	4 (2)	3 (0)	24 (7)	13 (5)

Table 15: Perceived Importance of Community Issues as per Fieldwork Questionnaires

Table 15 shows the percentage of respondents who listed an issue as important (in brackets the percentage who listed the issue within their top five community issues).

Area	Ranked no 1	Ranked no 2	Ranked no 3
1	Jobs & Training	Housing	Basic Services
2	Housing	Basic Services ²⁷	Jobs & Training
3	Housing	Basic Services	Jobs & Training
4	Housing	Jobs & Training	Basic Services
5	Jobs & Training	Housing	Safety & Security
7	Jobs & Training	Safety & Security	Housing
8	Jobs & Training	Housing	Safety & Security
9	Housing	Jobs & Training	Basic Services

Table 16: Dominant Community Issues in each Development Area

9.4.2 Area Forum Priorities

The fieldwork described above happened in parallel to the work done with the more formally constituted area forums. As mentioned before, the purpose of the fieldwork was to complement the work done with these area forums and to ensure that the poor, marginalised and poorly organised elements of society were heard in the IDP process.

A summary table of the issues identified as relevant (and their weights) to each of the nine development areas is shown in Table 17. Note that the key result areas differ from area to area in some instances so, for example, only Area 3 defined a cluster called 'Agriculture' (with three Key Result Areas, namely: Housing & Upliftment; Health Maintenance; Economic Potential and Conservation, all pertaining to agricultural issues specifically). The weights in each instance are ratios with the most important issues scoring 100, and issues of no importance whatsoever scoring zero. An issue which has a weight of 100, for example, can be regarded as "having twice the weight" as one which has a weight of 50. In order to get an impression of issues which are most consistently

²⁷ Water, electricity, refuse removal and sanitation

highly weighted across all areas, the top eight priority issues in each area are highlighted (shaded) in the table²⁸.

One can see that the dominant issues are Housing, Land and Planning & Control of Housing and Land; Basic Services and Safety & Security and thereafter Job Creation; Clinic and Ambulance services; Roads and Traffic Management as well as support to Small, Medium and Micro Enterprises. The top four issues are in fact broadly the same as for the fieldwork: Housing & Land issues; Safety & Security; Basic Services and J Creation.

Housing issues featured as the most critical issue for almost all areas (including area 3 where they were captured under 'Housing & Upliftment', a sub category of Agriculture). Exceptions to this were areas 6 and 2. Area 6 is somewhat different, being the Stellenbosch town area, constituting mainly middle and upper-middle class suburbs, where provision of Housing was not seen as a major issue. However, the regulation of and planning associated with housing was regarded as very important (second to Safety and Security in area 6). Committee members expressed concerns in terms of a need to "ensure that student houses are properly regulated..." as well as a need "to preserve the heritage of our town ... it's the beauty of this area that brings the tourists in" (Workshop with Area 6, third round of IDP meetings, Thurs 1st November 2001).

Much discussion arose in the workshops around the distinction between the categories: Land, Housing and Planning. Most areas did not make a strong distinction between Land and Housing issues, seeing these as intricately linked. Area 4 made the point of weighting Land at 100 and Housing at 99 to emphasise the need to make physical space for housing development in Kaya Mandi before houses can be built. Most areas also regarded Planning with respect to land and housing as of equal importance to the provision of land and housing. There was extensive discussion acknowledging the importance of improving the systems of housing delivery. "Behuising is 'n groot probleem - 'n gesin sonder 'n huis is nie 'n gesin nie, dus is behuising 'n prioriteit. Met 'n huis kan jy 'n gemeenskap gesond kry." (meeting with Area 5, Cloetesville, 2nd round of IDP meetings, Monday 22nd October, 2001). "Housing waiting lists need to be sorted out"; "We need more transparency with prospective developments ... more public participation" (Meeting with Area 9, Franschhoek, 2nd round of IDP meetings, Wed 17th October,

²⁸ Note that I have used the convention of giving duplicate numbers the same rank. If y numbers in an ordered series have the same rank, x, then the next number in this series will have rank x+y.

2001). Respondents in the fieldwork in Area 9 (Franschhoek) pointed out that “There has been land bought by foreign donations for low cost housing but it has never been developed and we are still waiting for the houses” (Fieldwork in Area 9, 24th October, 2001).

In Area 2, the concern was primarily for those homes without access to running water and electricity, however Housing was listed as the second most important issue.

I referred briefly to the issue of representativity of the area forums in Chapter 6. The way in which the committees were constituted is cause for concern, in that, typically individuals with time and resources made their way to the forefront of such groupings. Area 3 ended up with a committee which did not adequately represent the people of the area and which tended to have three major lobbies: the farmers of the area, the residents of upper middle class suburbs, and nature conservationists (see list of committee members in ‘Workshops, Meetings and Interviews’). They chose to view “... social problems such as lack of housing” (Area Forum 3 meeting, Doornbosch, 26 November, 2001) as an ‘Agricultural’ issue, i.e. as a problem in the context of labour for farms. Although they also weighted ‘Housing issues’ highly (90), they tended to downplay the provision of ‘Basic Services’ in a context other than that of farm labourers by giving it a weight of 47.

All areas except 5, 3 and 1 weighted some aspect of Economic Development. (i.e., Jobs, Training & Education, Support for SMMEs and or Marketing) within their top eight issues. Although areas 5, 3 and 1 indicated that unemployment was a problem in their areas, they felt that there were other more pressing issues which they wanted the local authority to tackle first, such as : provision of housing, basic services, clinics, making the roads safe for pedestrians, conservation of the natural environment and safety & security.

9.4.3 Comparison of the Fieldwork and Area Forum Priorities:

The issues (categories) of the fieldwork questionnaire do not correspond exactly to the issues expressed in the value trees of the area forums (and shown in Table 17). This is because both processes happened simultaneously and although both started with categories taken from the interim Stellenbosch IDP (Stellenbosch Municipality, April 2001) the final issues for each area forum evolved in workshops with the committees.

There is however sufficient overlap between the categories to allow us to compare the priorities arising from the fieldwork and the area forums of each area.

The three main priorities of each area as determined from the fieldwork are indicated in Table 17 by 'A', 'B' and 'C'.

In development areas 1, 2, 3, 5 and 8 there is good overlap between the issues ranked in the top3 by the fieldwork and the top ranked issues by the area forum committees, except for the issue of Jobs and Training. In each of these areas, Jobs and Training is ranked in the top three by the fieldwork respondents but considerably less highly by the area forum committees, where it was ranked from 7th to 10th positions.

In Area 1, 'Pedestrians' and 'Safety & Security' are also ranked highly (4th) by the area committees. The issue of 'Pedestrians' would fall under 'Infrastructure' on the questionnaire, which is ranked 4th in the fieldwork while 'Safety & Security' is ranked 8th.

In Area 2, 'Ambulance and Clinic Services', 'Environmental Health' and 'Special Care Facilities (Health)' are ranked highly (4th) by the area committees. These would fall predominantly under 'Health' (ranked 4th by the fieldwork) as well as 'Pollution' (9th) and Facilities for Care of the Aged, Youth and Disabled' (8th); showing a fair degree of correspondence.

There is perhaps the least degree of overlap between the priorities identified by these two groups in Area 3. The main issues identified by the area committees were those associated with 'Agriculture'. This was somewhat problematic to interpret as it incorporates issues of economic development, housing, conservation and health, all seen within the context of "maintaining a rural, agricultural lifestyle in the municipality of Stellenbosch" (meeting with Area 3, Doornbosch, Mon 26th November, 2001). Not mentioned by the area committees are 'Basic Services' (ranked 21st) and 'Jobs & Training' ('Jobs' ranked 10th and 'Training' ranked 22nd).

In Area 4 and Area 7 there is good correspondence between the two groups, as in Area 5 (except for the issue of 'Jobs and Training').

In Area 8, 'Basic Services' is ranked highly by the area committees (ranked 4th) but is only ranked 10th by the fieldwork. Safety & Security is ranked 3rd by the fieldwork, but was regarded as less of an issue by the area committees.

In Area 9 the major difference between the two sets of ranks was in 'Safety & Security' (ranked 5th by the fieldwork and 19th by the area committees).

In summary the fieldwork tended to emphasise 'Jobs and Training' far more than the area committees (except for area 9). Also 'Safety & Security' was given a higher ranking by the fieldwork than the area committees (except for areas 1 and 2).

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Key Result Area	Development Area								
	9	8	7	6	5	4	3	2	1
Housing	100 (1)A	100 (1)B	100 (1)C		100 (1)B	99 (2)A	95 (5)A	90 (2)A	100 (1)B
Land	100 (1)	100 (1)	80 (15)		100 (1)	100 (1)	95 (5)	90 (2)	100 (1)
Planning & Control	90 (5)	100 (1)	90 (3)	90 (2)	100 (1)	99 (2)	81 (7)		100 (1)
Student Housing				68 (9)					
Jobs	100 (1)B	80 (7)A	95 (2)A	61 (13)	70 (11)A	71 (15)B	65 (10)C	80 (7)C	68 (16)A
Training & Education	65 (17)B	60 (13)A	86 (7)A	72 (8)	28 (22)A	95 (4)B	42 (22)C	64 (14)C	75 (10)A
Support for SMMs	75 (9)	80 (7)	90 (3)	80 (4)	56 (17)	71 (15)	36 (24)	80 (7)	68 (16)
Marketing									56 (19)
Clinic & Ambulance Services	95 (4)	60 (13)	85 (11)	39 (17)	75 (7)	72 (13)	60 (13)	85 (4)	80 (7)
Environm. Health	67 (16)	48 (18)	72 (21)	26 (18)	60 (13)	90 (5)	36 (23)	85 (4)	
Special Care Facilities (Health)	48 (20)	60 (13)	81 (12)	52 (15)	75 (7)	72 (13)	60 (13)	85 (4)	
Health Education	76 (8)	51 (16)	77 (18)	65 (12)	60 (13)	86 (6)	60 (13)	68 (13)	80 (7)
Basic Services	90 (5)C	90 (4)	90 (3)		80 (6)	85 (7)C	47 (21)B	100 (1)B	90 (4)C
Roads	72 (12)	81 (5)	86 (7)	75 (5)	56 (17)	55 (20)	55 (17)	80 (7)	72 (11)
Traffic Management	72 (12)	81 (5)	86 (7)	75 (5)	60 (13)	60 (19)	55 (17)	80 (7)	54 (20)
Street Lighting	72 (12)	45 (19)	81 (12)	45 (19)	56 (17)				
Public Transport	72 (12)	72 (10)	77 (18)	53 (14)	56 (17)	51 (21)	22 (25)	30 (20)	72 (11)
Pedestrians					64 (12)				90 (4)
Beautification	38 (21)	38 (20)	80 (15)	68 (9)	48 (21)	76 (12)	49 (19)	63 (15)	72 (11)
Conservation & Heritage	38 (21)	38 (20)	80 (15)	85 (3)		68 (17)	75 (9)	63 (15)	80 (7)
Disaster Management	75 (9)		72 (21)				64 (13)		40 (21)
Pollution Control	75 (9)	50 (17)	76 (20)	68 (9)	60 (13)	80 (11)	56 (16)	70 (12)	72 (11)
Recreational / Public Facilities	80 (7)	72 (10)	81 (12)	50 (16)	72 (9)	85 (7)	48 (20)	45 (18)	72 (11)
Care Facilities & Services	64 (18)	64 (12)	86 (7)	75 (5)	72 (9)	68 (17)	64 (11)	60 (17)	63 (18)
Safety & Security	60 (19)	80 (7)C	90 (3)B	100 (1)	90 (4)C	85 (7)	80 (8)	75 (11)	90 (4)
Youth & Schools					90 (4)				
Education /Life Skills						85 (7)		45 (18)	
Conservation							100 (1)		
Economic Potential							100 (1)		
Health Maintenance							100 (1)		
Housing & Upliftment							100 (1)		

Table 17: Weights Assigned to each Key Result Area across all Nine Development Area ²⁹

²⁹ Numbers in brackets represent the rank of this issue in this area (i.e. column). 'A', 'B', and 'C' refer to the first, second and third most often cited issues in the fieldwork questionnaires. The top eight priority issues in each area are highlighted in the table (as specified by each area forum).

9.5 What Factors Affected the Identification and Prioritising of Issues?

The practice of gathering information about issues, values (weights) and solutions from a large and diverse municipality was affected by many factors. Outlined below are the major factors that are likely to have influenced or affected the quality of the process.

9.5.1 Area Forums

a) Repetition

Many communities that make up the new Stellenbosch Municipality had already gone through a process of needs analysis in the previous IDP cycle of 2000 (Stellenbosch Municipality, 2001). The efforts and resources that went into these plans were uneven and in most cases ended up in 'wish lists', with little sense of prioritisation and no follow through into strategies, projects and budgets. The new municipal demarcations and newly defined development areas for the Stellenbosch Municipality dictated a fresh needs analysis, based now on the new amalgamated definition of the municipality and also using newly defined guidelines for integrated development planning. Many public participants resented being asked, yet again, about their needs, especially in the light of the fact that these needs had apparently not been addressed since they were last recorded. "Nothing has happened since we last talked to the municipality" (Area 5 committee member, third round of IDP meetings, Cloetesville, Thursday 15th November 2001).

b) Time constraints

Time was extremely short. Stellenbosch Council approved the IDP Process Plan on July 31, 2001 and unfortunately only began the process of public consultation two months later at the end of September. This process culminated at the end of November with the presentation of the area defined priority issues at the first Stellenbosch Rep Forum meeting. There was resistance from public participants in many areas, to the fact that time for public consultation was constrained by the looming deadline of the end of March 2002 for the 2002-2006 IDP to be advertised for public comment. ("They have taken so long to get this thing going and now they havent left us enough time to do a proper job", Area 3 committee member, third round of IDP meetings, Doornbosch, Monday 12th November, 2001)

c) Definitions of development areas

There was also some resistance to the definition of a 'development area' by the Stellenbosch Council. Some communities had clearly invested time and effort in defining

needs and solutions for their area, which then became split across more than one development area. (eg Spier Estate was split across Development areas 2 and 3). Initially there was a good deal of suspicion regarding the perceived agendas of different communities, thrown together within the same development area. (“How can you expect a farmworker and me to work out the priorities for this area together because our needs are so different? He can’t represent my needs and I can’t speak for his?” [Area forum 2 committee member, third round of IDP meetings, Lynedoch, Tuesday 13th November 2001]). Despite this, and despite a lack of clear rules on how an area forum committee should be selected, each and every development area chose a committee to represent itself, without resorting to voting, based largely on the principle of inclusiveness. Cases of opposition or disagreement were usually resolved by co-opting more persons onto the committee so as to cover more, rather than less, of the communities resident in the development area. The IDP manager of Stellenbosch facilitated the selection of the committees for each area.

d) Lack of trust

Many stalwarts of civic affairs, weary of fruitless consultations with municipal officials, time and again expressed initial reluctance to expend energy into a process which they saw as just another outpouring of their needs, which they anticipated would not result in effective action. “Why should we take part in this process, it just gives us a bad name as leaders, as we get nowhere” (Area 7 committee member, third round of IDP meetings, Stellenbosch, Friday 2nd November 2001). “They [... the sector heads...] pretend to listen to what we say and then they just do what they want to do anyway.” (Area 6 committee member, third round of IDP meetings, Stellenbosch, Thursday 8th November 2001). “Its no use having an open door policy if there is nobody there every time you go to the office and nobody will take your calls.” (Area 5 committee member, third round of IDP meetings, Cloetesville, Thursday 15th November 2001).

There was a profound sense of mistrust between the public and the municipal officials, across all development areas. This had an impact on the effectiveness of the prioritisation workshops (i.e. the third round of meetings with the area forums) making it initially difficult to introduce a new methodology. Once initial mistrust had been cleared and it was clear that the methodology was for the community to manipulate and to express themselves to their own advantage, independent of the limitations of the structure and functionality of the municipality, most communities took the opportunity to make the method their own. They were then keen to begin the process of defining their needs and

their goals in a format that could be used to hold municipalities accountable throughout the budget cycle and beyond. Once area forum committee members began to perceive that I was not part of 'the municipality' they then began to appeal to me to intervene to stop the officials from 'hijacking the process'. It became difficult to keep their expectations in check and to keep clear what my own role was and should be in the process. Again, it became apparent that there was a need not just for a clear and defined participation process, but also, over and above this, a need for an independent person whose role it would be to manage the process. Such a person (played by myself in this instance) would need to be able to adapt the process to the needs and concerns of the constituents and to ensure that particular overriding thrusts of the IDP are not compromised (i.e. addressing poverty, tackling HIV/AIDS, building sustainable service delivery, etc)

e) Lack of data and information

A major problem in the process of defining issues and priorities was a lack of baseline information, particularly with respect to gender, HIV/AIDS, employment, income, and other developmental information. In general the Municipality relied on Census (1996) data to inform their decision making. This information was quite severely out of date at the time of the study (and also referred mainly to Stellenbosch town rather than Stellenbosch Municipality) The information supplied by the Demarcation Board (on disc) is not accurate in terms of developmental data for the district. In theory the IDP guide packs issued by the DPLG (South Africa, 2001) recommend poverty and gender audits as part of the analysis phase of the process but in practice there is unlikely to be time or resources for this to be put into place. A recommendation of this thesis is that parallel processes are needed in partnerships with e.g. learning institutions rather than costly consultants, to assemble accurate and meaningful developmental data bases for municipalities.

f) Confusion over division of functions between the municipality and Boland District.

It became clear during the first round of meetings held with the area forums that there is a pervasive lack of clarity over the division of responsibilities between the district and local municipal councils which extends over such fundamental issues as health services, sanitation services and housing. This further exacerbated the sense of mistrust between communities and officials and in some instances rendered officials powerless.

g) Under-representation of marginalised groups

There is a very real problem in some areas that the poorer communities are under represented or simply not represented at all. The majority of organisations active in Area Forums in the Stellenbosch Municipality, represent sections of the community who have access to resources in terms of money, education, power, etc. Those organisations representing the poorer sections of the community voiced the difficulties they experienced in effectively organising and communicating with their constituents and asked for more support (such as secretarial help, transport, telephone and photocopying facilities) from the municipality to capacitate them. At the time of writing this support was still not forthcoming. Area forum 3, in particular, had substantial numbers of unemployed, homeless and impoverished persons not in any way represented on the area forum.

9.5.2 Fieldwork

The field work targeted areas of low cost, informal or impoverished housing in each development area. This included large informal settlements in Franschhoek; through to pockets of ex-farm workers who had lost their jobs and thereby access to housing, squatting illegally on the edge of farms near Raithby; to families living in extremely run-down houses without in-door sanitation in Cloetesville (area 5). So obvious was the immediacy of the needs in these areas that it almost seemed redundant to be doing the exercise. But the interviews took up to forty minutes as respondents queued to make their needs known and to get a chance to explain their predicaments. Less obvious at first sight were the pressing need for road safety measures, especially for children, for care facilities for the aged, for intervention in social problems such as alcohol and drug abuse and gangsterism, for fire fighting services and pollution control. The experience of conducting interviews amongst the poorer sections of what appears, on the surface, to be a very wealthy and beautiful municipality, made a huge impact on the fieldworkers. Comments like "All South Africans should have to do this." ; " It makes you think about how other people live"; "I didn't know people lived like this" and "I found it a very enriching experience" summed up the feelings of the students from both Peninsula Technikon and Stellenbosch University.

The information collected in the fieldwork was tabled at the Rep Forum meeting of 22nd January 2002. It was agreed at this meeting that task groups would be set up to develop responses (alternative strategies and projects) to the major problems identified in the workshops with the communities (and supported by the fieldwork). The information that

came out of the prioritisation workshops with the area forums, would be used to assess the relative priorities of identified issues in each area. The task groups would also be responsible for evaluating (scoring) proposed alternative projects as is described in the following section.

9.6 Strategising and Evaluating Around the Identified Community Issues.

9.6.1 Task Groups

Task group teams were set up around each of the major clusters of issues by the Rep Forum. Each task group was chaired by an official (usually the relevant head of department from Stellenbosch Municipality). The task teams were mandated to consider the issues, needs, problems and proposals listed by both communities and officials under their cluster headings, and, in the light of the descriptive scales outlining the goals for each development area, to come up with proposed strategies of how to proceed. The identified needs and issues had by this stage also been presented to a meeting of Council wherein councillors were given the opportunity to augment the list of needs/ issues as they saw fit. In some instances councillors had been present at the community meetings where the lists were drawn up, in other cases not.

9.6.2 Evaluation of Strategies / Programmes / Projects

a) Scoring Process

Most of the task groups struggled to strategise effectively. Because the needs were often already identified in terms of specific projects which might be implemented, most groups immediately made the leap to projects, i.e. the need for a particular project was identified in the analysis phase and the strategy was then simply to implement the project. For example, the Infrastructure task group put forward as a strategy 'Provide appropriate infrastructure and services' in response to the tabled needs for infrastructure and services. (Stellenbosch Municipality, 2002) Very few groups actually consolidated the list of needs, issues, etc into a coherent list of objectives and possible strategies whereby these objectives could be achieved. This was partly due to lack of experience with strategising and partly because participants were strongly focused on specific *products* of the process (i.e. projects), rather than on exploring different routes to achieving

objectives (objectives such as those specified in the descriptive scales of each community).

This evaluative process would also have been more powerful and allowed for more scope had it been implemented at community (development area) level rather than on an area wide basis. Within each development area, committees had already taken ownership of the descriptive scales for measuring progress in their community and might therefore have felt more comfortable with developing strategies to achieve these. The task teams in many cases did not have representatives from each development area, and community representativeness on the task team were not necessarily familiar with the issues tabled for each area. The main reason for not asking the area forums to do the scoring of the proposed projects was time. Many of the projects proposed by the officials involved work of a highly technical nature and it was therefore necessary to have an official from the municipality put this information in context for the community representatives. To repeat all this work in each of the nine development areas would have been extremely demanding of time and expertise.

Ultimately the task teams produced a list of projects, and in some cases programmes (clusters of projects) which were mainly generic (area wide) rather than area/ community specific (see, for example, the kinds of projects proposed by the Health task group in Table 19). This had further ramifications for the process. Namely that because most of the projects proposed were area wide and that the scoring was done by an area wide task team, it was not possible to develop individual evaluations of how the budget addressed the needs in each development area. Instead, it was necessary to average the weights across the nine development areas for each cluster (shown in Table 18).

Note that not all identified clusters (or sub-clusters) are common to all areas. This is not unexpected and the methodology is certainly able to cope with different areas having different issues. However, because we are using average weights taken across all nine areas for this particular application, it does mean that issues that may be a big problem for a small proportion of the area are down weighted. For example, only Area 5 identified a sub-cluster of Social Development which they called 'Youth & Schools' and similarly, only Area 4 identified 'Education and Life Skills' as a sub-cluster of Social Development. Both of these sub-clusters then have relatively low weights (0.65 and 0.92

respectively) taken over the whole municipal area. Ideally, strategies and projects would be developed *and evaluated* (scored) at development area level, allowing a particular budget to be evaluated at development area level, using the weights generated as pertinent to that area. This approach would allow each area to evaluate the proposed projects (both area specific and area wide) separately. If this approach were adopted then one would also be able to use MCDA to choose that budget (collection of strategies/projects) which (in some sense) maximised benefit across all areas.

In this application, Area 1 added a cluster called 'Agriculture' to their value tree, which is not in itself a problem. In fact, a separate task group for 'Agriculture' was set up to handle issues for all areas that might potentially fall under this heading. However, all the projects proposed by the task group under the different sub-clusters of 'Agriculture' (viz: Conservation; Economic Potential; Health Maintenance; Housing and Upliftment) were projects that already were being dealt with by other Task Groups. These projects had been captured under the sub-clusters Conservation & Heritage; Jobs; Clinics & Ambulance Services; and Housing. As such, it was decided, that it was in fact redundant to add this cluster to the weighting/ scoring system as there were no identifiable projects to evaluate.

It may be that in subsequent IDP cycles, some development areas choose to change the structure of their clusters and that specific and identifiable issues are clustered under the heading 'Agriculture'.

Development Area ³⁰									Average Weight	KRA	CLUSTER
9	8	7	6	5	4	3	2	1			
6	7	5	0	7	6	8	6	6	5.69	Housing	Housing & Land
6	7	4	0	7	6	8	6	6	5.58	Land	
6	7	5	7	7	6	7	0	6	5.56	Planning & Control	
0	0	0	6	0	0	0	0	0	0.62	Student Housing	
6	6	5	5	5	4	5	6	4	5.12	Jobs	Economic Development
4	4	5	6	2	6	3	4	5	4.32	Training & Education	
5	6	5	7	4	4	2	6	4	4.61	Support for SMMEs	
0	0	0	0	0	0	0	0	4	0.39	Marketing	
6	4	5	3	5	4	5	6	5	4.76	Clinic & Ambulance Services	Health
4	3	4	2	4	5	3	6	0	3.52	Environmental Health	
3	4	4	4	5	4	5	6	0	3.97	Special Care Facilities	
5	4	4	5	4	5	5	5	5	4.63	Health Education	
6	6	5	0	5	5	4	7	6	4.82	Basic Services	Infrastructure
4	6	5	6	4	3	4	6	5	4.71	Roads	
4	6	5	6	4	4	4	6	3	4.64	Traffic Management	
4	3	4	1	4	0	0	0	0	1.87	Street Lighting	
4	5	4	4	4	3	2	2	5	3.67	Public Transport	
0	0	0	0	4	0	0	0	6	1.09	Pedestrians	
2	3	4	6	3	5	4	4	5	3.94	Beautification	Natural & Built Environment
2	3	4	7	0	4	6	4	5	3.98	Conservation & Heritage	
5	0	4	0	0	0	5	0	3	1.80	Disaster Management	
5	3	4	6	4	5	5	5	5	4.49	Pollution Control	
5	5	4	4	5	5	4	3	5	4.42	Recreational/Public Facilities	Social Development
4	4	5	6	5	4	5	4	4	4.59	Care Facilities & Services	
4	6	5	8	6	5	6	5	6	5.63	Safety & Security	
0	0	0	0	6	0	0	0	0	0.65	Youth & Schools	
0	0	0	0	0	5	0	3	0	0.92	Education & Life Skills	

Table 18: Average Percentage Weights over all Nine Development Areas

³⁰ The weights defined by each development area committee are expressed here as a percentage of the whole (i.e. the weights over all sub-clusters for each area sum to 100)

b) Scoring systems

The projects put forward by the task groups were scored (by the task groups) according to the three criteria : Impact on (or benefit to) the Area; Sustainability; and Technical Urgency/Need. Initially these criteria were each scored on a very simple three point scale, viz:

Impact (benefit) where: 0= no impact; 1 = low impact ; 2 = moderate impact ; 3 = high impact

Sustainability where:

0 = Not sustainable ;

1 = Sustainable, but only if substantial extra capital and/or expertise is available from future budgets; or Sustainable, but impact will probably be strongly negative on other KRAs (eg social or environmental) ;

2 = Sustainable, if fairly moderate amount of capital/ expertise is made available from future budgets or; Yes, with moderately negative impact on other KRAs ;

3 = Sustainable (Unqualified)

Technical Need/ Urgenc where :

0= not required; 1 = low level requirement; 2 = moderate need; 3 = urgently needed

However, the results of this scoring were such that almost every project in each task group was scored as a level '3' in each dimension. This result is not unexpected as it is natural for group participants to initially think 'competitively' and to attempt to score 'their' projects as highly as possible, resulting in high scores for almost all projects. However, once participants saw the effects of this on the scores, they realised there was very little discrimination between projects. These results were taken to the full steering committee of the Stellenbosch IDP. The Co-Chair of the Rep Forum proposed that the scoring process be redone by the section heads working with myself (as someone who was familiar with the issues tabled by all nine development areas, and who had built up a fair degree of trust with the communities by this stage). Both communities and the Steering Committee accepted this proposal. It was also agreed that the scoring systems be extended to ten-point scales with stricter definitions as to the definitions of specific points on these scales. These scales are shown in Chapter 5.

c) Results of Scoring

I worked with a sub-group of officials from each task group to re-score the projects according to the new ten-point scales. This process took approximately 10 hours. Some of the officials chose to sit in on the scoring sessions of task groups other than their own as there was the widespread impression that “that sector head will try and convince you that his projects are more important than they really are”. (Comment from official in ‘Economic Development’ task group meeting, Stellenbosch, Friday 22nd March 2002)

Each project/ programme proposed within each task group was scored according to the three criteria. The participants of this decision making process (the officials, community representatives and councillors) all indicated that the criteria should be equally weighted (Rep Forum meeting, 22 January, 2001; Steering Com meeting, 22 February, 2001). Consequently the three scores for each proposed project were averaged to get an average score per project. This need not necessarily have been the case, i.e. decision makers could have indicated different relative weights for each of the three criteria.

The average score for each project/ strategy was then weighted by the weight associated with the KRA (sub-cluster) from which that project or strategy originated. The results, a sub-set of which are shown in Table 19, allow all the proposed projects/ strategies to be ranked relative to each other. These rankings are now in terms of importance of the issue (the effect of the weight); effectiveness of the proposed intervention (impact score); sustainability of the proposed intervention (sustainability score) and relevance/ urgency of the intervention in terms of the functioning of the municipal department (the technical urgency score).

Strategy	Projects	Status	Technical Urgency	Impact on needs	Sustain-Ability	Average Score	Average weight	Weighted Score	
Health									
Personal health care services – integration of services									
	Liaising and co-ordinating with relevant service providers in the Health District.		6	5	10	7.00	4.76	33.33	
Personal health care services – health care package									
	Implementation/Enforcement of existing policy/ protocol/ guidelines laid down by the Provincial Administration Western Cape (PAWC), Regional Office.	Sufficient supply of medication.	Ongoing	10	8	9	9.00	4.76	42.85
		Allocation of subsidy by the state department will depend on type of services rendered at facility level.	Ongoing	10	6	10	8.67	4.76	41.27
		Appointment of full-time pharmacist in partnership with Stellenbosch Hospital.	Ongoing	9	8	3	6.67	4.76	31.74
		Outsourcing of pharmacy sessions or in partnership with Stellenbosch Hospital	New	7	8	0	3.00	4.76	14.28
Personal health care services – staff									
	Recruitment, appointment of well trained staff and ensure that they are adequately remunerated.	Appointment of full time TB Co-ordinator.	In the pipeline	6	8	9	7.67	4.76	36.50
		Expansion of the TB Programme.	New	9	9	9	9.00	4.76	42.85
Personal health care services - TB and HIV/AIDS programmes									
	Integrated HIV/AIDS Programme in the health district	Continue with the MTCCT Programme after March 2003.	Ongoing	9	10	9	9.33	4.76	44.44
		Appointment of clerk to assist the HIV/AIDS Co-ordinator	New	9	10	9	9.33	4.76	44.44
		Formula feeding for infected babies.	Ongoing	9	10	9	9.33	4.76	44.44
		Follow-up medication and tests on mother and child.	New	9	10	9	9.33	4.76	44.44
Personal health care services - community awareness									
	Information strategy to inform community of different levels and points of services.	Information distribution at facility level.	Ongoing	7	7	10	8.00	4.76	38.09
Clinic, hospitals and health care facilities									
	Provision of proper health care facilities in rural areas.	New clinic facility in Klipnoots.	In the pipeline	9	9	9	9.00	4.76	42.85
		Investigate the provision of new clinics in areas such as De Novo, Raithby, Vlotenburg, Koelenhof, Simonium etc. (Ad Hoc)	New	9	9	5	7.67	4.76	36.50
	Engage in negotiations with the PAWC, BDM, and other role-players to secure funding for extensions of health facilities.	Envisage to upgrade the Groendal Clinic facility or build a new facility.	New	9	9	5	7.67	4.76	36.50

Efficient health promotion campaigns e.g. 'Dop Stop Programme'			7	7	10	8.00	4.63	37.02
Ensure that applicable legislation is adhered to through effective monitoring by Environmental Health Officers.	Project 1		8	8	10	8.67	3.52	30.47
	Project 2		6	8	10	8.00	3.52	28.13
	Project 3		9	9	10	9.33	3.52	32.81

Table 19: Weighted Project Scores for the Health Cluster

9.7 Feedback to Council and Linking Priorities to the Budget

The complete list of scored projects/ strategies was put before the council, who together with the sector heads (officials) from each department approved a final budget at a meeting held in May 2002. The scores were used to motivate and make more transparent the reasons for including particular projects in the final budget. The simplest and most direct approach would be to selectively include projects in the budget on the basis of their ranking in the list of scored projects, however this would miss issues to do with synergies and balance. There are also other factors, both political, strategic and logistical, which determine whether or not a project will be included in the budget. Ultimately project scores are intended to be 'decision aids' rather than prescriptive determinants of the budget. The council may have to explain why particular projects which score highly are not included in the budget and vice versa, which, if addressed frankly and openly can enhance the transparency of the budgeting procedure and further refine the scoring process for subsequent years.

In this application to the Stellenbosch IDP, MCDA was used to help prioritise a list of potential projects. The local government decision making process allows for the council to have the final power as to which projects are actually included in the budget. As such the IDP guide packs (South Africa, 2001) envisage a process within which council are presented with a list of scored and weighted projects and they then use this information to compile a budget. However this task of selecting a sub-set of projects into a portfolio (in

this case some 240 projects were selected out of around 400 or so) is certainly a non-trivial one. The real strength of the MCDA tool would be in assisting in this process, especially in explicitly balancing the competing needs across the different development areas. The scoring process allows for those projects that *have* to be included in the budget to be scored as a 10. This means that these would automatically be in the budget. The choice, then, is only around those projects scored less than 10. The weights for each of the areas applied to the list of proposed projects would give us nine different ranks of projects, reflecting nine (different) views on developmental priorities. We could put together a broad selection of budgets, each of which would have a different primary focus eg housing, health, employment, etc. We could derive an overall ‘score’ for each of these proposed budgets for each of the nine development areas. A plot of the results would look something like that in Figure 30 (from the hypothetical data in Table 20).

	area1	area2	area3	area4	area5	area6	area7	area8	area9	minimum	maximum	mean
Budget1	100	90	75	70	65	85	100	95	80	65	100	84
Budget2	90	90	35	35	75	75	90	100	100	35	100	77
Budget3	65	75	45	45	45	100	50	35	45	35	100	56
Budget4	40	100	90	55	90	70	65	55	60	40	100	69
Budget5	55	50	45	70	60	95	100	45	50	45	100	63
Budget6	72	70	75	80	55	80	90	65	80	55	90	74
Budget7	50	60	50	55	90	100	35	70	30	30	100	60
Budget8	80	100	100	100	85	25	75	100	100	25	100	85

Table 20: Hypothetical Budget Scores across Development Areas

The ‘minimum’ column above indicates the worst that a budget scored across all areas. We can use this information to confine the selection to those budgets which are not too disadvantageous to any area. From the table above we can see that, for example, budget 8 is good for all areas except 6, for which it is terrible. Thus budgets with a low ‘minimum’ would not be desirable. Similarly, the column ‘maximum’ tells us the maximum that a budget achieves across all areas, and we would not want this to be too low. The ‘mean’ column indicates the average for each budget taken across all areas. In this example, the budget with the highest average score, budget 8, also happens to be the budget with the lowest minimum score. However, budget 1 has an average score of very close to that of

budget 8, and also has the highest minimum score across all areas and the highest maximum score. Budget 1 looks like the best option, unless we can find some way to adjust budget 8 to ameliorate the effects in area 6. This procedure can in fact serve as a starting point for the decision makers (Council in this instance) to look at adjusting budgets to increase their effect in particular areas or sectors.

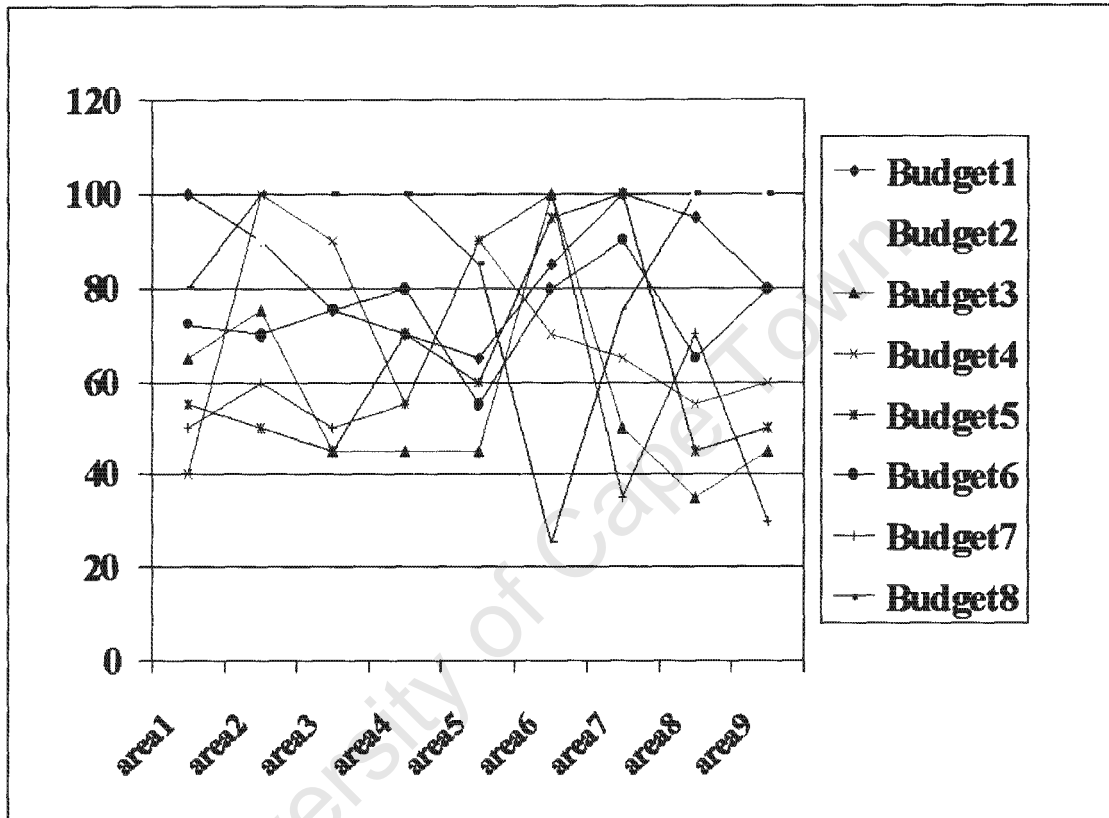


Figure 30: A Comparison of Hypothetical Budget Scores across Areas

An additional support tool for compiling the final budget is that of integer programming. The council did not feel they were in a position to make use of this tool in this budget cycle but it is hoped that it can be used in future budget cycles. Broadly speaking, integer programming could be used to assist in the selection of a portfolio of projects which maximise benefit to the municipality (i.e. the overall combined scores of the projects in the budget). This maximisation would be subject to a given budgetary limit and subject to specified (by the budgeting team) logistic and political constraints. The benefit of this approach is that it allows for exploration of the 'decision space' of possible budgets by, for example:

- a) making clear the effect of 'forcing' specific projects to be included/ excluded in the budget
- b) clarifying the possible benefit to be derived from additional budget (revenue)

9.8 Conclusions and Recommendations

In this chapter I have described an approach to structuring and supporting the participative decision making involved in the IDP processes of local authorities. In particular this approach integrates the roles played by the community, the municipal officials and politicians. The approach was developed through action research involving a series of interactions mainly in the form of workshops with these three groups.

9.8.1 Community Development Indicators

It has been shown in this paper how MCDA tools have been used to successfully collate a varied set of community needs and wishes into a consistent hierarchy of issues, across nine different development areas. These issues have been prioritised using a ratio scale of numbers which indicate both order of importance and relative magnitude of the importance of these issues. The issues form a set of Key Result Areas for the municipality. Descriptions of the best and worst outcomes in each issue have been formulated for the different areas, which form the basis for more extensive descriptive measurement scales, indicating the state of development in the multiple dimensions defined by the area forum committees. It is suggested that, apart from the value of this exercise in identifying priority areas for the IDP, the weighted Key Result Areas and associated descriptive scales can be used as the basis for a set of community crafted indices of development.

There is thus a need for continuous updating of and enrichment of the measurement scales for each community.

9.8.2 Keeping a Developmental Focus to the IDP

The process of developing the above Key Result Areas involved asking communities to table their issues within the structure of six main categories or clusters. Communities then defined their own sub-categories (referred to as issues or Key Result Areas) within each of the clusters. In some cases issues were raised as important in one area, but were absent

in others. It is possible that important issues are overlooked or 'downplayed' in particular areas, depending partly on the composition of the area forum committee. Although attempts were made to ensure that all interested and affected groups of residents were represented on the committee, this was not always achieved. It may be important for municipalities to 'impose' certain categories uniformly across all development areas. An argument could be made for ensuring that HIV/AIDS and Governance are included as separate Key Result Areas. There may also (arguably) be a need to include Poverty as a KRA, although the approach in this paper has been to focus rather on the various dimensions of poverty which Sen (1987a) refers to as capabilities. However, without a specific directive to 'be developmental', area forum committees can focus on issues of Housing, Health, Employment, etc without taking into account the needs of the poorest section of the community. It is therefore imperative that strict developmental guidelines are put into effect for the Needs Analysis phase of the IDP. In this cycle of the Stellenbosch IDP, the fieldwork surveys amongst the poorest communities was used to supplement information for each of the areas which helped to ensure that the focus remained developmental.

In this regard, it is important that there is a clear understanding of what is meant by DLG. A workshop was facilitated for Stellenbosch Municipality by management consultants Price Waterhouse in December 2001 (see methodology chapter) aimed at assisting the municipal officials to define their roles and tasks in the IDP. At this workshop officials were asked to give their understanding of the term DLG. A variety of responses was received, not one of which mentioned or referred to the poor or disadvantaged sections of community.³¹ It is suggested that a starting point for a municipality in their IDP process would be to gain a common understanding of DLG for all roleplayers

The new Strategic Services division of the Stellenbosch Municipality will be recommending that a strict set of criteria to determine the composition of the area forum committees be implemented for their next budget cycle (2002-2003). These criteria will ensure that at least 40-50% of committee members are from developing communities and

³¹ "Development" is defined in the Municipal Systems Act of 2000 (South Africa, 2000, p14) as follows: "...means sustainable development, and includes integrated social, economic, environmental, spatial, infrastructural, institutional, organisational and human resources upliftment of a community aimed at –(a) improving the quality of life of its members with special reference to the poor and other disadvantaged sections of the community; and (b) ensuring that development serves present and future generations."

that at least 40-50% are women. (Meeting of Strategic Services Division and consultants, 24th May 2002).

9.8.3 Data

Communities were asked to evaluate the relative importance of various issues within their communities, without adequate information as to the current state of development in their area. This made their task extremely difficult and the results less than satisfactory. The Analysis Phase of the IDP cycle is meant to clarify the 'current reality' within the municipality which ideally would involve a poverty and gender audit for the area. Due to lack of time and resources this did not happen in Stellenbosch. Moreover, the information provided by the sector heads was not sufficient to answer such questions such as 'How many people are homeless?'; 'How many people do not have access to clean water?'; 'How many orphans, old people, people infected by HIV, people without access to adequate sanitation, etc...?'

There was a sense of suspicion amongst communities that the officials were either hiding this information from them or not doing their jobs properly. The lack of information is of course compounded by the fact that the joint Stellenbosch Municipality is newly created and data for the area was collected unevenly by (a number of) previous authorities governing the area prior to December 2000. There is however a need to create an awareness of the importance of data and the fact that it is costly to collect. Data leads to information which affects power and thus ownership of data is an issue which communities need to be aware of. It is suggested that area forums need to be involved in processes to collect data which involve multiple agencies eg schools, universities, municipalities and communities.

Part V : Discussion

Chapter 10 : Discussion and Recommendations

10.1 The Problem Addressed in this Thesis

In this thesis I have looked at the problem of allocating scarce resources to target poverty reduction within the context of local government. I described how this problem is multidimensional on several levels, viz, there are multiple dimensions to the problem of poverty, there are multiple stakeholders (decision makers) and multiple interventions to choose between. Within each stakeholder group there are also multiple communities with multiple views on what the pertinent issues are and their priorities. There also exists, to varying degrees, an inherent antagonism and suspicion between the communities and the proposed agents of change, the local government officials. This makes the problem more complex in that it is not sufficient to focus on the technical issues of how to most effectively allocate the resources, but it is also necessary to ensure that the process is legitimate, i.e. it is endorsed by and acceptable to all participants.

In attempting to make sense of the above complexities I consulted various bodies of literature and developed an understanding of the multiple aspects of this problem.

In grappling with the concept of poverty, I examined different conceptualisations of poverty, each of which have contributed differently and helpfully to a global understanding of poverty that has become increasingly nuanced. I was left with the view that poverty is multi-dimensional, that it is best addressed within a participative framework, that it interacts with and is affected by the prevailing system of governance, that it responds to a complex set of causal factors and that it is very sensitive to quantitative manipulation!

I explored the work of Sen, a recognised authority on poverty and poverty measurement, and found that he views poverty as explicitly multidimensional and supports an approach to assessing poverty that focuses on desired endpoints, namely an assessment of capabilities. He also endorses a view that says governments should be developmental i.e. that they should not settle for Pareto optimal solutions, but rather for solutions which selectively weight some problems more highly than others

do. I found however, no evidence of mechanisms for implementation of his ideas in practical terms. He is not forthcoming on how to select which capabilities to focus on or how to weight some issues more highly than others.

In my literature review, I also described some practical models which have been put forward to represent an evaluation of well being or quality of life. One such model, the quality of life model of Ellis (1980), echoes Sen in adopting a multidimensional view of well being, and is useful in hypothesising how resources flow and accumulate within a community, which directly affects an assessment of poverty. This model, relying on a variety of available indicators to measure well being in a comprehensive list of dimensions of quality of life, does suggest a framework for developing an explicit quantification of community well being (see Ellis and Erlank (1983) for an application of this approach). Ellis' work does not however indicate a replicable mechanism to quantify decision options, or to include relevant stakeholders in this process. Like the work of Sen, it remains a framework that still requires a practical method to link it to effective decision making with respect to resource allocation. Other models which attempt to quantify community well being (or deprivation), for example the Levels of Living Indices (Cape Metropolitan Council, 1997), do so without making an attempt to selectively prioritise community issues or to allow the participation of communities in this process.

In order to understand the link between governance and poverty, I researched the imperative of DLG, a particularly South African approach albeit with strong global influences, and concluded that this approach directs that local authorities are responsible for addressing the issue of poverty alleviation through a variety of mechanisms. They are directed to place particular emphasis on uplifting poor communities (South Africa, 2000, p2, p14, p16). I have focused on the IDP process, a tool of DLG that tasks local authorities with involving communities as active participants in the process of developmental planning. In similar vein to the approaches of Sen and others, the IDP also embraces a multidimensional view of poverty but demands that local authorities go further and practically implement this view in the way in which they identify priority issues and allocate their resources. This indicated a gap between theory (of DLG and authors such as Sen) and the required practice (of allocating funds in a developmental manner). This led me to conclude that there is a need for a practical decision making method that is participative and developmental.

I turned to the field of MCDA, which encompasses a broad collection of methods that are ideally suited to working within the multidimensional environment of poverty and providing practical tools to support the process of multiple actors making choices between multiple options. I reviewed the theoretical models that have been developed in this field and presented a rationale for selecting to work with a value function approach, mainly emphasising the transparency, simplicity and ease of use associated with this form of preference modelling. Another notable strength associated with this approach is the ability to provide an audit trail of the decision making process. However, any method, no matter how adept at making technically effective resource allocation decisions, is set up to fail if it is not accepted and endorsed by important stakeholders in the decision making process.

In searching for ways to develop a decision making method that could claim legitimacy as well as rigour, I reviewed the literature on action research. Action research is not often associated with quantitative research or with large scale (in terms of numbers of participants) problems, but it has a strong tradition of working *with* rather than *on* subjects to achieve high levels of ownership of the process. I chose subsequently to develop my own research in a PAR framework, mainly because of the emphasis PAR places on valuing the input of all participants; and on the researcher being committed to a fundamental change in the status quo of power and knowledge, which sentiments do, I believe, resonate with the ethos of DLG.

The product of this research is essentially a decision making method, Participative MCDA. I believe that this method can claim to be new in that it

- a) provides rigorous support for the quantification of decisions relating to the allocation of resources for poverty relief; *and*
- b) has legitimacy in that it promotes the inclusion of all interested and affected parties; and both the tools and process of this method are moulded by the participant decision makers themselves.

Participative MCDA assists communities to articulate, structure and prioritise their needs; to develop descriptive measurement scales for community development; to evaluate proposed budgetary interventions (projects); and can be used to assist in the compilation of a budget that is developmental. The community development measurement scales can be used to monitor development i.e. as indicators of progress. In this sense the approach developed here is also a 'poverty measurement tool' such

as those reviewed in Chapter 3. I submit that Participative MCDA in fact operationalises the capability concept of Sen and that it does so in a way which draws on the strengths of all interested and affected parties.

10.2 An Application to the Stellenbosch IDP Process

In this thesis I have taken the new method which I developed and applied it to the Stellenbosch Municipality IDP process of 2001/2002. To be more accurate, the method itself was developed and refined during this application, in the style of action research.

There were many aspects of the method that did not unfold as planned in Stellenbosch! Time pressure led to compromises, which, although undertaken with the knowledge and agreement of all parties, were not ideal. Examples of this are:

- a) the repeat of the scoring exercise in which I was responsible for the final scoring of the projects for the communities, rather than the communities scoring for themselves; and
- b) the selection of the major clusters by myself rather than the politicians.

One of the constraints of action research is that real action needs to be taken within real deadlines, and so, as in the above situations, it is sometimes necessary to deviate from a planned process. In terms of the Stellenbosch process, all parties were aware of the need to pace the process more effectively in subsequent years. There was also widespread agreement that the chosen action (in the case of a) above) was preferable to reverting to the previous style of selecting projects wherein there was *no* attempt to explicitly assess the efficacy of projects w.r.t. addressing community needs.

Another weakness of the Stellenbosch IDP process was that there was inadequate data to support the process. The method is designed however to surface this issue as is reflected by many of the projects generated by the task groups (eg 'Develop a housing master plan for the whole municipal area'). However there is still a tendency for the data generation process to be separated from communities entirely and most data related projects were costed at consulting rates, with the idea that the project would be outsourced to a consultant. The idea that data (selection of variables, fieldworkers, process of generation, etc) should be linked to communities still needs to take hold in Stellenbosch.

The 2001/2002 IDP process in Stellenbosch was dominated by tension between communities and officials and between the old style brand of local government struggling to give way to DLG. This created an extremely difficult research environment although it did provide an excellent opportunity to test the ability of the proposed method to make headway under difficult circumstances! Part of the challenge of developing this method in Stellenbosch was in supporting people through change. DLG represented a major paradigm shift for all constituents and there was insufficient time or other resources for effective training, especially as officials, in particular, still had to meet the statutory and contractual obligations incumbent on their departments. A large amount of the energy I expended on this research went on supporting individuals, mainly community members, through this change; in managing expectations and in attempting to balance the need to make progress (meet deadlines) with the need to give people space and time to adapt and participate effectively.

As with all change, the process is greatly helped if there are influential key players who act as champions of the process. In the Stellenbosch case the Municipal manager as well as the IDP manager, while focused primarily on their legal obligations with regard to the IDP process, were sympathetic to the overall aims of the IDP. The support of other key posts such as Treasurer and City Engineer could also greatly ease the process of change and pave the way for new methods to be accepted.

The development and simultaneous application of this participative decision making approach in Stellenbosch continues to be a truly iterative process. Reflection on outcomes (both the budget, the IDP itself and the process reported here) lead to changes in the 2002/2003 IDP process. Stricter guidelines to ensure participation of the poor and marginalised were put in place and there was much improved buy-in from politicians who undertook to assist with community workshops. This process was somewhat bedevilled by political happenings such as 'floor crossings' and ultimately a change of balance of power in the province. This in turn led to a re-definition of the area boundaries which define community representation, unfortunately effectively derailing the process of participation. For the 2003/2004 budget cycle, the politicians have already indicated that they want to be more involved and they began at the end of the last budget cycle to look at ways of using the upper level criteria (clusters) to set political direction and guidance for the municipality. Also, positively, the IDP team have expressed interest in exploring ways of formulating a budget with MCDA tools (Step 3c of the method).

These developments are at least partly in response to the fact that there was a mismatch between the final budget and the scores allocated to projects. This mismatch is thus of itself a useful product of the process, which has provided impetus for further change to the process by the participants themselves.

How effective was Participative MCDA as a developmental and participative decision making method? This question depends, of course, on the criteria used to measure effectiveness. Is it appropriate, for example, to compare the amount of money spent previously on 'development' with that spent this cycle? This 2001/2002 cycle was the first budget cycle for the newly formed Stellenbosch Municipality so in future budget cycles it will be possible to measure such statistics. It will also be useful to use the value functions to measure overall 'budget value' for the municipality as a whole and for each development area, not as meaningful numbers themselves, but as measures of comparison. There will always be associated difficulties in determining what is strictly 'developmental', but it is important to take stock of trends over time.

However, in terms of action research, the validity of an intervention is based on whether actions that were taken solved problems and increased participants' control over their own lives. At the end of the third round of community workshops, there was a strong sense of buy-in from the communities. Most participants indicated that they believed the process of participative planning could work and were cautiously optimistic about working together. This was in sharp contrast to the extremely negative views that many community participants espoused when they reluctantly embarked on, what they perceived, as yet another round of battling with the local municipality. This sense of new found optimism was borne out by an independent review of the Stellenbosch process, which reported that most community members and officials found the weighting and scoring process to be helpful (Independent review of the Stellenbosch IDP process by Inside Out Consultants, Stellenbosch Municipality, 2002). I believe, therefore, that the method used did link communities closer to the decision making process of the municipality, and did provide a means of communication for at least these two groups of participants.

However, despite the fact that the methodology did what the IDP required of it, i.e. identified, structured and prioritised community issues and used these to generate and evaluate a number of projects, I do not think that the process has yet helped participants to gain further control of issues which affect their lives. There was ultimately insufficient

linkage between the ranked IDP projects and the final budget. This was partly due to the lack of involvement of politicians and partly due to the 'closed door' policy on compiling the budget. This could be changed with the full support of Participative MCDA through to the stage of selection and evaluation of different budgets (Step 3c). This process is still evolving and there are signs that with each iteration there is a loosening of the established power network and a movement towards more effective and transparent decision making.

10.3 Is Participative MCDA a Pro-Poor Tool?

An overarching aim of the IDP, and a specific focus of this thesis, is poverty alleviation. It is pertinent therefore to ask whether or not Participative MCDA is a pro-poor tool?

The view of poverty that I have embraced in this research acknowledges the importance of all the aspects of poverty highlighted in the different schools of thought reviewed in section 3.1 of this thesis. Fundamental to this view, however has been the notion that participation, by all interested and affected parties, is essential. I believe that this is so, not only because the legislation prescribes it, but because we do not have the resources in this country to target poverty by other expensive routes, such as effective means testing. However, although necessary, participation alone is not sufficient to ensure that an IDP will lead to effective anti-poverty action. This was apparent in Stellenbosch where the participation was skewed against the poor, and where the fieldwork raised different issues to the area forums, indicating that the forums alone could not adequately capture the issues of the poor.

MCDA provides a means of dealing concretely and practically with vast amounts of feedback from public participation and summarising it into a usable form, i.e. a form that we can use to decide whether to invest in plan *a* or plan *b*. While MCDA does provide a transparent and repeatable mechanism to make decisions, it does not necessarily of itself guide us to effective poverty intervention. We saw in Chapter 9, for example, how poor communities could not articulate or evaluate potentially serious issues of which they had no immediate experience (such as disaster management of e.g. fires).

Essential to tying the proposed participative decision making package together, is the role of the facilitator as a non-aligned but interested party. The role of this person is to highlight appropriate data that will illuminate the decision making; to ensure

appropriate use of quantitative tools; to promote participation; and to drive the process in the direction of sustainable poverty relief, in the spirit of the overall goals of the IDP. The facilitator also needs to be able to draw on theory and co-ordinate periods of reflection and use the results to develop the theory further, so that theory is constantly being informed by action and vice versa. This facilitator needs to be able to manage process, people and data.

How did the choice of tools affect the quality of the process? In this research I made a decision to use a value function approach in developing a participative public decision making method. It is difficult to measure the effect of using a specific tool on the outcome of a process. Part of the effect of the tool is the sense of confidence, comfort and familiarity that the facilitator (myself in this case) experiences in using this tool. My conclusion in using the value function based approach is that it was effective (supported by independent review of the process, Stellenbosch, 2002). This is not to say that it is necessarily the only (or even the best) preference measurement approach to adopt, but rather that such an approach can work in this decision making environment

In reaching a conclusion on whether or not Participative MCDA could be regarded as a pro-poor tool, I return to the Ellis model of quality of life, reviewed in section 3.8. I submit that Participative MCDA promotes the cause of the poor by providing a specific realisation of the feedback loops envisaged by Ellis (1980). This method can be seen as providing a powerful feedback loop from the community to those politicians and bureaucrats who control community resources.

10.4 Recommendations

The experience of applying Participative MCDA in Stellenbosch showed that this method can effectively support the process of mass participation in public decision making and planning. It has the ability to co-ordinate and collate vast amounts of data from a mass participation process into a practical, usable format which assists in some very difficult decision making. Moreover, it does so in a way which broadens the base of democracy in the sphere of government closest to home, with the greatest power to make a material difference in individual lives. Despite the optimistic outcome of this first test case which

shows that this approach has definite potential, this is new knowledge and as such should be cautiously applied. I propose a number of recommendations to be considered with regard to replicating the method in the context of other municipalities or public decision making processes.

- (i) An explicit request of the community representatives in Stellenbosch was for the municipality to make available an independent person (not belonging to either of the three constituent stakeholder groups) to co-ordinate the participative process. (Pers comm, co-chair of the Rep Forum, February 2003, Kuilsriver). This resonates with my own view that a 'facilitator' is an important part of the success of this proposed new method. An independent facilitator would partly be responsible for ensuring that the IDP process remains developmental, and as such I recommend that funds are made available by central government for these posts. The facilitator would also be responsible for managing data, another crucial limiting factor to the success of this process. A feasibility study is indicated and recommended to assess the cost effectiveness of providing funds to employ independent facilitators. It would need to be determined, too, whether this method can be used in all municipalities. Is it feasible for small municipalities to engage the services of 'participation facilitators' and how do these posts gain respect as independent, skilled operators from the perspective of *all* participants? A feasibility study would also need to assess how many facilitators are needed to take this process to scale, what period of training would be necessary and how often this participative process should/ could be repeated in order to make it implementable on a larger scale. It would also be important to explore ways of explicitly involving other (non-local) tiers of government and ensuring that the process of transferring information between them is as effective as possible.
- (iii) The lack of effective data was a problem in Stellenbosch. Given the fact that Stellenbosch is a relatively well-resourced local authority, this is likely to be a similar problem in other municipalities. This situation needs to be rectified, especially if the focus is to be truly developmental. It is recommended that area forums (or similar community representative groups), in collaboration with local authorities, identify data needs in their areas, and that local authorities establish links with tertiary education centres to develop relevant data sets that the community have an active stake in.

- (iv) Under-representation of the poor. The issue of representation in participative approaches is fraught with difficulties. The experience in Stellenbosch showed that poor communities have to be supported to be enabled to participate. If issues such as transport, communication networks, scheduling of meetings, secretarial support, etc are not addressed then poor people simply do not have the resources to participate. There is also the issue of 'constituency', i.e. who do the participants represent? Stellenbosch's experience led them to tighten the criteria for representation and these criteria will probably need to be monitored and updated constantly. There is also value in having a parallel process of enquiry such as the Stellenbosch fieldwork in this research and it is recommended that municipalities using this method make funds available for this exercise.
- (v) Training for participants. The participants in the research in Stellenbosch generally had a poor understanding of the aims and objectives of DLG, of the IDP or of their own and other participants' roles in the IDP process. It is recommended that municipalities provide training for community representatives, politicians and municipal officials at the beginning of their IDP processes to avoid wasting time on clarifying misunderstandings and explaining roles and processes along the way.

10.5 Conclusion

In concluding this thesis I return to the challenges outlined in Chapter 1, and summarise (Table 21) how Participative MCDA addresses the issues highlighted in the introduction. In response to the challenge to develop a method that can enhance decision making in a complex arena such as that associated with the IDP process, conclude that the method addresses the identified requirements in the following ways:

Participative MCDA allocates the task of defining high level goals to the political representatives. This overall sense of direction for the municipality is thus essentially defined by the elected Council. Within this broad, overarching structure, individual communities define their own value trees that articulate, prioritise and structure their particular needs and aspirations. Moreover, communities also set up their own community development measurement scales, which they use to monitor the development of their own communities with respect to specific criteria (dimensions of

poverty or development). These descriptive scales provide a community based framework for developing indicators of progress and development. The approach promotes, through the facilitator, a strong sense of the importance of information to ensure effective decision making, and for the need to take action and expend resources to make quality data available.

Municipal officials are allocated the task of measuring the technical urgency/ necessity (with respect to the defined functions of their departments) of proposals which they help develop with community members in task groups. Officials ensure that proposals are adequate to cover the necessary technical requirements of meeting their legislated departmental obligations. Communities, in turn, measure the impact of proposed projects on their own community needs. All participants are encouraged to focus attention on the sustainability of proposals.

The method provides a means of summarising priority information in the form of weighted value trees for other participants less directly involved in the process e.g. district and provincial administrations. This information is most conveniently stored in drill down type formats so that additional supporting information is available if required but the overall picture is not swamped by detail.

Participative MCDA provides a transparent and rigorous way of choosing between different budgetary options, allowing for the appropriate influence of values and data (information). This method supports participative public decision making and enhances a sense of ownership of all participants of the process and its products.

	Generic characteristic	IDP specific requirement	Participative MCDA
Goals	<ul style="list-style-type: none"> • Helps to clarify goals • Helps with selection and prioritisation of goals • Handles multiple, conflicting goals 	<ul style="list-style-type: none"> • Clarifies needs and goals of community, whilst promoting the overall goals of the IDP and accommodating guidance from officials and experts 	<ul style="list-style-type: none"> • Major clusters defined at political level • Community value trees • Community Development Measurement Scales • Officials chair task groups and score Technical Urgency of projects
Monitoring	<ul style="list-style-type: none"> • Monitors process • Monitors outcome • Enhances transparency of decision making 	<ul style="list-style-type: none"> • Assists in the development of both performance and outcome/ impact monitors • Promotes community participation in monitoring 	<ul style="list-style-type: none"> • Community Development Measurement Scales can yield indicators • Value functions can provide measure of efficacy of budget
Multiple levels of players	<ul style="list-style-type: none"> • Co-ordinates inputs from different levels of participants • Co-ordinates outputs required by different levels of participants 	<ul style="list-style-type: none"> • Makes provision for summary measures to co-ordinate decision making at district, provincial and national levels • Decisions can be linked back to community level needs 	<ul style="list-style-type: none"> • Value trees summarise community needs • Budget items can be linked to projects, to strategies, and back to items raised in communities
People orientated	<ul style="list-style-type: none"> • Promotes a sense of ownership of the decision and the decision process • Enhances conflict resolution • Assists by clarifying options and guiding decisions • Accessible to all participants 	Same as for generic level	<ul style="list-style-type: none"> • PAR approach promotes ownership • Focus on values separately from measures of efficacy/ data • Clarifies options • Promotes participation of all
Ability to cope when data is poor / absent	<ul style="list-style-type: none"> • Clarifies where information is lacking • Promotes a culture of awareness of the importance of information • Helps put data processes in place to improve access to information 	Same as for generic level	<ul style="list-style-type: none"> • Role of the facilitator is to highlight missing data and promote a culture of awareness of data

Table 21: Characteristics of Participative MCDA

References and Sources

1. Primary Sources

1.1 Workshops, Meetings and Interviews

a) Community Workshops

First round of Community Workshops:

Objective: Officials from the Stellenbosch Municipality present information to each area forum about the planned IDP process and about the current situation with respect to development in the Stellenbosch Municipality. I attended this round of meetings as an observer.

Present at this round of meetings were: The Stellenbosch IDP team; organisations and resource persons comprising the development area forum (by invitation from the municipality); and sector heads from the Stellenbosch Municipality representing the following areas of jurisdiction: Disaster Management, Traffic and Public Transport, Security, Electricity, Water and Sanitation, Housing, Roads and Stormwater, Waste Management and Cemeteries, Finance and Institutional Management, Health and Welfare, Sport and Recreation; and Planning.

- (i) Tues 25th September 2001: Area Forum 9 workshop: Franschhoek Town Hall 18h30 to 11h00. Organisations representing development area 9 : Boland DM, Begunstigde Komitee, Bosbou Behuisingsforum La Motte, Franschhoek ACVV, Franschhoek Agency for Community Development, Franschhoek Anglikaanse Kerk, Franschhoek Belastingbetalersvereniging, Franschhoek Boerevereniging, Franschhoek Development Forum, Franschhoek Empowerment and Conservation Trust, Franschhoek Klub, Franschhoek Lions Klub, Franschhoek Live Craft Centre, Franschhoek NG Kerk, Franschhoek Sakekamer, Franschhoek Senior Rapportryers, Franschhoek Sport & Kultuurraad, Franschhoek Tatler Newspaper, Franschhoek Taxivereniging, Franschhoek Trust, Franschhoek Valee Tourisme, Franschhoek VGK, Franschhoek Volwasse Onderrigsentrum, Franschhoek Ward 1 Community Development Forum, Franschhoek West Residents Association, Franschhoek Wingerde, Franschhoek-Suid Buurtwag, Groendal Jeug, Groendal Primer, JG Roux FH Trust, Hugenote Museum, La Motte Bemagtigingstrust, La Motte Trust, Lubeck

Gemeenskapsforum, Langrug F Focus, Langrug SANCO, Maasdorp Behuisingskomitee, Mont Rochelle Natuurreservaat Adviesraad, NICRO, Cllr van der Westhuizen, Cllr Morgan Cllr Pheiffer, SANCO, SA Polisie diens Franschhoek, Stellenbosch Belangegroep, Stellenbosch Road, The Lord Acre Mission, Theewaters Conservancy, Wigneronds de Franschhoek, Wemmershoek Behuisingskomitee, Wes-EindPrimer.

- (ii) Wed 26th September 2001: Area Forum 8 workshop: Pniel Banquet Hall 18h30 to 09h30. Organisations representing development area 8 : Anglo American Farms Ltd, Droebaan komitee, Dwarsriviervallei Gemeenskapsontwikkelingsforum, Groot Drakenstein Civics, Groot Drakenstein Games Club, Groot Drakenstein Gemeenskap Polisieforum, Groot Drakenstein Housing Forum, Groot Drakenstein Landowners Association, Integrated Human Ennoblement Project, Johannesdal Belastingbetalersvereniging, Kylemore AGS Kerk, Kylemore AME Kerk, Kylemore Belastingbetalers- & Inwonersvereniging, Kylemore Concerned Citizens, Kylemore Kliniekkomitee, Kylemore Ou Apostoliese Kerk, Kylemore Rugbyklub, Kylemore Senior Sekonder, Kylemore Sportklub, Kylemore Transformasiegroep, Kylemore VGK Kerk, Lanquedoc Ou Apostoliese Kerk, Lanquedoc Toerisme, Meerlust Gemeenskapsforum, Parish of St George the Martyr Groot Drakenstein, PC Pietersen primer, Pniel Behuising, Pniel Civic, Pniel Gemeenskapontwikkelingskomitee, Pniel Ratepayers Association, Pniel Sport en Rekreasie, Pniel Toerisme, Pniel Tuinbou Vereniging, Cllr de Wet, Cllr Jooste, Cllr Pietersen, Rhodes Fruit Foods, SA Polisie diens Groot Drakenstein
- (iii) Thursday 27th September 2001 : Area Forum 7 workshop: Ida's Valley Library Town 18h30 to 10h00. Organisations representing development area 7 : Amoi Estate Ida's Valley, Bergplaas Resort, Boomadvieskomitee, Botmaskopbelangegroep, CL Architects, Cllr Ortell, Cllr Jooste, Dhelminie Enterprises, Farm 119 portion 9, Ida's Valley Heritage Resource, Ida's Valley Advisory committee, Jonkershoek Conservancy, Jonkershoek Environmental Forum, Jonkershoek Housing Forum, Jonkershoek Residents Group, Lindani Farm, Cllr Botha, Cllr Gordon, SAMWU, Simonsberg Belangeforum, Simonsberg Bemagtigingsforum, Simonswyk Belangegroep, Stellenbosch Belangegroep, Stellenbosch Gemeenskapforum, Stellenbosch Taxivereniging, The Ridge Gemeenskapaksieforum, Stellenbosse Landbougenootskap (Area 7), Tennantville Buurtwag

- (iv) Monday 1st October 2001 : General Public Meeting for Development Areas 7, 8 and 9. Pniel Banquet Hall 19h00. Present: IDP team from Stellenbosch Municipality and roughly twenty members of the public who were asked to fill out the same forms as used in the fieldwork³²
- (v) Wednesday 3rd October 2001 : Area Forum 4 workshop: Kaya Mandi Administrative Offices 18h30 to 21h00. Kaya Mandi Taxi Association, Kaya Mandi Unemployment Organisation, Cllr Kalazana, Cllr Makasi, Cllr Mcako, Cllr Mgijima, Cllr Ngcofe, Cllr Qoba, Cllr Naku, Kaya Mandi Business Forum, Kaya Mandi Soccer Association, Kaya Mandi Workers Association, Kayamandi Musicians, Kayamandi Sport Council, Kayamandi Test Case Project, Kayamandi United Bricklayers Association
- (vi) Thurs 4th October 2001 : Area Forum 5 workshop: Cloeteville Eikestadsaal. 18h30 to 20h00. Breughel Belangegroep, Cloeteville Naskoolsorg, Cloeteville Opheffingsforum, Cloeteville Sports Council, Councillor Bergstedt, Councillor Fortuin, DTC, FWF Buurtwag, Polisieforum, Riverside Community, Stellenbosch Belastingbetalers (Wyk 2), Nietvoorbij Stellenbosch Behuisingskomitee
- (vii) Mon 8th October 2001 : Area Forum 6 workshop: Stellenbosch Council Chambers 18h30 to 10h00. Organisations representing development area 6: Boland College, Chittenden Nicks de Villiers, Eikestad Nuus, Historiese Huise, Integrated Human Enablement Project, NG Studentkerk, SA Polisie diens Stellenbosch, SBLC, Stellemploy, Stellenbosch Belangegroep, Stellenbosch Chamber of Commerce, Stellenbosch Joint Business Venture, Stellenbosch Museum, Studenteraad US, SWOKK, Weides Huiseienaarsvereniging, Cllr Gagiano, Cllr van der Poel, Cllr van Wyk
- (viii) Tues 9th October 2001 : General Public Meeting for Development Areas 4, 5 and 6. Eikestad Primary School 19h00; Present: IDP team from Stellenbosch Municipality and roughly ten members of the public who were asked to fill out the same questionnaire as that used in the fieldwork.
- (ix) Wednesday 10th October 2001 : Area Forum 3 workshop: Doornbosch Agricultural Hall 18h30 to 21h30. Blaauwklippen Valley Land Owners Association, Boland

³²These public meetings were extremely poorly attended, partly due to the fact that they were not well advertised in advance of the meeting. The information gathered at these meetings was not eventually used as these groups were too small to be representative and frequently consisted of individuals already included in the process as members of an area forum.

District Development Council, Councillor Adonis, Councillor Anthony, Councillor Gotze, Jamestown Behuisingskomitee, Jamestown Belastingbetalers, Kanonkop, Raithby Belastingbetalersvereniging, Stellenbosse Landbougenootskap (Area 3)

- (x) Thurs 11th October 2001 : Area Forum 2 workshop: Vlottenburg Methodist Church. 18h30 to 21h30. Councillor Du Preez, Franschoek Wingerde, Jooste - Individual, Julies - Individual, Stellenbosch-Wes Anti-Besoedelingskomitee, Stellenbosse Landbougenootskap (for Area 2), Papegaaiberg Natuurbewaring, Spier Holdings, Stellenbosse Landbougenootskap (Area 2)
- (xi) Mon 15th October 2001 : Area Forum 1 workshop: Elsenburg College Lecture Hall. 18h30 to 22h00. Elsenburg Gemeenskapsforum, Stellenbosch Landbouwerknemersvereniging, De Novo Landbou Grondeienaars, Devonvale Estate Association, Koelenhof Landbougenootskap, Koelenhof Planning Committee, Koelpark Inwonersvereniging, Simonsig Wine Estate, Stellenbosse Landbougenootskap, De Novo Gemeenskapsvereniging, De Novo Sentrum, De Novo Gemeenskap- en Landelike Ontwikkelingsforum, De Novo Ontwikkelingsforum
- (xii) Tues 16th October 2001 : General Public Meeting for Development Areas 1, 2 and 3. Stellenbosch Town Hall 19h00; Present: IDP team from Stellenbosch Municipality and roughly ten members of the public who were asked to complete the same questionnaire as that used in the fieldwork.

Second round of Community Workshops:

Objective: To determine the relevant developmental and other issues for each development area and to select a smaller, representative committee and chairperson for each area.

Present at this round of meetings were: The Stellenbosch IDP team (largely without myself as the third round of meetings which I facilitated began to run in parallel with this series of workshops from the third meeting); and the area forum for each development area (by invitation from the municipality).

- (i) Wednesday 17th October 2001: Area Forum 9 workshop in the Franschoek Town Hall at 18h30 till 22h00.
- (ii) Thursday 18th October 2001: Area Forum 7 workshop, Ida's Valley Library at 18h30 till 21h30.

I did not attend the following meetings in this series:

- (iii) Monday 22nd October 2001: workshop with Area Forum 8. 18h30 till 21h00 at Pniel Banqueting Hall.
- (iv) Tuesday 23rd October 2001: workshop with Area Forum 6 Stellenbosch Council Chambers 18h30pm.
- (v) Wednesday 24th October 2001: workshop with Area Forum 5 Cloetesville Eikestadsaal. 18h30.
- (vi) Thursday 25th October 2001: workshop with Area Forum 4: Kaya Mandi Administration Offices 18h30.
- (vii) Monday 29th October 2001: workshop with Area Forum 3. Doornbosch Agricultural Hall. 18h30
- (viii) Tuesday 30th October 2001: workshop with Area Forum 2. Vlottenburg Methodist Church 18h30.
- (ix) Wed 31st October 2001. Workshop with Area Forum 1. Elsenburg College Lecture Hall.

Third Round of Community Workshops.

Objective: To structure and prioritise the needs of each community.

Present at this series of workshops: Myself as facilitator and the Area Forum committees.

This round consisted of between one and three meetings with each area forum.

- (i) Tues 30th October 2001. 1st meeting with Area Forum 8: 7pm Pniel Town Hall. Present from the area forum committee: Winston Meyer, Hillary Lackay, Hamilton Jamda, Joronamey Maseko, Eddie Petersen
- (ii) Wed 31st October 2001. 1st meeting with Area Forum 9. 12pm to 2pm Franschoek Council Chambers. Present from the area forum committee: A Scheepers, P de Necker, WJ Davids, F Simons, Mirna Davids, Constance Zazaza, Wilfred Moses, Richard von Hoesslin, Leonard Seelig, Salwen Constable, Nkululeko Tulwane
- (iii) Thursday 1st November 2001. 1st meeting with Area Forum 6 in Stellenbosch Council Chambers. 1pm to 3pm. Present from the area forum committee: KJ van der Merwe, CW Calitz, LC Silberbauer, E. Aucamp, B Augustyn, B Hayes, FH Opperman, J van Zyl, V Scholtz, , P Venter, D Pheiffer.

- (iv) Friday 2nd November.2001. 1st meeting with Area Forum 7. Stellenbosch Municipal Offices. 12pm to 2pm. Present from the area forum committee : Raoul Albers and Nicky Caesar³³.
- (v) Tuesday 6th November 2001. 2nd meeting with Area Forum 8. Pniel Town Hall. 7pm to 9:30pm. Present from the area forum committee: Winston Meyer, Hillary Lackay, Hamilton Jamda, Joronamey Maseko, Eddie Petersen, Mr B Kwago, Me R. Erasmus, Pastoor Daniels, Me E Davids, Cllr De Wet, Mr L Conradie, Mr I Jacobs
- (vi) Wednesday 7th November 2001. 2nd meeting with Area Forum 9. Franschhoek Town Hall. 13h00 to 14h00. Present from the area forum committee: Mirna Davids, WJ Davids, Salwen Constable, Richard von Hoesslin; Wilfred Moses, A Scheepers, email proxy from Leonard Seelig.
- (vii) Thurs 8th November 2001. 2nd meeting with Area Forum 6, 12h45 to 14h45. Stellenbosch Council Chambers. Present from the area forum committee: KJ van der Merwe, CW Calitz, LC Silberbauer, E. Aucamp, B Augustyn, B Hayes
- (viii) Thursday 8th November 2001. Informal meeting with councillors from Development Area 4 to ensure that key community players are able to be included in the process. Present: Leon Fourie, Willie Ward, myself and Councillors Qobo, Mgijima and Ngcofe.
- (ix) Monday 12th November 2001. 1st meeting with Area Forum 3 at Doornbosch Agricultural Hall 12h30 to 14h00. Present from the development area forum committee: Johann Myburgh, Clifford Davidse, Benninghoff Giliomee, Marie Lousie Radziwill, N du Toit, E Johannes, W Obermeyer, A Heyns, Cllr EPS Taljaard
- (x) Tuesday 13th November 2001. 1st meeting with Area Forum 2 at Spier Wine Estate Farmstall. 12pm to 2pm. Present from area forum committee: Rosaline van Niekerk, Reinhold Viljoen, Tinnie Momberg, Jan Lombard, Gillian Swart, H. Brink
- (xi) Wednesday 14th November 2001. 3rd meeting with Area Forum 6 in Stellenbosch Council Chambers 12h45 to 15h00. Present from the area forum committee: CW Calitz, LC Silberbauer, E. Aucamp, B Augustyn, B Hayes
- (xii) Wednesday 14th November 2001. 1st meeting with Area Forum 1, Elsenburg College, 7pm to 10pm. Present from area forum committee : FJ Malan, K Wang, C

³³ Note that although this area was represented by only two people in the prioritisation workshops, they did go to the effort of canvassing for opinions in their area prior to giving responses to the questions of weights and the scale descriptions.

Scott, A Plaatjies, E Ockers, S Snyders, J Davey, Z Rumble, H Carolus, Solomons, Botha, P Gunter, Cllr JC Anthony, T Everts.

- (xiii) Thursday 15th November 2001. 2nd meeting with Area Forum 7 at Stellenbosch Municipal Offices. 12pm to 2pm. Present from the area forum committee : Raoul Albers and Nicky Caesar.
- (xiv) Thursday 15th November 2001. 1st meeting with Area Forum 5 at Masakane Offices, Cloetesville 18h30 to 21h00. Present from the development area forum committee: W Fortuin, S Scheepers, S Smith, I Isaacs, S Petersen, S Louw, C Schumann, D Hendrikse, L Loubser, J Pieterse, V Fernandez, P Biscombe.
- (xv) Friday 16th November, 2001. Meeting with Mr Giliomee, chair of Area Forum 3 and Stellenbosch IDP manager, Mr Leon Fourie at Stellenbosch Municipal Offices, 2pm to 3pm (to discuss lack of progress with this area forum).
- (xvi) Tuesday 20th November 2001. 2nd meeting with Area Forum 2 at Vlottenburg Methodist Church at 18h30 until 21h00. Present from area forum committee: Rosaline van Niekerk, Reinhold Viljoen, Jan Lombard, Gillian Swart, H Brink, H Essau, M Pieterse.
- (xvii) Wednesday 21st November 2001. 1st meeting with Area Forum 4 at Kaya Mandi Administration Offices. 18h30 till 21h00. Present from the development area forum committee: Oupa Monaheng, D Ndudula, B Sitemela, Samuel Mxesibe, Cllr Melken Ngcofe, Pauline Naku, S Menziwa, G Ntshanga, T Chungiso, S Makupula, Donald Mpino, BL Makasi, W Ndamase
- (xviii) Thursday 22nd November 2001. 2nd meeting with Area Forum 5 at Masakane Offices in Cloetesville, 19h00 till 22h00. Present from the development area forum committee: W Fortuin, S Scheepers, S Smith, I Isaacs, S Petersen, S Louw, C Schumann, D Hendrikse, L Loubser, J Pieterse, V Fernandez, P Biscombe
- (xix) Friday 23rd November 2001. 3rd meeting with Area Forum 7 at residence of Raoul Albers. 15h00 to 17h30. Present from the area forum committee : Raoul Albers and Nicky Caesar.
- (xx) Monday 26th November 2001. 2nd meeting with Area Forum 3 at Doornbosch Agricultural Hall, reconvened at home of Mr Giliomee. 18h00 to 21h00. Present from the development area forum committee: Benninghoff Giliomee, Marie Lousie Radziwill, N du Toit, E Johannes, W Obermeyer, A Heyns

b) IDP Steering Committee Meetings

- (i) Fri 14th September 2001 (to approve revised IDP Process Plan)
- (ii) Fri 12th October 2001 (to review the first round of IDP meetings with the community and to revise the approach for future meetings)
- (iii) Fri 22nd of February 2002 (to approve the mechanism of scoring the proposed projects)
- (iv) Wed 20th March 2002 (to review the scores set by the task groups and to approve the revised scoring procedure)

c) Rep Forum Meetings

- (i) Tuesday 27 November 2001, 17h00 to 22h00. Aims: initial meeting to convene the group, to elect a co-chair, to approve the IDP process and to agree on the rules and regulations governing meetings.
- (ii) Tuesday 22 January 2002, 18h00 to 22h00. Aim: to present the 'needs analysis'.
- (iii) Monday 28th January 2002, 18h00 to 22h00. Aim: to convene the task groups.
- (iv) Thurs 18 April 2002 18h00 to 21h00. Aim: to review the scoring of projects as presented by the task groups.

d) Workshops and Interviews with Stellenbosch Municipality Sector Heads

- (i) Series of interviews with all sector heads to determine the extent of their jurisdiction as well as to ascertain the perceived threats, opportunities and strategic priorities for their sector. Facilitated by Willie Ward from FCR and myself. 11th to 13th September 2001.
- (ii) Friday 7th December 2001. 08h00 to 12h00. Stellenbosch council chambers. The objective of this meeting was to make clear to all the officials in the municipality the outcomes and deadlines of the IDP process as well as to try to ensure their commitment to the aims of the process. The meeting was facilitated by consultants from Price Waterhouse, briefed by the Stellenbosch Municipality IDP team
- (iii) Friday 25th January 2002. Workshop with Stellenbosch Municipality Sector Heads in Franschoek Council Chambers. 08h00 to 15h30. Objective: To assist the sector heads to develop a scoring system to be used by the task groups in scoring potential projects. Present at this meeting were the municipal manager (as meeting facilitator),

the sector heads, Leon Fourie and myself (to facilitate the development of a scoring system).

- (iv) Fri 8th March 14h00 to 15h30: Stellenbosch Council Chambers. Objective: Finalise scoring for task groups with sector heads. Present: Municipal manager, Leon Fourie, myself and all sector heads.

e) Task Group Meetings

Series of meetings of task groups: 11th to 18th March 2002. The aim of these meetings was to score the proposed projects. I only attended two of these meetings, largely as an observer.

f) Task Group Chair Meetings

Objective: To apply an extended, more specifically defined 10-point scale to the scoring of potential projects. Present: Relevant sector heads (in their role as task group chairs) and myself.

- (i) Fri 22 March 2002, 10h00 to 12h00. Economic Development meeting with Deon Carstens
- (ii) Fri 22 March 2002, 12h00 to 13h00. Health and Social Development with Japie Harmse
- (iii) Fri 22 March 2002, 13h00 to 14h00 Agriculture with Peter Mons and Johan Kotze
- (iv) Fri 22 March 2002, 14h00 to 15h00 Housing with Keith Ford
- (v) Mon 25 March 2002, 10h00 to 11h30 Natural and Built Environment meeting with Hasie Haasbrook
- (vi) Mon 25 March 2002, 12h00 to 13h00 Safety and Security with Lincoln Stander
- (vii) Mon 25 March 2002, 13h30 to 15h30 Infrastructure with Eddie Delpont and Barry Naude

g) Other Relevant Meetings and Workshops:

- (i) Workshop with Women-on-Farms: 11h00 to 13h00 Saturday 10th October 2001. This meeting was held to attempt to gather information on issues of farmworkers, a constituency not specifically represented on the area committees or covered in the fieldwork (due to problems of access to private farmlands). Present: Denise Darmant

(Women on Farms) and 13 representative farm workers from the Oude Nektar, de Clapmuts, Hydro, Elsenburg, Blyhoek and Uitkyk farms.

- (ii) Meeting with Stellenbosch' Strategic Services department (previously the IDP team) and Inside Out consultants to review the 2001/2002 IDP process. Fri 24th May 2002, 09h00 to 14h00

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Appendix 1: Fieldwork questionnaire

MUNICIPALITY • UMASIPALA • MUNISIPALITEIT **Stellenbosch**

2002
2006

idp gop

integrated development plan • geïntegreerde ontwikkelingsplan

Official
No.

We are here to find out about the important issues to **YOU** as a resident of the Stellenbosch Municipality. What are the most important issues that the Municipality should focus on in deciding how the budget should be allocated?

	Issue	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9
A	Promoting business/ entrepreneurial opportunities									
B	Creation of Jobs and Access to training									
C	Promoting tourism									
D	Access to basic services: (water, electricity, refuse removal, sanitation)									
E	Governance, democracy and anti-corruption									
F	Safety and security (eg problems with gangs, lack of police stations, robberies, etc)									
G	Housing									
I	Land									
J	Pollution (land, water and air) and disposal of waste									
K	Health									
L	Facilities for the care of the aged, youth and disabled									
M	Beautification of the area (parks, walkways, gardens)									
N	Heritage and Preservation of history									

O	Traffic control									
P	Conservation of the natural environment (protected reserve areas)									
Q	Public facilities, sport and recreation									
R	Infrastructure (roads, sidewalks, cemeteries, ...)									
S	Emergency services (fire, ambulance, etc)									
T	Promoting and preserving the special character of the area/town									
U	Agricultural issues									
V	HIV/AIDS									
W	Transport									

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