

VREDEFORT DOME CONSERVANCY

STRATEGIC DEVELOPMENT AND MANAGEMENT PLAN

25 February 2002



CONTOUR
Project Managers

In association with

Grant Thornton
Kessel Feinstein 

1. PREFACE

The landowners close to the centre of the Vredefort Dome Impact Structure have indicated that they are interested in establishing the proposed Vredefort Dome Conservancy (VDC).

The proposed VDC is located near Parys in the Free State Province of South Africa and straddles both the North West Province and the Free State across the Vaal River. The area has been mainly used for agricultural and mining purposes over the last two centuries. It has however seen some major changes more recently, as the agricultural and mining potentials declined and more and more landowners started tapping into the natural tourism potentials of the majestic Vaal River and the scenic Vredefort Hills.

As most international geologists in the last decade gave recognition to the Vredefort Dome Impact Structure as the largest and oldest meteorite impact site on the globe, an awareness was created that the area represents a unique geological phenomenon of international significance and that it was in desperate need of conservation. This structure has been studied by numerous scientists. More than 700 publications have appeared with some reference to the Vredefort Dome Impact Structure ¹.

The proposed Vredefort Dome Conservancy is located close to the centre of this impact structure with a diameter of approximately 400 km. Although the study area of 30,108 hectare (Vredefort Dome Conservancy) only covers a small part of the Vredefort Dome Impact Structure, it represents the more visible central granite core and other above ground geological formations, as well as certain interesting and aesthetically pleasing landscapes and diverse ecosystems. It is also relatively close to tourism markets and access routes and has more recently been growing its tourism products. Apart from its natural beauty, the area also offers a rich cultural backdrop comprising a number of interesting archaeological and mining sites and historical aspects.

The area is clearly demarcated by a peripheral provincial road network and constitutes an area of relatively low densities of development, marginal agricultural potential and most significantly, where most landowners have already agreed to incorporate their land into a conservancy.

The study area crosses the Vaal River with its significant tourism attractions to incorporate approximately 11,251 ha in the Free State (\pm 70 landowners) and 18,857 ha in the North West Province (\pm 20 landowners).

The current strategic thinking includes the incorporation of all the land within the designated area into a conservancy, the registration of the conservancy as a World Heritage Site with the United Nations and the joint planning, development and management of the area by the stakeholders with the assistance of government and the private sector.

This Strategic Plan (Strategic Development and Management Plan) was prepared by the stakeholders with the intention of guiding the future planning, development and management of the proposed conservancy.

¹ Reimold W.U and Coney L, 2001. The Vredefort Dome Impact Structure and Directly Related Subjects: An Updated Biography. Economic Geology Research Institute, University of Witwatersrand

2. INTRODUCTION

2.1. BACKGROUND TO VREDEFORT DOME CONSERVANCY

2.1.1. Unique Geology

The geology of the Vredefort Dome Impact Structure, situated near Parys and Vredefort in the Free State Province of South Africa and in the centre of the Witwatersrand Basin, is absolutely unique and of great interest to geologists all over the world. Particularly the area in the vicinity of VDC attracts great interest due to the more visible above-ground formations that significantly contribute to the research and interpretation potentials.

In the region of Vredefort a relatively flat area with the presence of granite rock appears, which normally occurs in the deep crust of the earth. Around this granitic region lies a half-concentric ring of hills towards the north-west. The layers within these hills are upside down with an angle of approximately 60 degrees towards the inside of the circle. This first ring of hills is known as the Vredefort Bergland or Vredefort hills. Outside these hills lies a wide arching valley stretching from Vereeniging in the east towards Potchefstroom and then curving south-westerly towards Viljoenskroon. Underground evidence exists that the same ring structure continues underground to complete the circle in the south-east, although not visible. This confirms a ripple-effect similar to that which can be observed when dropping a pebble into a pool of water.

It is believed that a major catastrophic event occurred 2020 million years ago when a huge meteorite of possibly 10 to 15 km diameter slammed into the earth to form a massive impact crater, the eroded remnants of which today is only visible north-west of the impact site. The Vredefort Dome, an uplifted core of basement rocks surrounded by overturned sedimentary rocks, today marks the centre of this the largest and oldest known meteorite impact structure on Earth. It is situated 120 km south-west of Johannesburg and straddles the Vaal river.

Although the origin of the dome was debated with much controversy by scientists, it is today generally accepted that the cause of this interesting structure was that of a gigantic meteorite impact.

The size (250 km in diameter) and age of the structure makes it the largest and oldest on earth.

Image 1: View of the Vredefort Impact Structure from space

Source: Council of Geoscience

It is further believed that the gold-bearing Witwatersrand strata would have disappeared as a result of erosion if it was not for this catastrophic event.

Evidence exist of violent shifts and deformations in the form of melt rocks which is only found here and in the Sudbury Impact Structure in Canada. Another evidence of this major impact are the shatter cones that are found in sharply upturned rocks of the Vredefort hills that surround the central core of uplifted granitic rock. Signs of shock metamorphic effects and unusual melted formations (Vredefort Granopyre) with traces of meteorite origin and zircon crystals are believed to be further evidence of this extraordinary event.

The Vaal river can be seen where it cuts through the Vredefort hills from north-east to west in the above image.

Picture 1: Overtured Quartzite Hills



Imprecate faulting resulting in repetitions of Hospital Hills Quartzite with ring-shaped hills of Vredefort in the background

An interesting phenomenon that adds to the spectacular scenery of the landscape is the steeply dipping and heavily fractured overturned quartzite hills caused by impact deformation.

2.1.2. Natural Diversity

The climate is highly variable, ranging between cold winter nights of 0°C and hot summer days of 30°C. The temperature can however drop to -10°C. Average rainfall is 625 mm of which approximately 500 mm falls in the summer months between October and March.

The Vaal river is the major surface water body, but water contamination is becoming an increasing concern. Acocks classifies the area as Bankenveld. Due to the diversity of the study area caused by the meteorite impact and the resulting geological formations, the river and its riverine forests and the varying hill slopes and valleys many interesting plant communities occur.

The area has capacity for a large variety of wildlife species. The interesting variety of birds, smaller mammals and insects such as ants and butterflies are further important indicator in terms of the capacity of the area to sustain a rich biodiversity.

With regards the larger mammal species, it is worthwhile to note that a number of farms have been game fenced and the trend continues. These areas are used for personal recreation as well as tourism purposes. The agricultural potential on most of the land is marginal and landowners are already in a process of reclaiming most of the land and converting it to tourism.

There is however concern about the level of alien plant infestation, water contamination and other forms of pollution.

2.1.3. Archaeology, History and Culture

The area is rich in archaeological, historical and cultural assets. Evidence of human activity dates back to the Stone Age and evidence still exists of caves, rock shelters, pottery, rock engravings and rock art. Kraals typical of both the Tswana and Sotho cultures exist and it appears that later kraals represent a transition type which may be a combination of the two different groups. Poorly preserved San rock art with sketches as well as tools and a cave with animal bones and rock engravings also occur. This makes the study area also quite unique from an archaeological point of view and emphasises the need for its proper conservation.

Numerous worked-out mining sites dating back to the late 19th and early 20th century occur throughout the VDC. On Venterskroon itself (farm Rooderand) mining commenced in 1887 and only lasted for a relatively short period.

The hills of the Vredefort Dome, directly north of the Vaal River, also saw the very first Matebele attacks on Voortrekker camps during 21 and 22 August 1836. The Battle of Tygerfontein dates back to the Anglo-Boer war (1899 – 1902) and the heliograph posts on top of the hills of Tygerfontein are still well preserved and accessible.

Another interesting historical fact with potential novelty value is that a few pontoons

operated across the Vaal river in the early days.

2.1.4. Tourism Potential

The topography of the area is scenically attractive, rich in variety, with a unique geology and geomorphology and interesting archaeological historical aspects, which all combine to justify serious conservation interventions and offers an amazing range of tourism options. The most significant potential of VDC lies in its water-based and adventure tourism potential, its educational and scientific value and its proximity to markets.

The attractiveness of the area is however spoilt by numerous old, unattractive and often derelict farm buildings, fences, cattle kraals, outbuildings, car wrecks, scrap metal, stands of alien plants and other unsightly top structures.

In the year 2001, the greater Vredefort Dome / Parys area had sixty-six tourism establishments and sold a total of 104,635 bednights and 15 969 site-nights per annum. 80% of all accommodation sold were beds and 20% camping facilities. In the region of 54% of all bednights sold were related to conference and events and 46% were leisure related. In total, calculations showed that the area attracted in the region of 110,000 visitors, of which 59% stayed overnight and 41% were day visitors. 48% of all day visitors to the area were related to conferences and events.

Thirty-six out of these sixty-six tourism products were within the boundaries of the proposed Conservancy (Refer Regional Tourism Products Map), representing a total of 1,135 beds (53,198 bednights sold) in the North West side and 162 beds (12,958 bednights sold) in the Free State side of the project area in 2001. This means 64% of the regional beds were sold inside the boundaries of the project area. A total of 34,275 conference delegate days (54%) and only 730 camping nights (4,6%) were sold within the project area.

The total number of overnight visitors to the project area per year was estimated at 42,000, with another 27,500 day visitors, totalling 69,500 or 63% of the total number of visitors to the greater Vredefort Dome / Parys area.

The calculated bed density for the Vredefort Dome Conservancy was 38 beds per

1,000 hectare (1,135 beds in 30,128 ha), which rates with the higher density game reserves in South Africa. Therefore, future developments should be well controlled to ensure that over-development does not occur.

The ultimate tourism capacity of VDC will largely depend on the sensible zoning and future management of the area. A large section of the project area can be zoned as a high density recreation area, particularly close to Parys and along the Vaal river. In addition, the peripheral areas along the Vaal river and around Parys can absorb substantial numbers of overnight and adventure visitors that can enter the Vredefort Dome Conservancy on a regulated basis as day visitors, thus reducing the potential negative impact substantially, whilst still benefiting from these visitors.

2.2. STRATEGIC PLAN

2.2.1. Other Management Documents

This document is one in a series of management documents that jointly aim to provide historical and archive material, sketch the current situation, provide policy and strategic direction and give guidelines for the day-to-day management of VDC.

The following reports need to be maintained by management as important management tools:

- **An Archive Registry of the Conservancy**, which should be maintained and updated monthly as a permanent record of all the relevant historical records and technical information on VDC and the region and where it can be accessed.
- **A Situation Analysis Report**, which is a situational review (or scoping) by management, every two to five years, depending on prevailing circumstances and the rate of change.
- **A Strategic Development and Management Plan** (this document), which is updated as a strategic and policy overview with new policy guidelines every two to five years, following the aforementioned review.
- **A Management Plan**, which is updated annually, as a business plan and guideline for managers, aligning human and other resources with strategies and specifying clear management functions, objectives and operational standards.
- **An Operations Manual**, which is updated monthly by the technical and operations staff, as an operational and procedural guideline.

2.2.2. Purpose

The aim of this Strategic Plan is to provide a broad policy framework for the VDC. The Plan sets out the key strategies, policies and objectives of VDC, defines the responsibilities and modus operandi of the role players and provides broad operating guidelines for the management of the area.

2.2.3. Process

The Strategic Plan was developed in full consultation with stakeholders, including management, concessionaires, local authorities, provincial conservation agencies and other interested and affected parties and after review of the current internal and external environmental factors that affect VDC and its future. A Situation Analysis Report was drafted that summarises the results of this consultation process and forms the basis upon which this Plan was developed [*Boonzaaier, WV. & Lourens M. 2001. Vredefort Dome Conservancy Situation Analysis Report, by Contour Project managers CC in association with Grant Thornton Kessel Feinstein*].

2.3. MANAGEMENT COMMITTEE

A Vredefort Dome Forum representative of Free State and North West stakeholders was initiated on 16 July 2001. An elected Management Committee is responsible for the strategic planning aspects of the VDC and for implementation of this Strategic Plan.

2.4. DEFINITIONS

For the purpose of this Strategic Plan, the following definitions apply:

- **Conservancy** refers to the conservation status granted to VDC by the North West and Free State provinces
- **Constitution** refers to the constitution of the Vredefort Dome Conservancy as adopted by its members and as amended by them at appropriately constituted General Meetings
- **Management** refers to the management committee appointed by the members of VDC
- **The Strategic Plan** refers to the Strategic Development and Management Plan as contained in this document

- **VDC** is the acronym for the Vredefort Dome Conservancy
- **Vredefort Dome Forum** refers to a communication forum of all parties interested in and/or affected by the Vredefort Conservancy.

3. MISSION STATEMENT

3.1. VALUES AND OBLIGATIONS

VDC (Vredefort Dome Conservancy) is recognised by scientists as the oldest and largest visible meteorite impact site on the globe. When developing and managing VDC, all the policies, plans and actions must contribute towards;

- conserving and promoting the geological significance and scientific value of the Vredefort Dome Structure and its archaeological, historical and natural assets;
- behaving responsibly and in line with internationally accepted norms and standards in protecting a site of such outstanding global value;
- fully capitalising on the unique geology, international interest and tourism values of the area; and
- complying with a number of important specific values and obligations ensuing from:
 - The intended listing as a World Heritage Site
 - The intended compliance with IUCN criteria for managing a Protected Area
 - Commitments made to landowners, operators and other affected parties during the planning and development of the Conservancy

3.2. KEY OBJECTIVES

The key objective or purpose of the Vredefort Dome Conservancy is;

- To specifically protect in perpetuity a representative sample of the unique geological phenomenon of the Vredefort Dome Impact Structure and to allow opportunities for related research;
- To generally conserve, promote and optimally interpret the area's unique geology, the system's biodiversity and abiotic resources, biophysical processes, unique landscape and cultural heritage;
- While at the same time capitalising on the area's scientific significance, its tourism potential and its renewable natural resources for the enduring socio-economic benefit of the landowners, operators and neighbouring communities primarily, and international, national and provincial stakeholders secondarily.

3.3. CHALLENGE

The challenge is to achieve these objectives without compromising on the set values and obligations.

3.4. VISION

By achieving its objectives, VDC becomes an area with the following characteristics:

- A single, functional, self-sustainable and professionally managed land unit managed along the principles of a Conservancy with co-operation amongst all the different stakeholders
- An internationally recognised site of scientific significance (World Heritage Listing)
- The unique geology, biodiversity, biophysical processes, non-renewable resources and landscapes and the cultural heritage of VDC is well conserved through a consistently applied adaptive management process founded on up-to-date scientific knowledge and state of the art technology and systems
- Internationally recognised as a uniquely interpreted and excitingly informative destination with high enjoyment, educational and scientific value
- Nationally recognised as an adventure destination with diverse products
- Regionally recognised as an important socio-economic contributor
- The unique tourism and educational potential of the VDC is optimally developed and utilised whilst the natural experience is not unduly impaired and the conservation values are not compromised
- The visitor facilities and services meet international standards
- Development and management is undertaken according to mutually beneficial and synergistic relationships between landowners, operators and their employees
- Land ownership and benefits from VDC is shared equitably
- Development and management is facilitated and controlled in accordance with a well-developed Strategic Plan and Constitution
- VDC is established as an internationally renowned field centre for geological research -particularly Impact Structure research
- An extension service and support mechanism is in place to assist landowners and operators within VDC to meet internationally accepted environmental,

conservation and tourism standards of operation

- VDC is financially self-sustaining through a combination of revenue sources such as grants, donor funding, entrance fees, member contributions, levies, concession fees, sale of natural resources and trading.

3.5. STRATEGIES

After consideration of all the strengths, weakness, opportunities and threats and the critical issues identified during consultation with stakeholders, the following key strategies were identified:

3.5.1. Conservation Management

To sustainably manage the natural, cultural, historical and other heritage resources of VDC in accordance with agreed policies, strategies and operational guidelines, so that the unique, vulnerable, valuable and sensitive environmental assets of VDC would be conserved.

3.5.2. Tourism Management

To optimally facilitate and manage tourism developments and operations in accordance with agreed policies, objectives and strategies and within agreed tourism operating guidelines for the enduring benefit of landowners, operators and the region.

3.5.3. Development Plan

To organise and manage developments within VDC in accordance with an accepted zoning plan and development guidelines, cognisant of its conservation value and tourism market potential, to ensure that its unique attributes are protected and the tourism potentials are optimally utilised.

3.5.4. Institutional Framework

To develop an equitable institutional framework and constitution that together with the VDC Strategic Plan will provide the majority of landowners with the necessary mechanisms and security to willingly join the Vredefort Dome Conservancy.

3.5.5. Internal Communications

To implement a communications strategy that will adequately and effectively provide

all landowners and operators inside VDC with relevant information, to the extent that they will appreciate the value of joining VDC and support its policies, objectives, strategies and activities.

3.5.6. Marketing and Interpretation

To market and interpret VDC, its unique attributes and its products to identified target markets, so that VDC could be recognised amongst all the identified markets and could be optimally utilised.

3.5.7. Socio-economic Development

To contribute towards the socio-economic development of the region and its recognised stakeholders, by ensuring that local spin-offs and appropriate economic empowerment is facilitated.

3.5.8. Funding

To procure and manage appropriate financial resources that are necessary to efficiently and effectively implement the strategies of VDC.

4. CONSERVATION

4.1. BACKGROUND

VDC is earmarked for World Heritage Listing and is in the process of applying to UNESCO. A great deal of government support has been shown for the project by the national, provincial and local governments.

A certain level of conservation and tourism culture exists amongst some landowners and operators, specifically those that have been members of the Bergland Conservancy. Unfortunately this is not apparent everywhere, particularly amongst non-product owners. A great amount of ignorance is displayed regarding legislation relating to the environment, change of land use and the development and operation of businesses.

Particularly the river ecology is under severe pressure from upstream contamination and alien plant infestations. Problems specific to VDC include water quality, soil erosion, alien plants, -birds, -fish and -animals, bush encroachment, air-, noise and visual pollution and illegal developments and businesses.

There is a desperate need for environmental and conservation guidelines and regulations for landowners and operators. There is a lack of knowledge regarding the individual vs. the collective roles, responsibilities and rights of landowners and operators.

Owners are of the opinion that there is great synergy in managing and even fencing VDC as a single management unit. This also opens new opportunities such as charging an entrance fee, managing tourism activities and improving security. It is believed that the positive attitude of government could be harnessed to procure funding for a perimeter fence (eg Poverty Alleviation).

There is a high risk of the currently uncoordinated and unacceptable types of developments diluting the area's potential if it is not planned, organised and controlled by a uniform set of environmental management guidelines.

Mining is still a threat to the conservation of the area and its tourism potential.

4.2. VISION

VDC is recognised as a World Heritage Site and the unique geology, biodiversity, biophysical processes, non-renewable resources, cultural heritage and landscape of VDC is well conserved through a consistently applied adaptive management process.

The conservation management of VDC is recognised nationally and internationally as a successful model of efficient and cost effective use of human and financial resources for the achievement of geological, archaeological / historical and natural heritage conservation objectives.

VDC becomes an internationally renowned centre for Impact Structure conservation, interpretation and research .

4.3. OBJECTIVES

4.3.1. Primary Objective - Conservation

The primary objective is to conserve the area's unique geology and to conserve the system's present biodiversity and abiotic resources, the river ecology, biophysical processes and historical / archaeological sites and to minimise the visual impairments on the unique natural landscape. *[Realistically this objective can only be achieved by defining the limits of change that are acceptable in terms of climatic cycle fluctuations and the satisfaction of the secondary and tertiary objectives given below. Limits of acceptable change should be approved and reviewed periodically by the Executive Management on the basis of expert advice, but in the full knowledge that setting such limits involves a great degree of value judgement]*

In attempting to achieve this objective, special consideration should be given to representative geological formations, species, sub species, communities, habitats and archaeological sites that are threatened or endangered outside VDC. This special consideration should be applied in the following descending order of priority; internationally, nationally, provincially and locally.

Because many of the “natural” bio physical processes of the system have been disrupted by historical human interventions and the present interventions such as farming, fencing, barriers to natural fires etc, the maintenance or rehabilitation of “natural” bio physical processes cannot be adopted as a realistic primary objective. Nevertheless, contemporary ethics and laws pertaining to soil and water conservation and state of the art scientific knowledge pertaining to resilience and equilibrium / stability concepts should be adhered to as an ancillary objective.

4.3.2. Secondary Objective - Tourism

The secondary objective is to provide visitors to VDC with a highly marketable educational and nature based recreational experiences provided that this does not compromise the primary objective.

4.3.3. Tertiary Objective – Socio-economic

The tertiary objective is to capitalise on the area’s attractions and renewable natural resources in a sustainable manner for the enduring socio-economic benefit of the landowners, operators and neighbouring communities primarily and international, national and provincial stakeholders secondarily by maximising income from tourism as well as the consumptive utilisation of VDC’s natural resources provided that this does not compromise the primary and secondary objectives.

4.4. POLICY

VDC is aspiring to qualify for World Heritage Listing and will therefore comply with UNESCO management guidelines. Should the World Heritage application not succeed, application should still be made for National Heritage Listing.

VDC should be registered with and comply with the requirements of the IUCN (International Union for Conservation of Nature and Natural Resources) as a Natural Monument (Category III) Protected Area.

VDC will be registered as a Conservancy with both the North West and Free State provinces.

The VDC ecology will be conserved as the primary representative sample of the Vredefort Dome Impact Structure. The integrity of the geological, archaeological /

historical and natural heritage of the VDC area can therefore not be sacrificed for short-term economic gain.

The river ecology is an important feature of VDC and its quality will be a primary consideration in managing the river frontage, water surface and associated activities.

Although VDC may feature all of the so-called Big Five species, they will not be allowed to roam the entire area, as it will exclude certain important activities inside VDC.

As it is unrealistic to assume that the system's biotic and abiotic components can be conserved through "natural" ecological processes the policy is to apply management interventions for the achievement of ecological management objectives. This Policy does not necessarily imply a policy of simulating and or rehabilitating "natural" processes as in many cases this may not be feasible in terms of current knowledge, current technology, time and financial resources. Nevertheless, to encourage systems reliance through original ecological processes, especially natural selection, and to keep management costs to a minimum, management interventions should also be minimised in situations where primary, secondary and/or tertiary objectives are clearly being met in the absence of management interventions.

It shall be policy to restrict plant and animal introductions to those species that were historically indigenous to VDC with the exception of weeping willows [*Salix babylonica*] which have become naturalised in many parts of South Africa.

4.5. STRATEGY

In the light of imperfect knowledge and technology, and a stated policy of management intervention, the overriding strategy is to consistently apply an adaptive management process founded on;

- a comprehensive natural resource data base;
- unambiguous and measurable objectives and goals;
- continuously updated scientific knowledge and state of the art technology;
- modelling of ecological processes;
- efficient, effective and repeatable monitoring systems; and

- regular evaluation and review by experienced ecologists and system modellers.

The secondary strategy is to inform and motivate landowners, operators and their staff to achieve the primary objective, while providing them with the necessary training and extension services.

4.6. OPERATIONAL GUIDELINES

4.6.1. Strategic Environmental Assessment

To achieve the conservation objectives of VDC, it is necessary to have an overall set of environmental and conservation guidelines, such as a Strategic Environmental Assessment. These should be aligned with UNESCO requirements.

4.6.2. Alien Plant Control

It is policy to forbid the introduction of spreading alien plants to VDC including gardens of landowners, staff houses, tourist facilities and lodges. The objective is to remove all existing alien plants that have the potential of spreading in VDC. Plans for eradicating alien plants must include a five year follow up control procedure and be based on the latest alien plant control technology and knowledge. Cost effectiveness must be an important criteria when selecting control methods. Plans that do not have a five-year follow up procedure and guaranteed budget for actioning the procedure must be rejected outright.

4.6.3. Veld Burning Programmes

It is policy to regard veld burning as an important intervention for achieving primary, secondary and tertiary ecological management objectives. The strategy is to apply a patch mosaic burning programme implemented annually in terms of time and space. However, the burning strategy must be compromised to some extent for the achievement of the secondary and tertiary ecological management objectives. The design and application of the burning programme has to be applied in close liaison and co-operation with landowners and operators.

4.6.4. Bush Encroachment Control

At this stage the assumption is that the patch mosaic burning programme will control the eruption of woody plants to the extent that *alpha*, *beta* and *gamma* diversity

objectives are achieved. Consequently it is policy to only initiate large-scale bush control programmes if monitoring results indicate that fire is not suppressing the encroachment of woody plants effectively. Nevertheless, it will be policy to undertake some bush clearing for the enhancement of the tourism experience for visitors. As with alien plants, bush encroachment plans must be cost effective and have a five-year follow up procedure with guaranteed funding.

4.6.5. Water Point Provision

Historical processes of game movement in relation to water availability have been disrupted considerably by having a large number of separately fenced small farms in the VDC system and the drying up of springs due to erosion. Due to the fact that VDC will remain a closed system, it is impracticable to try and simulate and or rehabilitate these historical processes. A policy of providing artificial water points for game is acceptable in the VDC situation. The number and distribution of water points must be designed to achieve the secondary and tertiary ecological management objectives without compromising the primary ecological objective.

4.6.6. Soil Erosion Reclamation

While soil erosion is a “natural” geomorphic process, the acceleration of soil loss due to unsustainable land use practices and developments must be minimised in the VDC system. Logistically, this is best achieved by preventing excessive overgrazing by herbivores and the wise use of fire. The existing sheet and gully erosion should be left to rehabilitate without management interventions as it is firstly extremely difficult to distinguish between what erosion is merely the result of a natural geomorphic process and what is the result of unsustainable land use processes. Further more, it is extremely costly to rehabilitate sheet and gully erosion by means of management interventions. Only in the most severe cases of erosion caused by recent interventions should reclamation be allowed and then only with the approval of the Executive Management and with proper ecological advice and supervision. This does not rule out the obligation on each landowner and operator to take the necessary steps to prevent further erosion where man-made infrastructure such as fences and roads are causing erosion.

4.6.7. Large Herbivore Stocking Rates

In the absence of any data to the contrary it is assumed at this stage that the primary,

secondary and tertiary ecological objectives are best attained by stocking the large wild herbivore populations at a level that lies somewhere between the ecological and economic carrying capacity of the system. Furthermore, it is assumed that these objectives will be attained by adhering to the principle that bulk grazers should be stocked at a high proportion of the total stocking rate, concentrate grazers and mixed feeders at intermediate proportions and browsers at a low proportion of the total stocking rate. It is also important to maintain species that prefer sour grasslands and/or steep slopes at higher proportions of the total stocking rate than species that prefer “sweetveld” and/or flat terrain. The operational manual provides more detailed guidelines on the stocking rates for individual species and feeding classes. It is considered that free-roaming dangerous game such as lion, rhino, crocodile, hippo, elephant, buffalo and spotted hyaena will clearly clash with certain types of tourism activities such as water sport and generally within the High Density Zone. This does however not rule out their presence within special areas of proper containment.

4.6.8. Problem Animal Control

Animals that become a danger or excessive nuisance to persons and property due to either habituation or aberrant behaviour should be destroyed humanely or captured and removed from VDC. This applies also to animals that escape from VDC or encampments or leave and return to VDC or their encampments from time to time. To minimise the need to control problem animals, efforts must be made to take preventative measures such as educating the public and alerting them to various latent dangers. In cases where the solution to the problem lies in destroying or capturing animals the measures and procedures followed must be robust to the ever present threat of criticism from animals rights and other “green” movements.

4.6.9. Consumptive Use of Natural Resources

It is policy to permit the consumptive use of natural resources in VDC, provided that:

- it is necessary for achieving the primary ecological objective; and / or
- it is sustainable and provides meaningful revenue to VDC and/or benefits to the relevant stakeholders; and
- it does not compromise the primary and secondary ecological management objectives; and
- it does not compromise the values and obligations outlined in Section 3.2 above.

4.6.10. Control over Illegal Use of Natural Resources

Illegal utilisation of VDC's natural resources remains a latent threat. Because of the conservation and economic value of particularly its game populations and the growing threat of poaching within the greater southern African region, it is policy to retain an ongoing vigilance through the maintenance of cost-effective surveillance and monitoring programmes and reaction capacities. Due to the law of diminishing returns, these programmes and capacities will be primarily focussed on rare- and endangered as well as economically valuable game species.

Considering the historical access to VDC by previously disadvantaged communities, the main effort towards resolving illegal utilisation of natural resources for purposes of subsistence, will be to create understanding and awareness through a pro-active education campaign amongst these communities. Management will however be ruthless with those that illegally harvest natural resources for commercial purposes.

4.6.11. Waste Disposal

Management, landowners and private operators and developers must adopt a responsible and environmentally friendly waste management plan. Specifically, liquid waste should be handled on-site according to a formal development plan. Solid waste should be separated and sorted on-site and recycled where possible, or disposed of in consultation with Management.

4.6.12. Monitoring

Monitoring must be regarded as the most important step in an adaptive management process. Although the responsibility for monitoring lies with Management as one of the most important tasks, proper monitoring techniques and procedures need to be developed with appropriate ecological assistance and landowners and their staff will have to be trained to apply these and to interpret the data. The suitability and effectiveness of these techniques must be reviewed from time to time. The monitoring techniques and procedures applied must be based on the following:

- Related to adaptive management assumptions
- Based on the latest ecological monitoring theory
- Cost effective and appropriate for application by landowners

The techniques chosen for application must be consistently used over an extended period, including climatic cycle fluctuations, and only amended or disbanded if a panel of experts rules that they are clearly inappropriate or when a vastly superior technique and procedure has been developed.

4.6.13. Management Capacity

A conservation management unit capable of providing appropriate extension services and assistance to landowners, operators and their staff regarding law enforcement, monitoring, resource management and utilisation and cleaning-up operations will be in place.

5. TOURISM MANAGEMENT

5.1. BACKGROUND

VDC has a relatively high density of varied and increasing number of tourism products as land use is constantly changing in a natural progression from agriculture to tourism. Although the Vaal river and the natural beauty of the landscape is a major attraction, visitors are hardly aware of the range of natural, geological, archaeological, historical and other attractions that exist.

Tourism products are unfortunately largely below industry standard, particularly where landowners without appropriate knowledge and experience have converted from agriculture to tourism. A certain amount of concern has also been expressed regarding tourism operating standards and a lack of operating ethics and guidelines and trained operators and personnel.

Although the geology, archaeology and mining history makes for excellent opportunities to interpret these attractions, there is a general lack of information, interpretation and signage available to visitors. There is a lack of day visitor facilities such as information centres, picnic sites and ablutions.

The potential to charge entrance fees as a means of earning an income and controlling access and visitors numbers at entrance gates has been recognised.

The opportunity exists to integrate the wide range of attractions and activities into suitable packages, routes and tours and to market these jointly. Particularly creating special interest sites and tours are an option.

As more products are added and tourism densities grow, the attractiveness of the area will be threatened, unless tourist activities and numbers are managed. Co-ordination of activities can however increase the capacity of the area. The need to align tourism products with market potential to obtain optimum visitor usage and occupancy levels is clearly recognised.

5.2. VISION

Within the constraints of the appropriate zones, VDC will have all its diverse features

fully but aesthetically developed for a wide range of visitors from the identified target markets. The hallmark of management will be the skilful blending of visitor facilities and intensive use, with a high level of preservation of aesthetic landscapes, biodiversity and natural ecological functions.

5.3. OBJECTIVES

To facilitate the optimal management of VDC as a unique tourism destination aimed at the educational, special interest – scientific, leisure, corporate and sports and adventure markets for the maximum gain to landowners and tourism operators specifically and the region generally.

5.4. POLICY

Developments and activities will be regulated in accordance with the criteria for each Zone. VDC will attempt to accommodate the highest possible tourism volumes through clever management before having to become restrictive.

VDC will encourage the private sector to develop and manage appropriate tourism products as determined by the zoning criteria and the general policies and strategies of the Strategic Plan. All developments and activities will be conducted by the landowners and/or their concessionaires.

To ensure that benefits from tourism activities are distributed equitably amongst the different stakeholders, VDC may over time enforce restrictions or negotiate adjustments in respect of the density of tourist accommodation facilities and tourist numbers.

5.5. OPERATIONAL GUIDELINES

5.5.1. Self-drive vs. Guided Activities

VDC will allow self-guided activities in all the zones. It is however possible that in the longer term, all activities in the Low Density Zone will only be conducted under the supervision of qualified guides. All non-vehicular activities in areas where dangerous game are present have to be guided.

5.5.2. Management of Tourism Activities and Visitor Densities

Management will remain flexible regarding visitor carrying capacities, rather than

setting fixed limits on visitor numbers. Management may therefore encourage landowners to implement a variety of visitor management techniques that are aimed at increasing visitor carrying capacities whilst reducing impacts. Possible strategies include;

- the strategic placement of tourist facilities, comfort stations, activities and amenities that will reduce traffic into the centre of VDC;
- the surfacing of certain artery visitor roads;
- constant monitoring of visitor profiles, patterns demands and attitudes;
- limiting vehicle entries to acceptable levels during peak periods;
- the selective provision of visitor information;
- the provision of conducted activities, visitor education and -information programmes; and
- special arrangements such as subsidised conducted drives over peak periods, open days during the off-season, etc.

5.5.3. Peripheral Developments

An immediate strategy will be to limit the number of accommodation facilities and visitor comfort stations from the central areas and to promote the development of tourist facilities closer to the periphery. This will simultaneously reduce the impact on the central area whilst increasing the visitor carrying capacity.

The peripheral development strategy should also include the facilitation of new developments outside VDC that can divert internal pressures, stimulate the creation of new regional products and generate new benefits and opportunities for local communities.

5.5.4. Monitoring of Visitor Densities and Attitudes

Visitor entries, usage patterns and visitor reaction to current densities need to be closely monitored, so that the situation can be managed for as long as possible without having to set rigid limitations on entry levels and without having to apply a fixed policy restricting self-guided activities.

5.5.5. Access Control

A standardised visitor-friendly entry system that will also cater for entry control and market intelligence requirements will be in force. The system has to meet the needs of visitors, concessionaires, landowners and management. If cost-effective, such an entry system may be out sourced.

5.5.6. User Fees

Visitors will pay an entry fee proportionate to their length of stay and/or in accordance with the season of their visit. This may also include a differential rate for “in-season”, “off-season”, “mid-week”, “weekend” or “peak season” visitors as well as affordable rates for certain target markets such as local communities, pensioners, etc.

5.5.7. Visitor Management

Management will ensure that they have appropriate rules and regulations and operating guidelines and standards in place and that Management has appropriate enforcement powers.

5.5.8. Visitor Densities

Once it becomes necessary, Management may place a limit on the number of establishments, beds and/or visitor number sfor each zone, group of properties or individual properties. Where densities are found to be too high, a grandfather clause may be introduced that allows negotiations with a landowner and/or operator to reduce densities over a period of time.

5.5.9. Facilitating Appropriate Development

Management will facilitate the packaging of products, attractions, routes and linkages and the introduction and management of high quality tourism information and interpretative services to landowners, product owners and guests.

6. DEVELOPMENT

6.1. BACKGROUND

VDC is a unique geological phenomenon with a growing number and range of products. A variety of natural, archaeological, historical and other attractions exist with a number of untapped tourism options. The area is in transition from agriculture to tourism and has been earmarked for listing as a World Heritage Site.

Current products are not spatially grouped and organised in zones and are not necessarily aligned to market potential. It is mostly focused on the lower end of the market with many group facilities. There is a lack of day visitor facilities such as picnic sites and ablutions. Signage and interpretation has not yet been developed and occupancy levels are low.

Apart from management infrastructure and cell phone reception, all other bulk infrastructure is good. Support infrastructure to the tourism industry is however lacking.

The land is owned by many small landowners and no development guidelines and regulations exist.

Ruins, rubble and dilapidated cattle fences and kraals abound and in many places developments and land management does not reflect sound planning. A number of illegal practices, such as unauthorised changes in land use, unlicensed business activities and illegal residences exist.

The peripheral tourism potential for land “outside” the project is also recognised.

Mining is still a threat to the landscape, the geology, the natural assets and the tourism potential of the area. Further threats include increased pollution, congestion, uncontrolled developments, visual impacts and more traffic and noise.

It is expected that unchecked growth in tourism developments, combined with current levels of insensitive developments and management practices, may cause a disastrous result to the detriment of all concerned. Different parts of VDC also have

different attributes and potentials. The need therefore exists for proper zoning of VDC so that all the identified markets and products could be accommodated in an orderly manner.

The potential exists to optimise the tourism potential of the area by harnessing international scientific interest and obtaining listing as a World Heritage Site. This would however require a more stringent planning, development and management regime.

A particular challenge is to zone VDC so that its management will comply with IUCN criteria for protected area management and satisfy UNESCO's requirements for a Listed World Heritage Site, whilst simultaneously optimising the market potential.

A further challenge is to ensure that restrictions inside VDC does not put landowners in a disadvantaged position in comparison with peripheral owners that are not bound by similar controls.

6.2. VISION

It is anticipated that VDC will be zoned to facilitate the development and management of the widest possible range of tourism products within the identified market segments and within the constraints of an appropriate conservation management regime. Although infrastructure development will be the responsibility of each individual landowner or operator within the constraints of the zoning guidelines, certain bulk infrastructure may be developed collectively through the proactive intervention of VDC.

6.3. POLICY

World Heritage Listing is a priority and development planning, implementation and management must conform to UNESCO requirements.

Representative examples of the most interesting geological, archaeological/historical and other unique heritage assets both inside and outside VDC have to be conserved and protected from the impacts of inappropriate developments and over-utilisation, through appropriate zoning and other regulatory guidelines. In this regard it is also important that more than 75% of VDC is managed for the primary purpose according

to the IUCN Guidelines for Protected Areas [*IUCN Guidelines for Protected Area Management Categories*].

Management will decide on the most appropriate zoning and their location within VDC and will be responsible for enforcing the development policies and guidelines within VDC.

Landowners inside the VDC area should not be restricted to the extent that they benefit less than those outside the area.

Agriculture will be phased out over time, as benefits from tourism prove to out-weigh that of agriculture.

Once a Strategic Environmental Assessment has been done for VDC, it will be used as a guideline for any future development applications.

6.4. OBJECTIVE

The development objective of VDC is to optimise the use of the area through facilitating appropriate developments and activities in appropriate locations.

6.5. STRATEGIES

6.5.1. Zoning System

The optimisation of and balancing of primary, secondary and tertiary objectives are achieved through a zoning system. Zoning organises developments, visitor access and activities and resource management, thus minimising potential conflict between non-compatible management regimes, activities and user groups.

6.5.2. Zoning Considerations

A Zoning regime is developed by considering the following critical aspects;

- The overall concept and regional context of VDC
- The different objectives and potentially conflicting developments, management requirements and activities of VDC
- Accessibility for identified target markets
- The physical, aesthetic and other potentials, capacities and constraints of the

terrain

- Suitability for specific types of developments and activities
- Access to support infrastructure
- Linkages and relationships with neighbouring zones, developments and activities

6.5.3. Zoning Criteria

Criteria that are applied as a broad guideline to determine spatial boundaries for each of the zones are the following:

- Compliance with IUCN guidelines for a Natural Monument Protected Area
- A range of development and usage densities in rough proportion to available markets is necessary to create diversity, accommodate the identified primary markets and to optimise the use of the area
- Sensitivity of particular tracts of land to development and usage impacts (natural, scenic, physical, etc)
- Conservation value of specific sites
- Type, intensity and impact of current land use, including agricultural and tourism activities
- Size of individually owned properties
- Density of current top structures
- Nature of attractions within an area and the type of likely usage options
- Higher densities should be closest to primary market access points to reduce the impact of high traffic levels
- High density zones and low density zones should ideally be separated by intermediate zones to allow for a gradual transition to reduce conflicts
- Resort type developments with higher densities are likely to be in greater demand along the river frontage and near the periphery than in the more remote areas
- The more undulating areas with steep slopes should not carry high densities and are ideal for nature-based activities
- High density areas and development nodes should be on lower ground levels and not on high ground and steep slopes, to avoid visual impacts

Where desirable and practically feasible, Management in liaison with affected landowners and other stakeholders, may from time to time adjust the boundaries in line with these criteria.

6.6. DEVELOPMENT GUIDELINES

6.6.1. VDC Zoning

The following categories of zones have been identified and are reflected on the Zoning Map:

High Density Zone

The High Density Zone is 4,485 hectare in extent and represents 14% of VDC. This zone is set aside to primarily achieve the secondary and tertiary objectives and will therefore allow the development of intensive water-based and adventure resorts, guest houses and hotels. Restrictions will be minimal and densities will be high.

Typical activities will be water-based adventure, sports and leisure. A lenient upper limit of 2,000 overnight visitors is recommended as an initial guideline until better data is available on visitor satisfaction related to densities.

Moderate Density Zone

The Moderate Density Zone is 17,421 hectare in extent and represents 53% of VDC. It is set aside to serve all three the objectives and therefore will accommodate low- to medium-sized lodge-type developments with a more natural ambience and low impacts. Facilities will range from private lifestyle lodges to nature-based resorts and commercial lodges. Moderate restrictions will be placed on densities, size and impact.

Activities will range from moderate impact water-based adventure activities to low impact nature-based activities. An upper limit of 1,000 overnight visitors is suggested as an interim ceiling until better data is available on visitor satisfaction related to densities.

Low Density Zone

The Low Density Zone is 10,986 hectare in extent and represents 33% of

VDC. This zone is set aside primarily to serve the primary conservation objective and allows for nature-based adventure activities with a very low impact. Clear and severe restrictions will be enforced in terms of the level of infrastructure development, visitor densities and visual-, noise- and other pollution.

All camps to be of a small size accommodating no more than forty people each and to be constructed in an environmentally sensitive manner. Where possible, facilities should be built from local materials and no excavations should be allowed.

Activities should be guided and motorised activities are prohibited, including the use of the Vaal river.

An upper limit of 500 overnight visitors is recommended as an interim ceiling until a trails network has been properly planned and better information is available on appropriate densities.

Development Nodes

These are areas specifically set aside for high density development, such as at visitor centres. The limits on visitor numbers will be set separately for each of these nodes. Only one such node is recommended at the Venterskroon Village, where it is recommended ample provision is made for group accommodation and interpretation of the various attributes of VDC.

River Frontage and Water Surface

The river frontage and water surface will be managed along a strict set of conservation guidelines, irrespective of the zone within which it may fall. The intensity of activities in the various zones will however also be scaled down progressively as one moves downstream from the High Density to the Medium Density and eventually the Low Density Zone.

6.6.2. Infrastructure

Regulatory Control

Management will ensure that infrastructure is developed in accordance with set procedures and guidelines, covering all of the following:

- Alignment with target markets
- Compliance with zoning criteria
- Compliance with environmental and other development related legislation
- Setting minimum environmental impact levels and criteria
- Setting criteria and standards for infrastructure development inside and immediately outside the VDC – especially for future expansion areas
- Ensuring that the development criteria are embodied in the IDPs of the appropriate local authorities

Support Infrastructure

VDC may be responsible for facilitating the development of the following centralised infrastructure in accordance with a priority list that will be determined on a cost/benefit basis:

- Entrance gates
- Educational and scientific information and interpretative facilities (refer **Section 9.5.2**)
- Signage
- Supporting tourism infrastructure where gaps exist, such as general public and day visitor facilities
- Bulk services such as access roads and telecommunication networks
- Management infrastructure (peripheral fencing, offices, workshops, staff housing)

This does not necessarily mean that VDC will do the developments themselves or incur any costs in the process.

6.6.3. Cleaning Up Operations

VDC may assume responsibility for certain beautification and cleaning-up operations without reducing the onus on landowners to comply with legal and regulatory

requirements, such as:

- Demolishing inappropriate infrastructure and rubble removal
- Alien plant removal and control

6.6.4. Law Enforcement

VDC will also have a monitoring function to ensure that all developments and activities conform to the development guidelines and procedures of VDC as well as the general laws of the country, particularly in terms of the following:

- Change of land use permits
- Conservation and environmental legislation
- Liquor and trading licences
- Road reserve regulations

7. INSTITUTIONAL FRAMEWORK

7.1. BACKGROUND

A strong conservation and tourism culture exists amongst a number of landowners and the Bergland Conservancy has been successfully formed on the North West side of VDC. Most of the North West Province landowners and some of the Free State landowners are positive about the proposed VDC, whilst the few remaining landowners are either ignorant, outright negative or just not interested.

A natural transformation moving away from agriculture to tourism has been taking place over the last few years.

A Vredefort Dome Forum representative of the primary stakeholders was initiated on 16 July 2001. A management committee has been elected. Currently no management capacity exists and no conservation or environmental guidelines and regulations are available.

Government has major responsibilities IRO world heritage sites and would have to play an increasingly active supporting role once VDC is Listed as a World Heritage Site.

The potential exists for a major increase in land values once the area is better known as an ecotourism destination and/or heritage site. This is however not well appreciated by some uninformed landowners. Uncertainties exist regarding expected financial contributions and the distribution of potential income, particularly IRO small landowners and poor tenants.

Once World heritage Listing has been achieved, the UNESCO requirements for institutional structuring will have to be met.

7.2. VISION

It is envisaged that the VDC will be established and governed under a constitution as a single co-operative entity through an elected Management, whilst land ownership and usage rights will be retained by individual landowners under certain conditions.

7.3. OBJECTIVES

All landowners within the demarcated VDC join their land under the control of a single VDC to achieve synergistic market penetration and other benefits derived from collective land management.

7.4. POLICY

Land ownership and individual rights will not be unduly or forcefully alienated, participation will be voluntary and no landowner will be forced to incorporate his land.

Transformation from non-compatible to compatible land-use will be through a gradual process. Those that incorporate at a later stage will however be expected to make appropriate contributions in respect of value added to their advantage by former participants.

Co-operation will be through reasonable and just consideration of individual rights and interests and the maximum collective benefit. Generally accepted economic principles will apply.

7.5. OPERATIONAL GUIDELINES

7.5.1. Land Ownership and Rights

Individual land ownership is paramount, although the usage and management of the land will be subjected to certain rules and regulations as contained in the Constitution and the Management Plan of the VDC.

The use and benefits from the land will be for the direct benefit of the landowners, within the constraints of the Constitution and the Strategic Plan .

7.5.2. Conservancy

Willing landowners can join a Conservancy whereby they incorporate their land under a specified management regime.

Landowners have proportionate representation and voting powers, based upon the size of their land.

Owner contributions to VDC are determined by the members at Annual General

Meetings.

7.5.3. Management

An Executive Management will be elected by the members of the VDC.

Certain functions as specified in the Constitution will be managed collectively under the supervision of the Executive Management.

7.5.4. Process of Incorporation

Each landowner that joins the Conservancy needs to submit an incorporation plan, for approval by the Executive Management, which will include a management plan clearly specifying a programme with deadlines for converting the incorporation land and its facilities and activities to comply with the specifications and requirements as determined by the Constitution and the Strategic Plan.

7.5.5. Movement of Game

Free movement of game will be encouraged. Although joint management of natural resources under the overall control of Management is desirable, the responsibility for game introduced by individual owners can not be transferred to VDC. The dropping of internal fences through direct negotiations between individual landowners will however be encouraged. All internal fences should be designed to allow free movement of smaller animal species.

8. INTERNAL COMMUNICATIONS

8.1. BACKGROUND

A number of informative special interest excursions arranged on an ad hoc basis with various specialists have been held with limited participation by the landowners and operators. The Bergland Conservancy has also been circulating an informative newsletter to its members.

A concerted combined effort to inform all stakeholders of the value and potential of VDC has not yet been done and available communication systems and opportunities are not optimally utilised. The community is also not adequately structured to ensure that all stakeholders are identified and allowed the opportunity to have access to information and participate in a formal communication strategy. As a result, conservation and tourism cultures are not yet apparent everywhere - particularly amongst non-product owners.

Those landowners that have been converting from agriculture to tourism have not had access to sound advice and guidance on appropriate markets and standards. As a result, many of the products are not of an acceptable standard for the target tourist markets, resulting in wasted resources. This is also due to the fact that no conservation, environmental and tourism operational guidelines and regulations have been in place.

Once all landowners, occupants, operators and adjacent communities appreciate the value of the interesting geology, archaeology and mining history and understands the advantages and potentials of an integrated tourism destination and World Heritage Listing, attitudes should change significantly and more may be interested in co-operating towards achieving the set goals of VDC.

8.2. VISION

All landowners within the demarcated boundaries of VDC are incorporated under a professionally managed Conservancy and all stakeholders understand, appreciate and supports its values, objectives and strategies.

8.3. OBJECTIVES

To obtain the understanding, appreciation and support of all the landowners and stakeholders relevant to VDC through the most appropriate means of communication so that all the stakeholders could optimally benefit from the co-operative development and management of the land.

8.4. POLICY

Landowners and other stakeholders should be properly and correctly informed of the best available facts and options to allow them the opportunity of making the best possible decisions on issues that will affect their own interests

The most appropriate and preferably existing communication structures and cost-effective communication tools need to be used to allow proper two-way communication between the various stakeholders.

8.5. OPERATIONAL GUIDELINES

8.5.1. Communication Structures

Existing structures such as the Bergland Conservancy, agricultural unions and local authorities will be optimally utilised rather than duplicating.

Management will through the Constitution be delegated the necessary responsibilities and authorities to implement the Strategic Plan of VDC and to act on its behalf.

A Communication Forum representing all interested and affected parties (not only VDC members) will be held regularly to facilitate proper communication and interaction between VDC and stakeholders.

General Meetings will be held in accordance with the prescriptions of the Constitution.

8.5.2. Communication Tools

Management should circulate as much information to its members and other stakeholders as possible to improve the level of awareness. This information should also be available at the information desks of each entrance gate. Specific tools that

should be considered are:

- A regular newsletter amongst all stakeholders with a variety of articles inclusive of the following: potential benefits and workings of the VDC, important events, useful environmental, conservation and tourism management guidelines, market intelligence and operational standards and ethics.
- A popular book on the interesting aspects of VDC and the Vredefort Impact Structure should be available to all landowners, operators and visitors.
- Informative leaflets on topics such as environmental and conservation practices, species checklists, geology, archaeology, history, special trail routes, annual events calendar, special packages, etc should be developed and made available to stakeholders and visitors under a standardised VDC branding.
- Maps and publications on the Vredefort Dome Impact Structure
- Large maps of VDC zoning and visitor routes
- Brochures of products and packages
- VDC Constitution, this Strategic Plan, the Management Plan, the Operations Manual and any Operating Rules and Regulations
- Appropriate legislation, UNESCO guidelines and minutes of VDC meetings

8.5.3. Member Recruitment

During the period of establishing VDC, non-interested and negative landowners should be visited individually by Management in an effort to recruit them as members of the Conservancy.

8.5.4. Awareness Creation

Regular information tours, training courses and lectures on unique attractions and assets of the area and on important management topics such as the environment, river ecology, conservation, geology, archaeology, history and tourism standards and ethics should be arranged for stakeholders.

9. MARKETING AND INTERPRETATION

9.1. BACKGROUND

The unique selling point of VDC is its geology, whilst the combination of river frontage with diverse landscapes and scenery, attractive topography and rich cultural history makes for a unique special interest and adventure destination close and accessible to the major Gauteng markets.

The growing range of tourism products are reasonably well patronised. It is however believed that occupancies could be improved through joint marketing under a single branding, if products were aligned with markets that offered the best potential and if interpretation and signage were improved.

The interesting geology, archaeology and mining history makes for excellent interpretation opportunities. Listing as a World Heritage Site will add significant prominence and has great marketing value.

The wide range of attractions and activities has the potential of adding significant value if it could be integrated into a variety of special interest packages, routes and tours. It is felt that the area is not known in the market and that it will not be understood or valued without proper interpretation and marketing.

A particular challenge is to interpret and market VDC's unique attributes, which has to be its geology and adventure attributes, to appropriate markets.

9.2. VISION

VDC is a unique and well-branded tourism destination that is recognised in the market place, also for its well-designed and established interpretation facilities that specifically suites the identified target markets and best portray the internationally significant geological phenomenon of the Vredefort Dome Impact Structure and the rich cultural heritage of the area.

9.3. OBJECTIVES

The primary objective of Marketing and Interpretation is to establish a product and brand that will appeal to the Educational, Scientific, Leisure, Corporate and Sports

and Adventure markets and thus stimulate growth within the target tourism markets.

9.4. POLICY

As a general principle, those that stand to benefit from the marketing of the particular product must carry the costs associated with such marketing. However, no marketing or the contents thereof is permitted that conflicts with the operations, policy or management guidelines of VDC.

The following principles have to be adhered to:

- One brand and message to be used in all marketing, icons, collateral, communication, websites, product range, etc.
- The brand and message must reflect the area's unique features and should also allow for linkages with diverse current and potential products in the area
- The brand name and logo and the marketing message must be a registered trademark which would enforce joint marketing initiatives between the management body and product owners in the area
- Product owners should be legal and comply with the rules and regulations determined by management (which may include membership fees, product standards, concession rights, etc) before they are allowed to carry the brand name associated with the area

9.5. OPERATIONAL GUIDELINES

9.5.1. Branding

A strong single brand which can easily work with marketing collateral and products should be used by all. In conjunction with branding a product range of curios and souvenirs that could be sold to the market by using local skills should be developed.

9.5.2. Information Centres

Information centres are key to the success of the Vredefort Dome Conservancy. A visitor information and interpretation centre should be developed on the main road in Parys. The Potchefstroom Information and Development Centre should be hosting an entire exhibition and interpretation on the Vredefort Dome Conservancy. A smaller Field Information Centre should be established at Venterskroon for visiting scientists in collaboration with and backing from and participation by the University of Potchefstroom.

9.5.3. Range of Products

A wide range of tourism products which will decrease the negative effect of

seasonality in the area should be available. New focus areas are the education and scientific markets.

9.5.4. Market Focus

Capitalise on the proximity of major markets and as markets grow, extend on existing themes. Make use of existing events in the region such as Aardklop to sell the area. Introduce aerial activities that will enable one to better appreciate the extent of the Vredefort Dome Impact Structure, such as balloon rides or gliding over the “Dome”, as well as guided 4x4 rides, hiking trails and general or specialised tours through the area.

Move away from big five game reserve as the primary idea – use the existing unique geological, river-frontage and adventure potentials as selling features of the area and create new and different products that would attract the identified markets.

9.5.5. Product Focus

Develop local tour operators that can co-ordinate guided visits to the variety of attractions for general and special interest markets. Develop sufficient day visitor facilities.

Sufficient interpretation facilities that will suite the identified markets, stimulate additional interest and meet the existing level of demand is necessary and should be developed. Aspects that need proper interpretation include the area’s unique geology, biodiversity and abiotic resources, biophysical processes, unique landscape, cultural heritage features and history.

9.5.6. Respective Marketing Roles

There are four components of marketing:

- The selling of the unique features of VDC and the concept of management which includes the philosophies and policies of VDC. This is the responsibility of Management
- The marketing of individual products. The will be undertaken by the individual product owners
- The marketing of VDC as a tourism destination. Management will negotiate joint marketing efforts between product owners and ensure that government agencies include VDC in relevant regional, national and international marketing campaigns.

9.5.7. Joint Marketing

There may be opportunities for VDC and the individual product owners to market VDC jointly. Where this is appropriate, the parties should work together. Close liaison between the parties should be encouraged.

9.5.8. Screening of Marketing Material

All marketing material concerning VDC should be screened by Management to ensure that a consistent image of the destination and its unique features and a correct message relating to its management is portrayed.

10. SOCIO-ECONOMIC DEVELOPMENT

10.1. BACKGROUND

Population densities in the region are low with higher levels of employment and literacy than the South African average. Agriculture, tourism and mining are the primary economic contributors in the area.

The area is recognised as a typical developing region. In this regard its main challenge is similar to those faced by many countries in Sub-Sahara Africa, namely to successfully restructure its economy away from the primary sectors towards labour-intensive, value-added manufacturing, services and tourism.

10.2. VISION

Recognising that VDC in its former, current and future land-use forms has had and will continue to have an impact on the regional economy, and that it will have difficulty in achieving its objectives without the understanding and appreciation of the larger community, it is envisaged that VDC's stimulus to the local and regional economy will be recognised and that it will therefore be seen as an important vehicle through which rural development and transformation is achieved.

10.3. OBJECTIVE

The primary objective of Socio-economic Development is to facilitate community and emerging entrepreneur access to tourism activities and opportunities in and around VDC and to stimulate local economic activities and job creation. *[This will result in public understanding, appreciation and support for VDC and its projects and programmes, as a valid and beneficial land use option].*

10.4. POLICY

VDC, in line with national policies, has an important role in community empowerment generally and participation specifically, as acknowledged in the vision above. Capacity building within communities is however a non-core activity of VDC and will therefore be facilitated by optimally utilising the resources and capacities of other support institutions. VDC will therefore;

- establish appropriate fora through which communities can give their inputs to decision making and any significant changes in the policies and management of

VDC;

- involve itself at all levels of community empowerment and participation;
- facilitate the necessary support mechanisms for community empowerment through external agencies (Donor NGO's, Government, Private Sector) before allocating its own resources;
- pro-actively identify and regularly expose all business opportunities to communities through an open-ended invitation and through a transparent and user-friendly process;
- where feasible, create special programmes and criteria that will give local and disadvantaged communities and emerging entrepreneurs preference of access to outsourcing contracts;
- in the case of tourism-based enterprises and other direct operational opportunities within VDC, limit its role in capacity building to that of a pro-active facilitator, by procuring appropriate support mechanisms within the private sector, NGO's, government and other agencies;
- in the case of peripheral enterprises, support services and industries, only be obliged to expose opportunities to all neighbouring communities and emerging entrepreneurs.

10.5. STRATEGIES

Community participation, understanding, appreciation and support will be obtained through pro-actively implementing the following strategies within the constraints of available resources:

- Establishment of effective communication mechanisms
- Running an education and awareness programme that will create the necessary understanding, appreciation and support for VDC, its objectives and its operations
- Engaging in appropriate partnerships that will access training and other empowerment resources and capacities of community empowerment support agencies
- Constantly identifying opportunities and inviting communities and emerging entrepreneurs to participate
- Offering preference to communities and emerging entrepreneurs through special selection procedures and support programmes for identified community-based business opportunities

- Identifying and optimally utilising the opportunity to tap into the resources of external social programmes that are aligned to the objectives and policies of the Community Participation programmes (eg Poverty Relief, Job Creation, etc)

10.6. OPERATIONAL GUIDELINES

10.6.1. Community Institutions

VDC will maintain formal communication links with communities through recognised and representative (preferably existing regional and local) structures. These structures will be allowed representation on the Vredefort Dome Forum and their role is to provide a formal communication link with affected communities and to ensure that benefits are accessible to the entire community.

10.6.2. Communication

VDC will regularly engage in two-way communication with the recognised community institutions, allowing regular;

- dissemination of important information
- exposure to opportunities within VDC
- participation in decision making processes, planning and management issues
- monitoring of community perceptions and attitudes.

Important community related information and programmes will be regularly disseminated through appropriate printed, electronic and other media. Target markets will include appropriate support institutions, government agencies, NGO's and politicians.

All identified opportunities will be regularly exposed to communities and emerging entrepreneurs.

10.6.3. Awareness and Education Programmes

VDC within the limits of its financial resources, will facilitate appropriate education and information programmes that will create awareness, appreciation and support amongst all regional communities, for the VDC policies, objectives and projects.

Such programmes and its successes will constantly be reviewed and improved; will build on previous experiences; and where appropriate, will be integrated with

programmes of other government, NGO and private agencies. Appropriate partners, donor organisations and support institutions will therefore be identified and engaged in a joint venture to limit the drain on VDC resources. Education related operations that are aligned with VDC's policies and strategies might be allowed access to VDC and its infrastructure at special rates.

Special tailor-made programmes may be introduced for identified target markets, such as children, community leaders and -structures, the business community, politicians, the media and the general public.

A regular independent and professional assessment will be done of trends in community perceptions and attitudes towards VDC, to enable management to improve relations with target communities.

10.6.4. Community Empowerment Partnerships

Where appropriate, VDC may contractually engage Government, NGO, private and other agencies to establish the necessary support mechanisms and institutional capacities that will facilitate entrepreneurial and skills development and access to resources for local communities and entrepreneurs. VDC may also assist communities in establishing direct relationships with such agencies. All relationships will be established along predetermined guidelines and in accordance with approved programmes that will be monitored at predetermined stages and at regular intervals.

A database of support mechanisms and institutions in the field of capacity building, community empowerment, skills training and funding will be maintained and formal relationships will be established with appropriate role players.

10.6.5. Access to Commercial Opportunities within VDC

Participation in commercial (business) opportunities within VDC, by communities and emerging entrepreneurs, will be pro-actively pursued. Therefore, a permanent inventory will be kept of commercial opportunities available to communities and SMME's inside VDC and of emerging entrepreneurs within the community. The co-operation of landowners and operators in identifying outsourcing opportunities within their own establishments is required.

The development approvals, licensing of enterprises and the use of VDC branding may be conditional on preference being given to local economic empowerment and job creation.

10.6.6. Communication Forum

Every landowner that joins the VDC and every operator inside VDC will automatically be a member of the VDC Forum.

10.6.7. Employment and Small Business Development

Operators inside VDC are obliged to optimise community participation through the application of supportive employment and business contract policies.

10.6.8. Peripheral Commercial Opportunities

Commercial opportunities outside VDC will be pro-actively identified on a regular basis and the potential for entrepreneurial participation and other linkage opportunities will be communicated to identified stakeholders.

10.6.9. Utilising Social Programmes

Social programmes initiated by external organisations (e.g. Job creation, Poverty relief, training initiatives and NGO support programmes) will be identified and tapped into where it has the potential to support VDC objectives, strategies and projects.

10.6.10. Socio-economic Survey

Management will annually obtain available information and where necessary conduct a survey amongst its members in order to identify the needs, skills and economic status of the community as well as the population demographics. This will provide baseline data on which fundamental planning can be based and will also provide a benchmark against which changes can be measured from time to time. It will also provide indications as to what expectations there are concerning VDC and what issues will need to be addressed to deal with these needs or expectations. This will involve ongoing monitoring as well as less frequent but more intensive follow-up studies. These will be co-ordinated by Management.

11. FUNDING

11.1. BACKGROUND

It is recognised that VDC has tremendous tourism potential and already hosts a large number of tourist products and activities. Landowners and tourism operators will most definitely benefit from improved branding, destination management and marketing and should therefore be able to afford making contributions towards VDC. Potential benefits include increased property values, growth in tourism developments and visitor numbers, increased concession fees and tourism income.

Although the potential exists for charging visitor entrance fees, membership fees and operator levies, no permanent sources of funding currently exist.

Considering the importance of VDC as a Protected Area and the expected World Heritage Site Listing, it can be expected that government will continue to support VDC in implementing this Strategic Plan and the envisaged Management Plan. Various types of government assistance could be available, varying from planning and marketing to poverty alleviation, extension services, training and SME development.

It can also be expected that sponsorships and other private sector contributions will become a possibility as VDC's value is appreciated and it gains prominence in the scientific, conservation and tourism arenas.

The challenge is to convince landowners and operators (particularly those that are uninformed and/or negative) of the potential benefits of VDC and that it would be in their interest to join as members and make financial contributions.

VDC and its management currently have no financial resources.

11.2. VISION

Recognising the longterm objectives of VDC and the constant need for appropriate funding and financial management, VDC becomes financially sustainable and is recognised for its professional financial management.

11.3. OBJECTIVES

To achieve financial self-sufficiency through exploiting all possible financial sources, the wise utilisation of all its collective resources and the sound management of financial and other resources.

11.4. POLICY

Financial self-sufficiency will be sought through balancing the known income streams with annual budgets approved at the AGM.

No debts or deficits may be incurred nor will any loan financing be utilised.

Financial contributions from landowners should be proportionate to land size.

Levies could be raised from tourism operators and entrance fees can be charged to visitors.

11.5. STRATEGY

Funding could be achieved through the implementation of the following strategies:

- Identify and implement developments that have the greatest impact potential in relation to their cost (eg beautification, information service to stakeholders, fencing, entrance gates and interpretation centre/s)
- Identify and procure external sources of funding from government and non-government conservation and tourism agencies for once-off planning and the priority developments identified above
- Develop a realistic budget that will cover the essential and most beneficial management costs
- Develop and implement an equitable fee structure for visitors, landowners and tourism operators that will cover annual management costs
- Manage funds and other resources cost-effectively and cost-efficiently

11.6. OPERATIONAL GUIDELINES

11.6.1. Sourcing of Funds

VDC will act as a procurement agent on behalf of members and tap into all possible

sources of non-loan funding:

- Government grants (National, provincial, local, job creation, work for water, poverty relief, SME development and other schemes)
- Donor agencies (corporate sector, conservation agencies, research and technology agencies such as NASA for capital requirements, technical assistance, research, etc)
- Sponsorships
- Concessions
- Member levies
- Resource utilisation
- Trading
- Entrance fees

11.6.2. Management of Funds

Funds will be managed professionally in a cost-effective and cost-efficient manner.

11.6.3. Control over Funds

Management will submit an annual budget and have ultimate control over funds and its application and will report to its members at each AGM.

12. AUTHOR AND ACKNOWLEDGEMENTS

12.1. AUTHOR DETAILS

The authors are:

Willie Boonzaaier

Contour Project Managers CC

PO Box 4906

Rustenburg 0300

Tel +27- (14) - 537 2226

Fax +27 - (14) - 537 2118

E-mail contour@mweb.co.za

Website www.linx.co.za/contour/

Marlien Lourens

Grant Thornton Kessel Feinstein

Postal address: Private Bag X28 Benmore 2010, South Africa

Tel +27 - (11) - 322 4500

Fax +27 - (11) - 322 4545

Email mbosman@gt.co.za

Website www.gt.co.za

12.2. MANAGEMENT TEAM

The Executive Management Committee and various academics and stakeholders are thanked for their enthusiastic co-operative in making contributions, providing important background information, responding to the many requests for further literature or answering questions, setting up and hosting various meetings and workshops and supporting the professional team in general.

13. REFERENCES

13.1. BIBLIOGRAPHY

Reference Documents:

Advertising Research Foundation, 1997, All Media Purpose Survey (AMPS)

Brink M.C. 1999, Die Oorsprong van die Geologiese Ringstruktuur by Vredefort

Brink M.C. Waanders F.B. & Bischoff A.A. The Katdoornbosch-Witpoortjie Fault: a ring thrust of Vredefort Event age, School of Chemical and Mineral Engineering, Potchefstroom University

Burger A. Dome Highlands Nature Park: Motivation for Funding, Steering Committee Working Document

Conroy D.J. 1983, Inligting oor 'n voorgestelde bewaringsgebied, SA National Parks

De La Harpe H. Vredefort Dome in Line-up for World Heritage Nomination, Vredefort Dome World Heritage Initiative

Dinokeng Consortium, 2001, Research conducted for DACEL Dinokeng project, Gauteng Day & Weekend Visitor Trends

Du Preez P.J. 1987, Ekologie van die Boomgemeenskappe van Vredefortdistrik, Oranje Vrystaat, Masters thesis (University of Orange Freestate)

De Swart & Dyus 2001, Vredefort Dome Initiative Status Quo Report Northern Freestate District Council

Erasmus C. 2001, General Information regarding Vredefort Dome as a possible World Heritage Site, Freestate Province Department of Environment Affairs and Tourism

Erasmus C & Cronje E. 2001, Vredefort Dome World Heritage Site (Draft Proposal), Freestate Province Department of Environment Affairs and Tourism

Gibson R.L. & Reimold W.U. 1999, The Vredefort Impact Structure, South Africa (The Scientific Evidence and a Two-day Excursion Guide), Department of Geology, University of the Witwatersrand

Human Science Research Council, 1998, Educational Requirements in Gauteng

International Union for Conservation of Nature and Natural Resources. 1994. Guidelines for Protected Area Management Categories, IUCN Commission on National Parks and Protected Areas with the assistance of the World Conservation Monitoring Centre. IUCN, Gland, Switzerland and Cambridge, UK.

Jansen J. Map of the Vredefort Dome Proposed World Heritage Site. DEAT

Labuschagne P. 2001, Vredefort Dome Initiative, Minutes of Meetings, Potchefstroom Local Municipality

Lourens M. 2001, Tourism Survey of the Vredefort Dome Region, Grant Thornton Kessel Feinstein

Muller T. 2001, Proposed Dome Nature Park, Free State and North West Provinces

Pelser Anton. 2000, A report on the first phase of a cultural resource survey on the Vredefort Dome, National Cultural History Museum Archaeology Department

Reimold W.U. 2001, The Vredefort Saga, a Controversy Around the World's Largest Gold Source, Geotimes, Magazine of the Earth Sciences

Reimold W.U. The Geological Significance of the Vredefort Dome: Motivation for World Heritage Status, Department of Geology, University of the Witwatersrand

Reimold W.U. & Coney L. 2001, The Vredefort Dome Impact Structure and Directly Related Subjects: an Updated Biography Economic Geology Research Institute, University of Witwatersrand

Reimold W.U. & Gibson R.L. Geology and the Evolution of the Vredefort Impact Structure, South Africa, Department of Geology, University of the Witwatersrand

South African Tourism, 1999 to 2000, International Tourism Surveys

South African Tourism, 1996 –2001, Domestic Tourism Surveys

Van Der Merwe J. 2000 Vredefort Dome, Potchefstroom in 2000

Viljoen M.J. & Reimold W.U. An Introduction to South Africa's Geological and Mining Heritage, Mintek in association with the Geological Society of South Africa

Environmental Problems Related to Mining the Kimberley Reefs Horizon in the Vredefort Mountain Land Area

Konsepgrondwet vir die Koepelbewaria, Dome Bergland Conservancy

1997, Operational Guidelines for the Implementation of the World Heritage Convention, UNESCO

Websites:

<http://protea.worldonline.co.za>, 2001, Vredefort Dome 17 - 18 February 2001

www.geosites.co.za/vredefort, 2001, Geological Heritage Tours: Vredefort Dome

www.gwu.edu/~spctour/market, 1996, Space tourism surveys

www.hartrao.ac.za/other/vredefort/, 2001, Deep Impact - The Vredefort Dome

www.linx.co.za/trails/backtrack/rooihaas, 2001, The Rooihaas Hiking Trail: Vredefort Dome

www.mintek.co.za/pubs/geobook/vredefortdome, Landsat Images of the Vredefort Dome

www.space.com, 2001 Reinstating citizens in space

www.space.com, 2001 Tourism as a catalyst
www.spacefuture.com, 1997 Introduction: What is Space Tourism?
www.spacefuture.com, 1997 Space Tourism: How soon will it happen?
www.sciencenorth.on.ca, 2001 Science North Foundation

13.2. STAKEHOLDER WORKSHOPS AND ORIENTATION VISITS

A number of field trips were made by the professional team, during which visits the study area was covered extensively to obtain an understanding of the landscape, the rich geological, archaeological, historical and natural attractions, the tourism potential and other relevant features of the study area.

In this regard, Adv. Steven de la Harpe, Mr Johannes van der Merwe and Dr Maartin Brink were particularly helpful in orientating and hosting the team and introducing them to landowners and operators on the ground.

Stakeholder workshops were held at Dimalachite and Kiepersol on the 23rd and 24th November 2001 respectively.