

# Geoparks and national parks in South Africa: Two sides of the same coin

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**Abstract:** The notion of national parks, nature reserves, conservation and heritage parks, as organised protected areas, has been in existence for many decades and at most two centuries in South Africa. The fairly new idea of geoparks, as initiated and defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) has not found root and popularity in South Africa. The International Geographical Union's Commission on Geoparks has adopted a perspective that incorporates national parks, protected areas and cultural heritage features as constituting the concept of geoparks. Many international visitors to South Africa, including tourists and conservation experts have expressed a grand and insatiable appetite to visiting national conservation areas such as the Ukhahlamba-Drakensberg National Park [UDNP] and the Table Mountain National Park. At these conservation spaces, nature has carved a theatre majestic features and cultural tapestry of rock art. At these places tourists hope to experience and derive satisfaction, from what nature and heritage have to offer in South Africa. This paper explores the existing relationships between national and geoparks, as well as natural and cultural heritage attributes within the Ukhahlamba-Drakensberg and the Table Mountain National Parks. The paper argues that, what can be called national park does represent what can be designated as a geopark. It gives some description and lists some attributes that make up the geopark landscape, with prominent geological and geographical values. In addition, the paper not only seeks to relate geopark activities to the national strategic frameworks for tourism development, but also reveals the intrinsic value of the geoparks, wildlife, and how land and natural features are sensitively protected as a source of spiritual and long-term sustenance for future generations.

**Keywords:** geopark; geo-science park; geographical park; cultural and heritage park; tourism; outdoor recreation resources; national strategic frameworks

## 1 Introduction

The notion of national parks, nature reserves, conservation and heritage parks, as organised protected areas, have been in existence for many decades and at most two centuries in South Africa. The fairly new idea of geoparks, as initiated and defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) has

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not found root and popularity in South Africa. The International Geographical Union's Commission on Geoparks has adopted a perspective that incorporates national parks, protected areas and cultural heritage features as constituting the concept of geoparks.

Many international visitors to South Africa, including tourists and conservation experts have expressed a grand and insatiable appetite to visiting national conservation areas such as the Ukhahlamba-Drakensberg National Park (UDNP) and the Table Mountain National Park. At these conservation spaces, nature has carved a theatre majestic features and cultural tapestry of rock art. At these places tourists hope to experience and derive satisfaction, from what nature and heritage have to offer in South Africa. The South African environment and conservation authorities are usually pre-occupied by wanting to achieve the sustainable use of natural resources, whether they are aesthetically appreciated, harnessed from the surrounding environment as well as advocate for the respect for the environment and its integrity. This is what geoparks, geoheritage, geotourism and geoconservation as concepts is trying to achieve.

This article therefore, explores the existing relationships between geoparks and national parks in the South African conservation legislation and policies, as well as how these principles are understood within the natural and cultural heritage spheres in the Ukhahlamba-Drakensberg and the Table Mountain National Parks. The paper also seeks to reveal the co-existence attributes between what is called national parks in the context of the geoparks philosophy. Furthermore, the paper not only seeks to relate geopark activities to the national strategic frameworks for tourism development, but also reveal the intrinsic value of the geoparks, wildlife, land and natural features as are sensitively protected as a source of spiritual and long-term sustenance for future generations.

## 2 South African legislative framework

The evolution of the development and promotion of environmental legislation and geotourism policies in South Africa may be seen in terms of three distinct periods, namely the Pre-Mandela period; the Mandela period of national unity and the Post-Mandela period. The Pre-Mandela period is synonymous with the pre-democracy period (1970-1990), wherein most nature-based, environmental and geo-tourism policies were directed through apartheid policies. Most these discriminatory policies have been overtaken by new transformative policies of the Mandela period of national unity (1990-1999). The period was short, but was the basis for initiating the transformation of the South African political and legislative landscape (Magi, 2000b). Later legislation was consolidated during the Post-Mandela period (2000-2014). The legislative policies included:

- (a) National Parks Act (No. 57 of 1976) covering most South Africa National Parks.
- (b) The Environmental Conservation Act (No. 73 of 1989).
- (c) Constitution of the Republic of South Africa Act 108 of 1996.
- (d) Water Services Act (No. 108 of 1997).

- (e) The Marine Living Resources Act (No 18 of 1998) dealing with Marine Protected Areas.
- (f) National Water Act (no.36 of 1998).
- (g) National Forest Act (no. 84 of 1998).
- (h) Environment Conservation Act (no.73 of 1989).
- (i) Development Facilitation Act (1995).
- (j) South African Heritage Resources Act (1998).
- (k) World Heritage Convention Act (No. 49 of 1999) covering the iSimangaliso Wetland Park, and Ukhahlamba-Drakensberg Park.
- (l) National Environmental Management Act (NEMA) 107, 1998 and National Environmental Management Act (NEMA) 57 of 2003 as amended.
- (m) The National Environmental Management, Biodiversity Act, No. 10 of 2004.

Most of these legislative frameworks have facilitated the management of natural, cultural, heritage, tourism and recreation environments. In the context of geoparks, legislative policies are not only operational at the local level, but also extend to national spheres of operation. It must be noted that the protection of geoheritage and geotourism resources within a geopark, can be managed in a sustainable manner if the above-listed legislative frameworks are seriously observed. For the purpose of this article, the policy and legislative impingements as well as existing relationships between geoparks and national parks in their various contexts in South Africa are explored and explained.

### 3 Theoretical background

It is evident that since the transformation of nature-based, environmental and heritage tourism policies during the post-Mandela era, the high-profile recognition is that South Africa is not only a country endowed with natural beauty and pristine environments, but has the cultural and political will to protect them (Magakgala, 2003; Goodman, 2003). These changes are propelled from geopolitical, socio-economic and environmental situations. It is also in this regard that these South African landscapes and features have qualified for world heritage site status, after the country rejoining the United Nations in 1994. Currently SA has eight World Heritage Sites two of which are located in KwaZulu-Natal. These World Heritage Sites are the Ukhahlamba-Drakensberg National Park (UDNP) (2000) and iSimangaliso Wetland Park (1999), as well as numerous other national parks or geoparks that are regarded as having geoheritage and protected-area status. As such, all these areas or sites are protected by law as shown earlier.

By definition the concept 'geopark' refers to an area containing one or more sites of particular geological or geomorphological importance, with an intention to conserve the geo-heritage and promote public awareness of the phenomenon or landscape. The geopark also has to have a strategy towards promoting sustainable development through geotourism and geoconservation. Also important is that a geopark has been seen as a tool for allowing communities to take greater control of the natural resource so as to benefit local communities through tourism and related activities. In various parts of the world the concept of geopark is expected to refer to a well defined region,

provide better understanding of the history and geoheritage of the region, support the conservation effort of features and develop strategies towards achieving the preservation of the environment while allowing for acceptable economic development (Ferienland, 2010; Dingwall, et al., 2005).

A general discussion of the term 'geo-site' proposed by Reynard (2004), attempts to list synonyms such as geo-topes, earth-science sites and geo-science sites, which may be linked to the whole notion of geoparks. Reynard (2004) further describes geo-sites as portions of the geo-sphere that present a particular landscape that is important in the comprehension of earth history. These geo-spheres are also identified as geological or geomorphologic features that have acquired a scientific, cultural/historic, aesthetic and/or social/economic value due to human perception or exploitation (Joyce, 2010). It is generally accepted that the term geopark is open to several interpretation. For example, geopark has been related to geology, geomorphology and geography. Accordingly, Tanabe (2007) sees and prefers rather to use the term 'geo-science' to relate it to nature-based attributes of the science, which also incorporates historic, cultural, aesthetic, social and economic value of a geopark or geoheritage. Notwithstanding the geology as a discipline has played a leading role in working with geoparks attributes for purposes of research, education and conservation, it is important not to exclude matters associated with other related disciplines such as anthropology, cultural history, biological sciences and geoheritage.

In general geoparks in many countries of the world have developed from what has been known as national parks. Why national parks? The simple reason has been that these parks represent a unique national feature in that particular country. Some of these unique characteristics were not only to show uniqueness, but to display national pride and attract foreign tourists so as to build exports and foreign exchange; the currencies of countries other than your own. A well functioning geopark or national park is that which is marketable, conservable and enjoyed by all the people of the world. In using the geopark nomenclature McKeeva et al. (2010) have suggested that the ultimate goal should not be to conserve the geological sites in a sterile way where only the geoscientist can visit, but that the aim should be to conserve them in a way that the local communities can take ownership of these sites and features. The community members should feel that places and features contribute positively to their everyday lives. McKeeva et al. (2010) further assert that local communities across Europe, China and increasingly other parts of the world, are beginning to realise that their geo-heritage can provide a source of sustainable economic benefit to their area, and that rather than exploit this heritage in the non-renewable fashion of the past, there is an opportunity to manage it in a way that conserves it for the future through the development of geotourism. In support, McKercher & Du Cros (2002) agree that sustainable geotourism development requires that all stakeholders be regarded as equally important, there should be no room for spatial inequalities and discrimination.

In an effort to translate sustainable conservation and geoheritage processes also incorporating ecological systems, it is important to look at this process in terms of geological features ranging from geomorphological landscapes through water to geoheritage shown in Table 1 below (Table 1). These processes are also known to be role players in the 'ecological footprint' course of action.

**Table 1** Geoheritage and ecosystems: features and functions

| Geo-heritage<br>Ecosystems Features                   | Biodiversity Conservation &<br>Ecosystems Functions                            | Related Examples                                                                                                   |
|-------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Geomorphological<br>Formation of Landscapes           | Landscape formation and<br>restructuring                                       | Formulation of landscape features over geological<br>time and transformation through mining.                       |
| Soil Formation and<br>rehabilitation                  | Soil formation process                                                         | Weathering of rock by water, wind and human<br>action and organic transformation                                   |
| Sediment supply and<br>regulation                     | Regulation of sediment supply<br>to the marine environment                     | Maintenance of beaches,<br>sand bars and sand banks                                                                |
| Water supply and regula-<br>tion                      | Supply and regulation<br>of water flow                                         | Provision of water for agricultural, industrial<br>and household usage                                             |
| Raw materials (forests,<br>minerals, water, oil, etc) | Primary production<br>of raw materials                                         | Production of craft-work and house-<br>building materials                                                          |
| Biological control and<br>modification of species     | Regulation of flora and<br>fauna populations                                   | Maintenance of population control in<br>game and nature reserves                                                   |
| Nature conservation and<br>appreciation               | Opportunities for appreciating<br>natural features and wildlife                | Access to natural features and wildlife<br>for aesthetic purposes                                                  |
| Cultural / Heritage<br>(Geoheritage)                  | Balancing conservation versus<br>commercial uses of the natural<br>environment | Conservation for purposes of aesthetic,<br>educational, intrinsic and scientific<br>appreciation of the ecosystems |

Source: Adapted from DEAT (2006a: 6).

The bigger the footprint on the geopark, the greater is the impact that it represents. For example, the process involving features such as raw materials (forests, minerals, water, oil, etc) would mean the direct usage of primary raw materials, such as the production of craft-work and house-building materials, would imply the greater impact on the natural environment. In other words, the sustainable use of natural resources and features in a geopark, would be strengthened by the wise application of the geoheritage, geotourism and geoconservation principles. Our understanding being that geoconservation is the preservation of earth-science features for purposes of enhancing environmental heritage, science, or education. Also accepting that all geographical features from the regional to the local scale that would specifically relate to a local geopark or national park. For the purpose of this study the concept 'geopark' refers to:

"A nationally protected area containing a number of geological heritage sites of particular importance, rarity, or aesthetic appeal. These Earth heritage sites are part of an integrated concept of protection, education, and sustainable development. A Geopark achieves its goals through a three-pronged approach: conservation, education and geotourism" (UNESCO, Global Geoparks Network, 2006a).

As reflected in the definition above, geoparks have the ability and responsibility of attracting domestic and international visitors to these geological destinations. This attraction of tourists also gives the geopark another dimension of exerting a centripetal force on humans in its surrounding. Hence, Dowling and Newsome (2006) suggest the notion of geotourism as associated with geology and geomorphology and define it as follows:

"The 'geo' part pertains to geology and geomorphology and the natural resources of landscape, landforms, fossil beds, rocks and minerals, with an emphasis on appreciating the processes that are creating and created such features".

This process of defining geotourism is not only limited to natural features, landscape, landforms, and rocks, but also relates to the aesthetic sensibilities of humans, the related education, cultural and heritage attractions. As such, it has become important to study how the two geoparks, Ukhahlamba-Drakensberg Park and the Table Mountain National Park are typically and uniquely worth of study as geopark, based also on the legislative character they hold in South Africa.

#### 4 National parks as geoparks in South Africa

The fundamental aim of this paper is to highlight how national parks came to be and can be equated to geoparks in South Africa. Similar to the model of Yellowstone in the USA (the world's first national park) South Africa established the protected areas following a top down (Boonzaaier, 2010; Andrade & Rhodes, 2012). Decisions about the acquisition of land and demarcation of boundaries were not negotiated. African communities were excluded from these conversations from the onset. In some cases, there were forced removals to make way for new protected areas or to expand existing ones. Forced removals and exclusion from conservation resulted in bitterness in the surrounding communities. In addition to excluding local people from processes of creating protected areas, nature conservation authorities also side-lined local communities' values and attitudes towards natural resources. In this regard, Boonzaaier (Boonzaaier, 2010) argues that nature conservation is inseparable from a people's world view and their concomitant values, because values influence what people consider 'useful' or 'valuable' and how they set priorities. Andrade and Rhodes (Andrade & Rhodes, 2012) also argue that removing local people from land that they have been farming for generations can result in retaliation and hostile attitudes.

For centuries the South African societies evolving through time and space have long treasured the significance and preservation of flora and fauna, unique and aesthetic landscapes, rocks, fossils, geographic and geological features, socio-cultural and heritage features, as worthy elements of study, preservation and enjoyment by all. These shared ideas have sustained earliest practices of establishing "national parks" throughout the country to capture, conserve and protect some of these unique geographical, geological and biological phenomena. Examples are galore and include what is shown in Table 1.2 below. However, some of the larger 'national parks' in KwaZulu-Natal include the following: iSimangaliso Wetland Park (365 000 ha); Hluhluwe-iMfolozi (90 000 ha); Mkhuze Game Reserve (36 000 ha); Ithala Game Reserve (30 000 ha); and Tembe Elephant Park (30 000 ha). All these parks are massive and house between 36 to 400 elephants per park (Ekznw, 2010). It is worth noting that private game parks are smaller (1000 to 18000 ha) and house between 2 and 65 elephants. The large national parks in KwaZulu-Natal are part of a protected areas system which also includes natural areas, game reserves, wetlands and heritage parks,

It was not until 1998 when South African National Parks (SANParks) was formed from what was known as the National Parks Board. Essentially, SANParks is a parastatal organisation that manages a system of national parks that represent the indigenous fauna, flora, landscapes and associated cultural heritage of South Africa. It must be however, noted that in KwaZulu-Natal there is the Ezemvelo KZN Wildlife that manages the local system of national parks in the province of KwaZulu-Natal.

Both these agencies are government sponsored and would have to be consulted for translating any national parks into geoparks. There are currently 22 national parks under SANParks' jurisdiction and these include the world-renowned Kruger National Park bordering the Limpopo and Mpumalanga provinces. The others are: Addo Elephant, Agulhas, Augrabies, Bontebok, Camdeboo, Garden Route, Golden Gate Highlands, Karoo, Kgalagadi, Knysna, Mapungubwe, Marakele, Mountain Zebra, Namaqua, |Ai-|Ais/ Richtersveld, Table Mountain, Tankwa Karoo, Mokala, West Coast and Wilderness (Table 2).

**Table 2** Some list of national and regional parks and reserves in South Africa

| A. Limpopo Province                | E. Northern Cape Province                | G. Eastern Cape Province              |
|------------------------------------|------------------------------------------|---------------------------------------|
| 1. Kruger National Park *          | 19. Namaqua National Park *              | 43. Gariep Dam Nature Reserve         |
| 2. Mapungubwe National Park *      | 20. Augrabies Fall National Park *       | 44. Kowie Nature Reserve              |
| 3. Messina, Honnet & Njallele N/R  | 21. Great Karoo National Park *          | 45. Mountain Zebra Hiking Trail       |
| 4. Great Letaba Game Park          | 22. Tankwa Karoo National Park *         | 46. Karoo Nature Reserve Trail        |
| 5. Magoebaskloof Hiking Trail      | 23. Kgalagadi Transfrontier Park*        | 47. Groendal Wilderness Area          |
| 6. Pilanesberg Nature Reserve      | 24. Ai-Ais/Richtersveld Transfrontier P* | 48. Tsitsikama Coastal National Park* |
| 7. Marakele National Park*         |                                          | 49. Addo Elephant National Park*      |
|                                    | F. KwaZulu-Natal Province                | 50. Mountain Zebra National Park*     |
| B. Northwest Province              | 25. Ukhahlamba-Drakensberg Park          | 51. Candeloo National Park*           |
| 8. Rustenburg Hiking Trail         | 26. Royal Natal National Park            | 52. Tsolwana Game Park                |
| 9. Hartbeespoort Dam N/Reserve     | 27. Giant's Castle Game Reserve          | 53. East London System of N/R         |
| 10. Lichtenburg Nature Reserve     | 28. Pongolo Nature Reserve               | 54. Cwebe Nature Reserve              |
|                                    | 29. Umgeni N/R & Howick Falls            | 55. Dwesa Nature Reserve.             |
| C. Mpumalanga Province             | 30. Ndumu Game Reserve                   |                                       |
| 11b. Kruger National Park*         | 31. Kosi Bay Nature Reserve              | H. Western Cape Province              |
| 11. Malelane Nature Reserve        | 32. Mkuze Game Reserve                   | 56. Table Mountain National Park*     |
| 12. Loskop Dam Nature Reserve      | 33. Sodwana Bay National Park            | 57. Cango Caves Nature Reserve        |
| 13. Douglas Dam Nature Reserve     | 34. iSimangaliso Wetland Park            | 58. Knysa National Forest Reserve     |
|                                    | 35. Hluhluwe-iMfolozi Game Reserve       | 59. Agulhas National Park*            |
| D. Free State Province             | 36. Umlalazi Nature Reserve              | 60. Bontebok National Park*           |
| 14. Mokala National Park *         | 37. Richards Bay Nature Reserve          | 61. Bredasdorp Nature Reserve         |
| 15. GoldenGate Highlands Nat/Park* | 38. Vernon-Crooks Nature Reserve         | 62. Cederberg Wilderness Area         |
| 16. Erfenis N/R & Pretorius G/R    | 39. Dukuduku Natural Forest Reserve      | 63. Augrabies Falls                   |
| 17. Sandveld Nature Reserve        | 40. Durban Natural Beach                 | 64. West Coast National Park*         |
| 18. Vaal Dam Nature Reserve        | 41. Ndumo Game Reserve                   |                                       |
|                                    | 42. Tembe Elephant Park                  | 25a. Lesotho-Drakensberg Mountains    |

\* = National Parks

Source: Magi, 2000a: 439.

It must be noted that the designation 'national parks' is not necessarily found in the province of KwaZulu-Natal because the natural parks, nature reserves and game re-

serves are all managed by the Ezemvelo KwaZulu-Natal Wildlife (EKZNW), a government conservation agency. In an attempt to implement sustainable conservation in all its nature and game reserves, and more specifically within Ukhahlamba-Drakensberg Park, the policies of EKZNW seek “to ensure that the intrinsic value of the parks, wild life, land and seascapes of KwaZulu-Natal are sensitively protected as a source of spiritual and long-term sustenance for future generations” (Derwent & Porter 2003). These policies are also seen as seeking to ensure the sustainable conservation of biodiversity in partnership with people of KwaZulu-Natal and specifically inhabitants of Ukhahlamba-Drakensberg, hence the expected inclusion of local people and traditional leaders in the parks boards and councils (McKercher & Du Cros, 2002; Derwent & Porter, 2003).

#### **4.1 Features and attributes of Ukhahlamba-Drakensberg**

In the context of a national park regarded as a geopark, Ukhahlamba-Drakensberg has all the attributes of a geo-science landscape, the physical structure, size, uniqueness and attractiveness. Ukhahlamba has the geology, geoheritage and geotourism features which are attracting many visitors to the area. The rock-art which is unique and typical to Ukhahlamba is the cornerstone to the geoheritage phenomenon which is centuries old and may be regarded the main feature that afforded it the world heritage status (Southern, 2006).

##### **4.1.1 Characteristics of Ukhahlamba-Drakensberg**

The Ukhahlamba-Drakensberg National Park, which may also be designated as a geosciences-park, with its double-name meaning the “barrier of spears” and second part “dragons mountains” suggesting the range of mountains similar to a huge dragon traversing the landscape. The Ukhahlamba-Drakensberg covers an area of about 243 000 hectares and rise up to a height of 3, 482 metres above sea level. The mountain range has a number of peaks with various names and descriptions, some notable peaks include Mafadi at 3,450m, Makoaneng at 3,416m, Njesuthi at 3,408m, Champagne Castle at 3,377m, Giant's Castle at 3,315m, Cleft Peak 3280m, Mount Aux Sources at 3 282m, Windsor Castle 3068m, and Ben Macdhui at 3,001m above sea level. Similar to other protected area in KwaZulu-Natal, Ukhahlamba is a globally significant area with exceptional biodiversity and cultural heritage resources (Clarke, 2003). Not only has Ukhahlamba-Drakensberg been declared a World Heritage Site, it is has also been listed as a Ramsar site as well as a Transfrontier Conservation Area between Lesotho and South Africa (Cowan, et al. 2003; Southern Berg Escape, 2006).

It has been argued that the geology of Ukhahlamba-Drakensberg can be related to the remnants of the original African plateau. The mountains are capped by a layer of basalt up to 1,500 metres thick, with sandstone formation lower down, resulting in a combination of steep-sided blocks and pinnacles. More towards the north the mountains have rugged and broken quartzite formations, which pose a challenge to rock climbers and hikers. The sandstone formations give the Ukhahlamba-Drakensberg mountains their numerous caves, which have been associated with the San people also called Bushmen, who scripted approximately 40 000 recorded individual rock-art paintings in about 600 known San rock painting sites (South African Channel Services, 2012) (Figure 1).



**Figure 1** Rock-art Painting in Ukhahlamba – Drakensberg  
Source: Discover our Drakensberg, 2011.

The physiographic attributes of the Ukhahlamba-Drakensberg Natural Park or geo - science park, lends itself to what has come to be known as the stone-age rock-paintings. The popularity of the rock - art paintings has made Ukhahlamba - Drakensberg one of the popular tourist destinations for both domestic and international tourists. Archaeological remains such as rock art are “incredibly fragile” and may suffer irreparable damage if exposed to irresponsible visitation (Wurz & Van, 2005). Due to the fragility of the Ukhahlamba-Drakensberg area, there is an urgent need to understand the degree to which this ecosystem can sustain livelihoods, by introducing more efficient management and governance approaches. According to Clarke (2003) the development and management of Ukhahlamba - Drakensberg World Heritage Site require a high level of co-operation, capacity building and technical support for strategic planning to ensure that identified development goal are met.

#### **4.1.2 Ukhahlamba-Drakensberg as a geotourism resource**

Without doubt Ukhahlamba-Drakensberg has been described as an important ecotourism resource, which is underpinned by two philosophies, that is, biocentric (promotes ecological process to operate as freely as possible – protect the integrity of the ecosystems) or anthropocentric (use and enjoy – maximization of direct human use) in nature (Cooper, et al., 2000). Ecotourism development in the Ukhahlamba - Drakensberg is promoted by resource managers, wildlife officials, service providers and the local communities. Some of these stakeholders own a variety of hotels and resorts appearing on the slopes of the geopark. According to Ezemvelo KwaZulu-Natal Wildlife (Ezemvelo KwaZulu-Natal Wildlife, 2006):

Standing on top of the world in the Ukhahlamba-Drakensberg Park you are surrounded by craggy peaks, sandstone cliffs, cascading waterfalls, crystal streams, rocky paths, caves and sweeping grasslands. This is one of South Africa’s premier ecotourism destinations”.

The park offers tourists many facilities and activities as well as the best access to the San people’s rock art and thousands of the massive eland antelopes can be seen as they forage the grasslands. Many of the tourists visiting the geopark are attracted by

the splendour of the beautiful environment as well as the many outdoor recreation facilities and activities available in the area. A plethora of activities occurring in the 240 000 ha of cliffs, valleys, caves and rivers, include the following: caves, rock art sites, camping/caravan sites, accommodation, trail-mount-hut, local craft market, interpretive centre, trails for the disabled, birding, fishing, picnicking, and self-guided trails/walks (Ezemvelo KwaZulu-Natal Wildlife, 2006).

Many of the tourist destinations have facilities such as caves, camps, accommodation, restaurants, and curio shops. It is worthy of mentioning that very few of destinations have facilities and trails for disabled persons, as well as local community crafts and markets. The latter suggests the paucity of community involvement in small entrepreneurial activities in the area. On the whole, many of the Ukhahlamba-Drakensberg peaks offer challenging mountaineering. While the major summits have all been conquered, a number of minor pinnacles have yet to be ascended. Hiking is also a popular activity, the navigation on long hikes is often aided by GPS receivers, and current maps distributed by Ezemvelo KwaZulu-Natal Wildlife.

The preceding description of the various characteristics and facilities available in the Ukhahlamba-Drakensberg Park justifies it to be regarded as a geopark. Obviously what is outstanding is for it to be registered with the UNESCO agencies that facilitate the recognition of the geo-destinations such as the Ukhahlamba-Drakensberg Park to be truly seen as a geo-science landscape, a geopark. The process of entering a geopark domain requires the following attributes: the physical and geoscience features, interdisciplinarity, stakeholder identification, and local heritage evaluation, support of local communities, public awareness, cultural events, promotion, and informal education. All these are the ideal ingredients to justify the geopark concept and status (Andrasanu, 2009).

#### **4.2 Features and attributes of the Table Mountain National Park**

Similar to the Ukhahlamba-Drakensberg geopark, the Table Mountain National Park has similar attributes of a geo-science landscape, the physical structure, size, uniqueness and attractiveness that this paper is assessing. Similarly, the Table Mountain has the geology, geoheritage and geotourism features that invariably make it an important geoscience feature and a geotourism attraction. The human addition of the city of Cape Town to the Table Mountain natural features, makes it a unique geoheritage contribution to its existence and attributes. The popularity of the Table Mountain Geopark exceeds itself, such that in 2012 it was voted as one of the New 7 Wonders of Nature. In other words, the mountain is regarded as the world's top seven natural wonders, and raises awareness of the natural environment, its beauty and diversity. This status was achieved under the auspices of the New7Wonders Foundation of Switzerland, which seeks to promote the preservation of human-made and natural monuments worldwide. The other seven provisional winners, were: the Amazon in South America; Halong Bay in Vietnam; Iguazu Falls in Argentina; Jeju Island in South Korea; Komodo in Indonesia; Puerto Princesa Underground River in the Philippines; and Table Mountain (SouthAfrica.info and MediaClub.com, 2011) (Figure 2).



**Figure 2** Table Mountain Parks and Cape Town  
Source: SouthAfrica.info and MediaClub.com, 2011.

#### **4.2.1 Characteristics of the Table Mountain National Park**

The Table Mountain is one of the leading geological and physical features in South Africa. According to Moore (1994) the great front wall of Table Mountain, and the impressive sweep of buttresses, ravines and amphitheatres that line its flanks have been described as one of the earth's natural wonders. Geologically, Kench (1998) contends that the Table Mountain was created some 800 million years ago and that its early history is based on the formation of the Malmesbury Group, which is usually described as shale - from layers of compacted marine deposits. The build-up of these geomorphological strata are said to have continued until about 570 million years ago, when molten, igneous granite was injected into the sediments from deep inside the earth. Kench (1998) further asserts that these are composed of quartz and silicates, feldspar and mica. The related granite is seen as forming the second main component of Table Mountain.

#### **4.2.2 Flora and fauna of the Table Mountain**

According to Kench (1998), the relationship between Table Mountain and its flora is one of long standing processes. The Cape Floral Kingdom is believed to be one of the world's oldest and highly regarded. The most outstanding feature of the Cape Floral Kingdom as stated by Kench (1998) is its diversity. Some of the species include: *Erica*; *Crasula*; *Oxalis*; *Gladiolas* and *Pelargonium*. *Protea cynaroides* is said to be the largest of all the *Proteaceae*, with the head up to 20 cm across. This flower has been crowned king, and it has also been elected the national flower.. Another prominent flower is the *Disa uniflora*, which is considered the Pride of Table Mountain (Kench, 1998). The plants of the Table Mountain are divided into two groups: the fynbos, which favours the open slopes and the high ground, and the evergreen forest, which is concentrated in the deep, well-watered kloofs (Kench, 1988). It is also argued that ever-since the mountain was declared as both a National Monument and as a Nature Reserve, all these indigenous plants are protected. Kench (1998) also reports that similar plant species have been observed between those plants of the Table Mountain and those of Western Australia, and also the fossil plants that were discovered in the

Antarctic. The Protea Family is said to be a notable example. The significant threat to plants as according to Kench (1988) is the desiccation during summer month, especially plants higher up on the plateau. Many plants are therefore said to have developed the small, glossy, drought-resistant leaves.

The fauna of the Table Mountain is as unique as the flora. According to the South African National Parks (2004), historical evidence from rock art and fossils, suggests that the Cape Peninsula was once populated by a variety of larger mammals such as lion, leopard and hyena, however due to hunting and environmental degradation they are but a memory. What is recently available in the Table Mountain environment are but smaller species of mammals, such as the tiny klipspringer (*Oreotragus oreotragus*). Antelope species adapted to fynbos are generally tiny and hard to spot but well worth the patience. These petite buck are likely to be seen standing proudly on rocky outcrops. Some other species include the grysbok (*Raphicerus melanotis*), common duiker (*Sylvicapra grimmia*), grey rhebok (*Pelea capreolus*) and steenbok (*Raphicerus campestris*) are only easy to see towards the evening and in the early mornings. Other mammals to be found in this national park include: the cape mountain zebra (*Equus zebra zebra*), caracal or rooikat (*Felis caracal*), large-spotted genet (*Genneta tigrina*), porcupine (*Hystrix africaeaustralis*), rock hyrax (*Procavia capensis*), chacma baboons (*Papio ursinus*) and many such mammals as well as bird species. The more you move away from the mountain towards the Cape of Good Hope section, antelope species of a larger variety, such as the red hartebeest (*Alcelaphus buselaphus*) and the bontebok (*Damaliscus dorcas dorcas*) are to be found (South African National Parks, 2004).

In our view the flora and fauna discussed above does suggest that such attributes of the Table Mountain National Park are typically similar to those you will find in geological and geomorphological landscape called a geopark. This is true because as earlier argued that a geopark is not only characterised by geomorphic features, but also incorporates geotourism, geoheritage, geo-conservation and socio-cultural attributes of our natural environment. The Table Mountain as well as the Ukhahlamba-Drakensberg mountains do qualify to be seen and classified as geoparks, no political decision can better tell their story and character.

#### 4.3 Geotourism aspects of the Table Mountain

The idea that geoparks are there to serve humanity is an expression or dictum that has to be supported. The philosophy is well espoused in the definition of the geopark to include:

A nationally protected area containing a number of geological heritage sites of particular importance, rarity, or aesthetic appeal. These Earth heritage sites are part of an integrated concept of protection, education, and sustainable development. A Geopark achieves its goals through a three-pronged approach: conservation, education and geotourism (UNESCO's Global Geoparks Network, 2006a).

In other words, the geopark is not designed to describe the geological and geomorphological features, as well as the flora and fauna aspects of the geopark, but also includes the human, social and cultural elements, which relate to geo-conservation, geoheritage and various environmental aspects of a geopark. These elements are expected to introduce the principle of innovation, sustainability, development and uni-

versality in the creation of geoparks in any country of the world. This method of looking at a national park would facilitate the fulfilment of the requirements for a possible nomination as a geopark. The process includes the national authorities submitting a proposal to UNESCO in order to seek conversion from a national park to geopark.

A number of authors, such as Hey (1994) and Burman (1991), have agreed that the Table Mountain is an outstanding feature of Cape Town, and that more than three hundred million people have been to the summit using a cableway. Even though the Table Mountain is under such an increasing pressure, Hey (1994) contends that it still remains a remarkable natural and recreation asset. The Table Mountain besides the flora and fauna offers a number of activities to the tourist which include the cableway and hiking.

#### **4.3.1 The cableway**

The Cape Town Tourism (2012) states that the Table Mountain Cableway, was established in 1929, and that it took visitors to the top of the mountain in one of two cable cars, each with rotating floors and huge windows to ensure one's views while travelling. The cableway underwent an extensive upgrade in 1997, replacing all the original 25 seated cars with new, larger cars capable of carrying 65 passengers instead. Also, the new cars give a faster journey to the summit, and can rotate through 360 degrees during the ascent and descent, giving passengers the most breathtaking views over the city.

The Cape Town Tourism (2012) further states that from the top of Table Mountain, there are magnificent views of the Cape Town city centre, surrounding suburbs and the Atlantic Ocean. It is further stated that landmarks in view include the Cape Town Stadium, Robben Island and Camps Bay beach. The number of tourist that go up to the mountain top are a total of 855 595 visitors per annum. To date, since 1929 approximately 22 million people have used the cable car (Table Mountain Aerial Cableway, 2013).

#### **4.3.2 Hiking up the mountain**

According to Burman (1991), as early as the 1890s, a number of trails or routes up the Table Mountain had already been known. The FlightSite (2012) contends that hiking on Table Mountain is popular amongst locals and tourists alike, with numerous trails of varying difficulty levels available. They further state that there are numerous steep cliffs around the summit, which means that Hiking on Table Mountain is popular amongst locals and tourists alike, with numerous trails of varying difficulty levels available. There are numerous steep cliffs around the summit, which means that direct ascents from the city side are limited. Platteklip Gorge is a popular and direct ascent to the summit, and is about 2.5 kilometres. Hiking up and down the mountain is highly influenced by the local climatic conditions, the seasons of tourist visitation and the tourism entertainment programmes, which is organised by the City of Cape Town Cultural, Sport and Recreation Department and the South African National Parks.

## **5 Discussion**

It is worth emphasising that national parks are the same and contain the same charac-

teristics as the geoparks, which are both characterised by geological and geomorphological features, which at the same time are typified by natural, environmental, human, social, heritage and cultural features and principles. The main characteristics of national parks in South Africa is that they are designed and managed through government legislation, some of which were discussed earlier in the paper. These are the National Parks Act (No. 57 of 1976) and the National Environmental Management Act (NEMA) 57 of 2003 associated with Protected Areas Act of 2003. The establishment of these protected areas, unfortunately had been achieved through forced removals of indigenous African people from their areas. With the coming of Agenda 21 and People and Parks in South Africa (Department of Environmental Affairs, 2010), the knowledge and traditional way of life of the local, rural communities have come to play a vital role in conservation and environmental management natural resources also supporting the identity and culture of communities, so as to enable their effective participation in the achievement of sustainable development (Department of Environmental Affairs, 2010).

The geopark philosophy as espoused by the UNESCO declaration on geoparks, is a new model of sustainable development and protection of nature. Similar to national parks, this philosophy encourages local communities to participate in the protection of natural areas. According to the Farsani, et al, (Farsani, et al, 2011) a geopark is "a nationally protected area containing a number of geological heritage sites of particular importance, rarity or aesthetic appeal". The explanation given earlier suggested geoparks attempts to integrate concepts of conservation, education and sustainable development. Hence, a geopark similar to the national park adopts this three-pronged approach: conservation, education and geotourism (UNESCO, 2006b) to make the two concepts (national and geopark) to have similar attributes. In other words, the concepts used above seem to show that geoparks embrace some registered national parks and protected areas with unique geological and cultural heritages sites (Farsani, et al, 2011). Notwithstanding that earlier in this paper we listed some of protected areas, national parks and game reserves in South Africa, it must be noted that some of these are regarded as the world's official heritage sites and include:

- (a) The iSimangaliso Wetland Park, which is one of the largest estuary systems in Africa.
- (b) Robben Island, which is most famous as the prison-place of Nelson Mandela.
- (c) The Cradle of Humankind, which has a high concentration of hominid fossils.
- (d) Ukhahlamba-Drakensberg Park, which has the largest concentration of rock art paintings.
- (e) Mapungubwe National Park, "Place of the stone of wisdom" - was South Africa's first kingdom, lasting for 400 years before it was abandoned in the 14th Century.
- (f) The Cape Floral Region, regarded as one of the richest areas for plants in the world.
- (g) The Vredefort Dome, is a two billion years old meteorite crush, created crater.
- (h) The Richtersveld Cultural and Botanical Landscape, which covers 160 000 hectares of dramatic mountainous desert in the north-west part of South Africa.

The above-listed world's official heritage sites are not only important as geological and geomorphological features, but are also important places of geoheritage, geotourism and involve the three pillars geoparks, namely, conservation, education and geotourism. In such places local communities ought to be integrated to into these unique landscapes, so that these communities may contribute local knowledge, traditional

arts and traditional style of life, which should play a role in geoparks management system (Dingwall, et al, 2005; Dowling, 2008).

What has happened in other parts of the world is that national parks have been defined by the International Union for Conservation of Nature and the World Commission on Protected Area, and integrated into the more recent geopark systems or networks associated with international agencies such as the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2006a-c; 2009). A typical example is that found in countries, such as Japan and China, where domestic geopark networks have created close collaboration among the geopark, tourism sectors, schools, universities and business. The geopark system, *inter alia*, encourages local communities to apply conservation strategies towards achieving sustainable development by embracing geo-heritage, geotourism and indigenous knowledge systems and strategies. Finally, according to Farsani et al, (2011) the observable difference between geoparks and national parks is the emphasis of the geopark on geological heritage and their introduction as tourist attractions in addition to ecological, cultural, historical, and archaeological aspects. However, it is important to note the comment by Dowling & Newsome (2010) when they claim that ecotourism can usually occur in “natural areas”, geotourism activities can occur in any environment, which has geological and geomorphic characteristics. As a result, geotourism can occur in either the natural or the built environment. On the other hand, our view is that ecotourism does not necessarily occur in “natural areas” only, but also relates to those tourists or recreators who believe that their engagement or participation in a tourist destination must at all times support negligible carbon-foot-print impact on that particular environment (Dingwall, et al, 2005; Dowling, 2008).

The story and initiative into the realm of geoparks is not a long one. The African Geoparks Network (AGN) has taken the responsibility to launch Africa into the geoparks debate. The African Association of Women in Geosciences (AAWG) has taken leadership of the AGN, which aims to identify, promote, and advise on the importance and preservation of geological sites in Africa. This goal is to be achieved by AGN in collaboration with AAWG and African governments playing a role in promoting various aspects of geoscience, included subject-matters associated with earth and environmental science, geoheritage, geotourism and climate change, earth sciences and local communities; earth and ecology, and so on (African Geoparks Network, 2013).

Geoparks in Africa as in other parts of the world, deals with geological and geomorphological features of the natural environment, seeking to achieve sustainable tourism development also including community involvement. Geoparks in Africa is supported by UNESCO through the Global Geoparks Network (GGN). The network is relatively young, has few countries affiliated and is not yet evenly distributed throughout the world. Most of the geoparks are in Europe and Asia, with growing interest in Africa and the Arab States. According to UNESCO (2006c) there are no recognized geoparks in Africa today, but there is an African Geoparks Network (AGN) that is bringing together various parties with an interest in fostering geoparks in the continent.

In closing this section, it cannot be gainsaid that understanding the importance of Ukhahlamba-Drakensberg and Table Mountain Parks as vehicles for sustainable development, are the most viable programmes a government can give to its people or

communities. Needless to say that sustainable geotourism should also be understood as a form of economic development that is geared to ameliorate the quality of life of the host community, as well as guaranteeing a higher level of geotourism development (Ashley & Roe, 2002; Wahab & Pigram, 2000). In pursuit of such ideals the South African tourism authorities at national and provincial levels, have put into place various strategies towards promoting nation-building, peace and respect for human life through tourism (Department of Environmental Affairs and Tourism, 2006b; SAT, 2004; Spencely, et al., 2014; Cowan, et al. 2003; KwaZulu-Natal Tourism Authority, 2003; Binns & Nel, 2002).

## 6 Conclusions

Notwithstanding that the declaration of the Ukhahlamba-Drakensberg National Park and the Table Mountain National Park as world's official heritage sites has stimulated more popularity and economic viability of these geo-science parks, it has come to be recognised that their strongest attributes are that the parks are both natural attraction and cultural heritage places. The sensitive relationship between natural and cultural attributes within the realm of the Ukhahlamba-Drakensberg and Table Mountain geoparks, has to be planned, developed and managed in a sensitive and sustainable manner so that the resources could adequately begin to benefit the local communities for a very long time to come. In addition, the capacity and willingness of the national authorities to integrate national parks into or with geoparks would help promote their sustainability on the international stage. This achievement would represent a successful implementation of sustainable ecotourism development as envisaged by various national and provincial tourism strategic planning initiatives in South Africa.

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