



Climate Change and Sustainable Tourism: South Africa caught in-between

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Abstract

Climate change and tourism are symbolically two-sides of a coin. While climate change portends serious threats to ecosystems and biodiversity (the world's foremost tourism assets), environmental impacts associated with tourism-related activities significantly add to climate change. Caught in between the two scenarios is South Africa's position as both a contributor and one of those hard-hit by climate change on the one hand, and a leading tourist destination with the country's tourism industry representing a key economic sector and growth enabler by way of its contribution directly to Gross Domestic Product (GDP) on the other. This is beside the fact that a relatively significant share of tourism-related activities is undertaken in emerging countries, of which South Africa is one. Thus, building on the theoretical underpinnings of Green Theory and a review of relevant documents, this article assesses South African tourism and its contribution to incentivise economic growth and sustainable development, given the country's situational complexity. It argues that tourism is at the centre of a climate-energy interlock in South Africa.

Keywords: Climate change, tourism, economic growth, sustainable development, Green Theory.

Introduction

Metaphorically, climate change and tourism (international or domestic) are like two sides of a coin. The relationship between the two is symbiotic such that each affects the other. Climate change being "the greatest challenge of our time" (Nachmany et al., 2014: xiii) and, indeed, the single most important development issue facing the contemporary global system, continues to constrain the world environmentally. Its impact transcends natural resources, economies, and societies (UNDP, 2013: 1), to include tourism. Climate change results not only in biodiversity loss but it also impacts negatively on ecosystems as a whole. Going by the findings of the Centre for Health and the Global Environment (CHGE, 2016), it is assumed that, on the average, more than one-quarter of all species on land would be threatened by climate change by the year 2050, while the impact on species in the oceans and in fresh water is also likely to be more or less the same.

Tourism being one of the fastest-growing industries globally, mainly because of its positive impact on foreign exchange and job creation contributes to climate change. The environmental impact associated with business-as-usual tourism-related activities presents serious challenges to the



global system as a whole, thereby significantly adding to climate change. These range from carbon emissions linked to tourist transport such as aviation, road, rail and water, waste generation, and whatnot. Hence, greenhouse gas emissions (GHGs) directly linked to tourism and travel (T&T), land degradation and deforestation, as well as inefficient use of energy are not merely random insignificant proportions.

Unfortunately, South Africa is caught between the two scenarios. At one level, South Africa ranks both as a contributor and also as one of the hardest-hit nations by the impact of climate change. By any measure, either by emissions per capita or emissions per unit of Gross Domestic Product (GDP), South Africa has a record of relatively huge emissions of GHGs and, indeed, ranks amongst the world's top 15 GHG emitters (Chevallier, 2011: 50; DEA, 2011: 26; RSA, 2011: 5). At another level, tourism is a key economic sector and growth enabler in South Africa. According to the World Economic Forum Travel and Tourism Competitiveness Report (WEF-TTCR, 2015: 20), South Africa ranks as the first tourist destination in sub-Saharan Africa. This is mainly because South Africa attracts many tourists from different parts of the world given its fascinating tourism assets including its rich cultural heritage and exquisite natural beauty. According to Akinboade and Braimoh (2009: 152), the positives for tourism range from a well-established network of nature reserves, beaches and lush winelands, and other adventure activities like skydiving and water sports; all of which contribute to make South Africa the fourth largest and fastest growing tourism industry in the world. From a statistical perspective, tourism contributed R103,6 billion in 2013 as direct GDP; with domestic visitors' share of R124,7 billion (57%) and international visitors' share of 94,2 billion (43%) of the total tourism spend (Stats SA, 2015). In particular, the direct contribution of T&T to South Africa's GDP in 2014 was ZAR113.4bn (3.0% of GDP), with an expected growth rate of 4.6% pa to ZAR184.7bn (3.4% of GDP) by 2025 (WTTC, 2015). This underscores the important role of tourism as an economically thriving global industry, with a relatively significant share of tourism-related activities being undertaken in emerging and developing countries of which South Africa is one. Besides, it should be recalled that emerging and developing economies showed resilience substantially greater than that of developed economies during the 2008-09 global economic recession. Some analysts have attributed this to a combination of factors including a relatively lower exposure of emerging and developing economies to financial markets that constitute the major cause of the crisis relative to developed economies, thereby emphasising the important role of tourism which is a key informal enabler of GDP in those economies (Didier et al., 2011: 6).

Thus, assessing the contribution of tourism to economic growth and sustainable development in South Africa is at the heart of the investigation in this article. This becomes necessary in view of the counteracting scenarios as highlighted. Of equal importance is the fact that South Africa is no doubt a strategic geopolitical power on the African continent, as well as a leading actor, with considerable influence as an advocate of a 'third world' agenda on climate change and other related issues including tourism. This again underscores the need for sustainable development in South Africa, especially such as is driven by a green growth or at least transition towards a green economy of which tourism is an important element. The central question this article thus grapples with is: can South African tourism unlock the country's climate-energy interlock?

Methodology

At the theoretical level, this article synthesises the green theory and its core theoretical underpinnings with a view to situating the important role of tourism as a pathway to sustainable development and, in particular, environmental sustainability in any given society. At another level,



it reviews relevant documents regarding climate change and tourism while focusing particularly on South Africa in order to bring to the fore what has been studied. The literature reviewed were purposively selected from among existing studies that address climate change in South Africa on the one hand, and tourism as a key driver of the South African economy on the other. These include grey and patent publications, journal articles, government documents and materials from the internet. While grey and patent publications and some of the journal articles were hand searched, others were accessed electronically using relevant keywords. For the purpose of analysis, this article relied on qualitative content analysis.

Green theory

Historically, green theory developed as a challenge to realism and liberalistic theories. While challenging their state-centric and institutional frameworks, rationalist outlook and 'ecological blindness', green theory recommends a number of new green explanations of international justice, development, modernisation and security (Eckersley, 2007: 247). Having been preoccupied with the central issue of environmental justice, green theory provides a theoretical explanation for the destruction of the rest of nature by human societies. Beyond criticising humanity's continued influence on non-human nature, together with enslavement of indigenous peoples and their subsistence agriculture, green theory postulates that: "Environmental governance should be about protecting not only the health and well-being of existing human communities and future generation but also the larger web of life, made up of nested ecological communities at multiple levels of aggregation such as gene pools, population, species, ecosystems" (Eckersley, 2007: 251). Although it acknowledges that climate change, especially its anthropogenic conception, constitutes a serious environmental problem, green theory advocates for an ecocentric approach as against anthropocentric conceptualisation of the global environmental crisis (Paterson, 2005: 238). Green theory, therefore, not only challenged such anthropocentric paradigm, it also sought a transcendental solution to the current environmental crisis caused by the exponential economic growth experienced during the last two centuries (Paterson, 2005; 237).

Green theory specifically emphasised the need for ecological security that acknowledges human well-being and ecosystem principles. As a substitute to accepting the existing global structures and frameworks as given while dealing with environmental concerns like climate change, green theory shifts the blame to those structures as the main cause of the environmental crisis for which the global system is currently bedevilled (Paterson, 2005: 236). Beyond global economic and political interdependence, green theory proposed the need for ecological interrelationship through environmental governance geared towards solving exclusively ecological challenges. It drew attention to the relevance of hitherto 'low politics' phenomena such as ecological security, sustainable development and environmental principle. Distinct from military threats, which are premeditated, discrete, specific, and require some sort of immediate response, environmental issues are by nature indefinite, diffuse, transboundary, spread over a long time, affect multiple actors, and require careful negotiation and collaboration among stakeholders (Eckersley, 2007: 249).

From the foregoing exposition, the relevance of green theory in connection with this article is drawn primarily from its special concern for environmental sustainability. Its theoretical perspectives as discussed above beam its analytical light on the tourism sector which is seen to have been playing a critical role, considering its strategic importance in promoting a green economy through more sustainable business practices, climate change mitigation, and adaptation techniques (Manwa, *et. al.*, 2013; Reddy & Wilkes, 2015: 3). The core arguments of the theory require that environmental challenges are to be mitigated across the board, while there is also a need to address any untoward climate-induced externalities through distributive equity and



environmental justice. Tourism, no doubt, is key to achieving low-carbon transition given its potential to significantly diversify a nation's economy, redistribute wealth, address socio-economic inequalities, contribute to economic growth and development, as well as ensure environmental sustainability. Even though green theory gives ultimate priority to the environmental aspect, its theoretical foundations are established within the framework recognising the three focal points of sustainable development – social, economic and environmental sustainability. To this end, the main focus in this article is a single case scenario; paying special attention to environmental sustainability in South Africa. This article, therefore, is theoretically underpinned by the thinking that tourism is critical to achieving a low-carbon green economy.

Documents review

The review of documents in this article is organised along three main themes: (1) climate change and its relationship with global tourism as an enabler of economic growth and sustainable development; (2) climate change in South Africa; (3) tourism as a contributor to the South African economy.

Climate change, global tourism and sustainable development

Climate change constitutes, perhaps, the greatest environmental challenge to the contemporary global system. Nachmany *et al.* (2014) describe it as the greatest environmental problem the contemporary world is currently grappling with. Rosenbaum (2011) viewed the same from the analysis of coal as a major GHG polluter with enormous environmental degradation even though his study is rooted in economic perspective and there was no specific mention of tourism. Climate change is not like any traditional environmental issues: it impacts many other aspects of national life including agriculture and forests, energy consumption, transportation and so on (Stern, 2012). Whatever its nature and impact, the overwhelming scientific view remains that the impact of climate change on the environment is not only huge, but also for the most part negative. Climate change impacts not just the environment, but virtually all aspects of human endeavours including tourism. Sufficient research has, no doubt, been undertaken in terms of the effects of climate change on the environment most of which followed from the findings of the Intergovernmental Panel on Climate Change (IPCC, 2014). Investigations about the inter-link between climate change and tourism generally, and in the particular case of South Africa, are still largely inadequate. One reason for this is because tourism is generally perceived not yet adequately prepared for climate change.

However, more generally, Scott and Becken (2010) reiterate the *Davos Declaration on Climate Change and Tourism* (2007) which sees climate change as a huge challenge to sustainable tourism in the twenty-first century. Scott *et al.* (2012: 14) seem to be on the same page when they contend that climate change now constitutes one of the most critical sustainability challenges for global tourism. They further maintain that a tourist perception of climate whether at home or planned destinations is a critical element during travel planning. Related to this, Becken and Hay (2012: 4) seem to offer a rather more explicit analysis of the linkage between climate change and tourism when they argue that: "The combination of tourism growing in importance, numerically and economically, and the current and anticipated changes in climate, highlight the urgent and immediate need for strong and effective responses both to reduce tourism's contribution to climate change and to the threats and opportunities climate change represents for the tourism sector." Their argument links the important question of "sustainable tourism" to what is otherwise known as "responsible tourism."



Responsible tourism, according to Goodwin (2011), simply implies ensuring that the consumption and production of tourism are sustainable. This, in principle, is believed to be at the heart of tourism. The overall goal is to enhance tourism-accrued benefits and reduce its losses, acknowledging that every individual tourist adds to or destroys human values while travelling. Drawing directly from the Brundtland's conceptualisation of sustainable development, Frey and George (2010: 622) define responsible tourism as: "The responsible management of resources for the use and enjoyment of present and future generations." Notwithstanding that the resources referred to are tourism assets, their definition offers a deeper insight into understanding the term responsible tourism. It also emphasises the need for: (1) a competitive advantage; (2) ensuring the involvement of local communities and their linkage to the economic gains accruing from the tourism attractions; (3) socio-economic and cultural diversity of the tourism assets; (4) effective monitoring and tourism impacts assessment.

Environmental sustainability continues to gain more prominence and now seems well established. This is premised on the general understanding that everything connects with the environment. As such, one key aspect of climate change – changing weather – has continued to enjoy primacy in most of the existing studies that address climate change and tourism (Day et al., 2013; Gasper et al., 2011; Perch-Nielsen, 2010). While examining the relationship between weather, climate, and tourism destinations, Day et al. (2013: 51) contend that weather as a critical factor affects the choice of tourism destinations and image, as well as the nature and type of services provided for tourists. Therefore, climate or weather is both an asset for destinations and an important attraction for visitors. Perch-Nielsen (2010) and Gasper et al. (2011) also share similar concern though with much emphasis on beach tourism and its vulnerability to climate change.

According to Perch-Nielsen (2010: 580), the special focus on beach tourism is informed by its associated activities including sunbathing and swimming which are extremely weather-sensitive compared to other tourism-related activities. With a more specific interrogation of how climate impacts on the period of tourism seasons, destination choices and spending, and the quality of local environmental resources (e.g. reefs, biodiversity), as well as its impacts on the flow of tourists, Gasper et al. (2011: 151) argue that coastal cities that are dependent on beach tourism are more likely to be impacted by sea level rise in conjunction with an increased intensity and frequency of extreme coastal storms. The slight variations in their analyses notwithstanding, the three scholars agree to the connection between changing weather associated with anthropogenic climate change and decisions regarding tourist destinations.

Scott et al. (2012: 5) challenged their narrow intellectual orientation describing it as "nonsensical" since there is a need to examine the environmental effects of a tourism system as a whole. Having acknowledged the importance of destination impacts, the thrust of their argument remains that the impacts of tourism transcend tourist destination. They aver that it may be global in scale and equally affect different aspects of the tourism system in diverse ways (Scott et al., 2012). Tourism, no doubt, is a multi-faceted sector; it cuts across other economic activities such as transportation, hospitality including food and beverage, recreation as well as entertainment (Akinboade and Braimoh, 2010: 149).

The relationship between climate and tourism is not only complex but also multifaceted. Interactions between the two are by-conditional and, as such, may promote or hinder each other. Favourable weather conditions promote tourism; at the same time, unfavourable weather conditions may discourage movement of tourists both at the local and at the international levels to a certain destination. Paradoxically, activities within the tourism sector like transportation contributes to climate change in the form of environmental pollution. Becken (2013: 53) raised no objection to this at least implicitly. However, he pointed out that there are opportunities inherent



in the linkage; one of such is for tourism to become more systematic, smart, strategic and sustainable. Reddy and Wilkes (2015: 3) corroborated the same while observing that: "It is increasingly recognised that tourism sector can play a pivotal role in a green economy through more sustainable business practices, climate change mitigation, and adaptation techniques." Day et al. (2013: 51) identified at least four categories of relationship patterns between climate and tourism: (1) climate/weather is a strong determinant of where to travel to; (2) climate/weather shapes the perception of a tourist about where to travel to; (3) climate/weather forms part of the tourism asset; (4) climate/weather may act as a disruptor of tourism activities.

Sharing similar perspective, at least numerically, Gossling et al. (2012: 37) argue that since the impacts of climate change on tourism operations and destinations are closely entwined with tourist behaviour, four major types of climate change impacts on tourism demand can be distinguished. These include: (1) the direct impacts of a changed climate; (2) indirect impacts of environmental change; (3) mitigation policy and tourist mobility; and (4) societal change related to reduced economic growth, consumer cultures and social-political stability.

The connection between climate change and tourism is not a one-sided affair. Tourism contributes to climate change too. According to the United Nations World Tourism Organisation UNWTO (as cited in Scott et al., 2012: 15), tourism is not only affected by climate change, the reverse is also the case. Reddy and Wilkes (2015: 39) reveal that as the fourth largest industry (after fossil fuels, chemicals and automobile) in international trade, with an industry value of US\$1 trillion yearly, the tourism sector contributes 5 per cent of global GHGEs. Although Scott et al. (2012: 47) remark that the percentage is considerable, they nevertheless acknowledged that it is growing. Tollefson and Gilbert (as cited in Reddy and Wilkes, 2015: 8) also alluded to this as they argue that developing countries experienced an increase in their share of global emissions from 29 per cent to 54 per cent. It is a consensus among scholars and non-scholars, however, that tourism is a key global economic sector that continues to generate massive employment worldwide, as well as pioneer some of the world's most innovative sustainability strategies. The increasing importance of tourism as a key economic sector and, in particular, its role in enhancing mitigation and adaptation, is well acknowledged by few existing studies (Reddy and Wilkes, 2015: 3; Scott and Becken, 2010; Scott et al., 2012).

According to the findings reported by the WTTC (cited in Reddy and Wilkes, 2015: 17), the total (direct and induced) share of travel and tourism (T&T) to the global GDP was US\$6,990.3 bn (9.5 per cent of the global GDP) in 2013, and the prediction was to increase by 4.3 per cent by the end of 2014, and expected to rise by 4.2 per cent p.a. to US\$10,965.1 bn (10.3 per cent of the global GDP) in 2024. The implication is that the contribution from the T&T sector far outweighs the wider economy, including significant sectors such as financial and business services, transport and manufacturing. By the same token, in 2013 the total share of T&T to employment, including jobs indirectly supported by the sector, was 8.9 per cent of total employment (265,855,000 jobs) in that year. While it was also expected that there would be an increase of 2.5 per cent in 2014 to 272,417,000 jobs and 2.4 per cent p.a. to 346,901,000 jobs in 2024, amounting to 10.2 per cent of the total employment generation globally (Reddy and Wilkes, 2015: 17).

Tourism, for the most part, serves as an enabler for economic growth and sustainable development in many modern societies. Reddy and Wilkes (2015: 12) provide a robust analysis in this regard as they explain the three of the Sustainable Development Goals (SDGs) and how they are related to tourism. These include Goal 8 – promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; Goal 12 – ensure sustainable consumption and production (SCP) patterns; and, Goal 14 – conserve and sustainably use the oceans, seas and marine resources for sustainable development. In



connection with tourism, Goal 8 – by 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products; Goal 12 – develop and implement tools to monitor sustainable development impacts for sustainable tourism which creates jobs, promotes local culture and products; and, Goal 14 – by 2030 increase the economic benefits of SIDS and LCDs from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

Climate change in South Africa

South Africa's peculiar vulnerability to climate change dominates discourse in most studies vis-a-vis the effects of climate change on South Africa (DEAT, 2004; DEA, 2010; Glazewski and Collier, 2012; RSA, 2011). Others raised serious concern about South Africa's status as a major but a developing GHG emitter at least relatively (Bond et al., 2009; Bond, 2011; De Wit, 2011; Fisher, 2014; Heerden et al., 2006; Kotze, 2011; Menyah and Wolde-Rufael, 2010; Nkomo, 2005; Weston, 2011). However, the key issue in all their analyses remains that South Africa's economy is predominantly carbon-based. Nkomo (2005: 10) raised the initial concern that energy provision which is largely driven by coal is crucial to overall development in South Africa. Bond et al. (2009: 18) appeared to have worsened the situation as they argue that climate change would be an economic disaster for South Africa, especially in view of the country's over-reliance on coal. Heerden et al. (2006: 114) gave a clearer picture while contending that coal remains a dominant source of energy, used as fuel stock for the generation of 94 per cent of South Africa's electricity. Fisher (2014) only differs with a one per cent decrease in the percentage following his contention that South Africa depends largely on coal for its electricity generation and synthetic liquid fuel for up to 93% and 30% respectively.

While also establishing the link between economic growth and the South African climate-energy complex, Menyah and Wolde-Rufael (2010) argue that sufficient evidence indicates that economic growth is not a panacea for cutting GHGs in South Africa since doing the latter would simply imply both a reduction in energy consumption as well as sacrificing its economic growth. The option to consider, therefore, is for South Africa to focus more on renewable energies such as hydro, solar, wind, biomass and geothermal that are relatively zero or less carbon intensive (Menyah and Wolde-Rufael, 2010: 1381). It is established that South Africa's carbon emission is no doubt one of the world's highest levels (Bond, 2012: 160). However, it is not clear from the argument whether South Africa in this regard should share the same responsibility with other world's leading GHG emitters, especially the rich industrialised countries. On this, Heerden et al. (2006: 115) remarked that as a developing non-Annex I country by the Kyoto Protocol (KP) standard, South Africa was not under any obligations to cut its GHGs at least for the first commitment period, 2008-2012. The current reality, however, is that South Africa like other Parties to the 2015 Paris Agreement on Climate Change is guided by an Intended Nationally Determined Contribution (INDC) that details the country's GHGs reduction commitments. These commitments by themselves are not legally-binding. Achieving sustainable development in terms of GHGs reduction and poverty alleviation in an extremely carbon-based economy remains a critical issue that policymakers in South Africa may have to contend with (Winkler and Marquand, 2009: 50).

Tourism as a contributor to the South African economy

Beyond the question of coal and South Africa's economy, not a few other studies have examined specifically the contribution of South Africa's tourism to the country's economy (Akinboade and Braimoh, 2010; Binns and Nel, 2002; Burger et al., 2001; DoT, n.d.; Kirsten and Rogerson, 2002; Rogerson, 2004; Saayman and Cortes-Jimenez, 2013; Saayman and Saayman, 2008; Seetanh



et al., 2010). Binns and Nel (2002: 236), for instance, contend that as a key economic sector in South Africa, tourism promotion and development, especially such that is geared towards community development, have continued to attract wide recognition "as a key growth alternative." This, perhaps, forms the basis upon which the 1996 Tourism White Article stressed the need to promote community participation in tourism (Binns and Nel, 2002: 236). However, they were quick to note that the promotion and development of tourism often attracts some costs and economic gains both which must be balanced against other social needs and environmental sustainability.

More particularly, Akinboade and Braimoh (2009: 152) looked in the way of the contribution of tourism to the South African economy; though with more emphasis on the international tourism (as against domestic market). A key argument in their discussion remains that tourism constitutes one of the major determinants of overall long-run economic growth in South Africa. This, it was established, has a strong link with the Oliver Tambo International Airport in Johannesburg which serves as a major connecting travelling point for most tourists and other travellers as they find their way to other major cities within the SADC region. Akinboade and Braimoh (2009: 150) further contend that international tourism adds higher economic value to South Africa's GDP far more than the domestic tourism. While also subscribing to the overwhelming view that international tourism (particularly tourist arrivals) generates a larger tourism spend than the domestic tourism, the Department of Tourism (DoT, n.d.: 8) as the lead focal point for T&T in South Africa, cautions that care should be taken regarding the country's over-reliance on foreign tourist arrivals which invariably heightens the tourism sector vulnerability. Perhaps, this brings to relevance some of the focus on domestic tourism in South Africa.

In this particular regard, Rogerson (2004) had investigated the black-owned tourism enterprises in South Africa, especially the small black-owned accommodation sector otherwise known as bed and breakfast (BnB) recreation. This black-owned accommodation sector, according to Rogerson (2004) is becoming fast-growing with the tourism industry being recognised as a critical sector for socio-economic development and non-mineral transformation of South Africa in a couple of decades to come. Fry et al. (2010: 289) singled out tourist income, relative prices and travel cost as strong determinants of all the various factors that determine tourist arrivals to South Africa. These factors are not peculiar to the country's situation. However, with an increase of more than 100% in tourist arrivals over the past ten years since 1994, South Africa ranks as a leading tourist destination on the continent (Saayman and Saayman, 2008: 81).

The reasons for the tourism growth relative to the number of tourists in and out of South Africa which continues to be marked by increase almost on a daily basis could further be established in terms of the country's tourist attractions and enticements. These, amongst others also include a well-developed physical, transport, educational and health infrastructure; cultural diversity and festivals; traditional dress and customs including music, as well as what is generally seen as a natural beauty evidenced in game reserves, bird sanctuaries, health spas and fresh water reserves (Akinboade and Braimoh, 2009: 150). Added to these, are South Africa's scenic beauty, magnificent outdoors and sunny climate all of which combine to make the country the continent's top tourist destination. This, again, aligns with the thought that despite a decline in the global tourism largely occasioned by the U.S. September 11 terrorist attacks, South African tourism had experienced an increasing growth rate which positioned the country as the largest and one of the world's fastest growing tourist destinations (Akinboade and Braimoh, 2009: 150).

The above assertion may not be completely true going by the recent World Economic Forum Travel and Tourism Competitiveness Report (WEF-TTCR) (2015: 20) which shows that South Africa ranks the first in sub-Saharan Africa and 48th in the entire world. Based on the WEF-TTCR (2015: 22) world ranking, the country's tourism strongest attractions include: (1) its rich natural



(22nd) and cultural (20th) resources; (2) a business environment that is relatively conducive (15th) with little red tape and modest administrative burden and relatively good infrastructure; (3) several international association meetings that take place in the country every year (36th); (4) abundant wildlife (25th) and several World Heritage sites (15th); (5) worldwide online searches for nature-related activities (24th); (6) forestry (5th). And, conversely, the weakest points being: (1) visa policy (67th); (2) protection of coastlines (104th); (3) biodiversity (almost 8% of the large variety of species is endangered); (4) land conservation (only 6.5% is protected); (5) security (119th); (6) health (114th); (7) labour market (135th). Burger et al. (2001: 403) had earlier laid credence to this when he contends that: "South Africa has a well-established network of national and private nature reserves that cater for the environmentally sensitive visitor." A clear point of agreement in all the analyses remains that tourism (both international and domestic) has continued to serve as a catalyst for economic growth and development in South Africa, particularly since the readmission of the country as a democratic state in the international system in 1994 after the demise of apartheid, at least officially. In particular, Akinboade and Braimoh (2009: 152) reveal that as at 2002 tourism ranked the fourth largest and without doubt the fastest growing sector in South Africa with a contribution of 8.2%, or US\$10.3 billion to the country's GDP, as well as a projected growth rate of 12% every year for the next few years.

Furthermore, they argue that tourism along with others like biofuels and business process outsourcing made it as one of the key high-growth potential areas as contained in the country's Accelerated and Shared Growth Initiative. Through this, the expectation was that South Africa's economic growth rate would rise to 6%, while its poverty and unemployment rates would reduce by half by 2014. Seetanah et al. (2010: 717) put it more statistically that: (1) being a highly human resource intensive sector, the South Africa's T & T contributed 7.7% of the total employment, that is 1 in every 13.7 jobs, which is also expected to rise to 8.6%, that is, 1 in every 11.6 jobs by 2016; (2) being a high-growth activity, the T & T activities in South Africa are expected to grow by around 5% per year in real terms between 2008 and 2016.

From the documents reviewed thus far, three key issues clearly stand out. First, the relationship between climate change and tourism is bi-conditional. Second, climate change impacts negatively on tourism, therefore, poses significant threats to sustainable development in South Africa. The situation is further worsened by the country's carbon-based economy. Third, South African tourism has a high potential for growth and sustainable development. This article simply attempts to bring about a linkage between these scenarios with a view to highlighting some of the opportunities and challenges. The next section looks into this in greater detail.

The Climate of Tourism in South Africa: Carbonising or Decarbonising?

South African tourism is a priority sector. It ranks as a key economic sector with a huge potential to enable the country's economic growth and sustainable development through foreign exchange earnings, employment generation, wealth creation and poverty reduction. This is well acknowledged given the numerous policy and regulatory instruments aimed at developing and promoting the tourism sector in South Africa. Key amongst which include the Tourism Act of 1993 which provides the legislative framework for the promotion of the South African tourism. The White Article on the Development and Promotion of Tourism released in 1996 is an overall policy framework for the development and promotion of the South African tourism. In 2011, the National Tourism Sector Strategy (NTSS) was launched as a tourism strategic framework with the primary goal of increasing tourist arrivals to South Africa, as well as grow the contribution of domestic tourism to the country's economy.



In achieving its goal, and more specifically, to boost domestic travels from 30.3 million in 2009 to 40 million by 2015 and 54 million in 2020, the NTSS identified five key focus areas which include: (i) the African market; (ii) emerging markets; (iii) sustaining traditional markets; (iv) business tourism; (v) domestic tourism (DoT, n.d.). Besides, the country's New Growth Path framework also emphasised the need to position the tourism sector as one of the six core pillars of growth in South Africa to complement others (agriculture, mining, infrastructure, manufacturing, and green economy). Being a multifaceted industry, the South African tourism is also linked directly or indirectly with other important economic sectors such as transportation, accommodation, hospitality, catering, and entertainment. Based on the statistics from the WTTC (2015), the direct contribution of T&T to South Africa's GDP in 2014 was ZAR113.4bn (3.0% of GDP), while it was expected that the figure would increase by 3.8% to ZAR117.8bn in 2015. The scenario reflects the economic activity generated by tourism-related industries such as hotels, travel agents, airlines and other passenger transportation services (excluding commuter services), as well as other activities directly supported by the restaurant and leisure industries. The figure is expected to grow by 4.6% pa to ZAR184.7bn (3.4% of GDP) by 2025, while the forecast for the same period also indicates an expected growth of international tourist arrivals to 16,234,000, as well as a generated expenditure of ZAR201.8bn. This represents an increase of 5.5% pa. Combined with the country's ranking as the foremost tourists' destination in Africa and 48th in the entire world, South African tourism, no doubt, is endowed with huge potential for the non-mineral transformation of the country's carbon-based economy.

However, the extent to which all these are achievable leaves a lot to worry about, considering that the country's tourism potential is yet to be sufficiently and fully unleashed. Like other key sectors, South African tourism is not spared from the adverse impacts of climate change. Perhaps it may even suffer more given that the sector is extremely weather-sensitive. Turpie et al. (2002), reveal that as a result of bush encroachment, especially in the Savannah regions, the impact of climate change is more likely to pose great risk to the Kruger National Park, and other ecosystems including biodiversity hotspots in South Africa. They note, in particular, that the African penguin, an iconic marine bird that is endemic to South Africa and Namibia are already facing the risk of extinction due largely to climate change.

The fact remains that South African tourism sector currently faces a number of climate-connected challenges. The DoT (n.d: 7) identified at least seasonal changes and geographic conditions in all the nine provinces of South Africa. In effect, these will impact severely on the country's tourism major attractions such as coastlines, beaches, wildlife, and biodiversity including a variety of species, among others. Scott et al. (2012) affirm that these tourism assets are already affected by climate change while the country's cultural heritage assets are increasingly exposed to extreme climate change-caused events such as flooding, erosion, draught due to the interplay of the El-Nina and El-Nino phenomena. Climate change also poses significant threats to the country's agro-tourism such as winery tours in Stellenbosch (Western Cape) and game farms in Limpopo, KwaZulu-Natal and Mpumalanga Provinces. Indeed, the actual effects of climate change on the country's tourism are better left imagined.

South African tourism is at the risk of climate change and its untoward externalities, especially those that connect with the environment. The capacity of South African tourism sector as a growth and development sustainability enabler is dare threatened by climate change. At another level, the tourism sector in South Africa, particularly through its travel-related activities, contributes to global anthropogenic climate change of which a concrete solution is not yet in sight despite the 2015 Paris agreement (COP21). Worse still, the agreement contains no express provisions to deal with GHGEs from the tourism sector which is the main driver of a global green economy. As



a component of the Paris agreement vis-a-vis global commitment towards a significant reduction in anthropogenic GHGs, South Africa's INDC focused more particularly on efforts aimed at moving the country away from the business-as-usual use of fossil fuels as a source of energy. Besides, the country's INDC like that of many other countries still remain largely a commitment that is yet to be backed with appropriate actions. In reaction to the Paris agreement shortly after it was reached with the endorsement of nearly 200 countries including South Africa, the South African government made known the country's position to continue to depend on coal for its industrial development.

Undoubtedly, the situations present a logic at the centre of which is the country's tourism. South African tourism adds volumes of GHGs to the country's already high pollution from coal and other mineral resources, thereby locking the country the more as a major (though developing or, perhaps more accurately, emerging) GHG emitter. With emissions from the South African tourism and travel sector, carbon from the extraction of raw coal and other mineral resources including the fracking of Shale gas in the Karoo will continue to be on the increase and add to global warming. As a catalyst for achieving a green economy, the tourism sector in South Africa if well harnessed has great potential for unlocking the country's climate-energy interlock. This will help accelerating the country's transition from a coal-dependent economy to a low-carbon economy and, ultimately, bring about sustainable development. Hence, the sector is crucial and could be well-positioned to deliver the three focal points of sustainable development (economic, social and environmental sustainability) as far as South Africa and its carbon-based economy is concerned.

Recognising that such transition has its own challenges, South Africa in its present approach is not doing enough to take full advantage of the potential that the tourism sector offers for the non-mineral transformation of the country. To date, South African tourism contributes less substantially to the country's economy when compared, for instance, with contribution from the mining sector which occupies a significant share of the country's economy despite its relatively high amount of GHGs. Besides, as a labour-intensive industry, employment generation in the South African tourism sector is still largely informal (at best semi-formal) and unprofessional, a situation that further constrains the sector's capacity to catalyse sustainable economic growth, inclusive development and environmental sustainability. Worrisome still, South Africa continues to depend on coal and other mineral resources (burning of fossil fuels) for its electricity generation and overall development.

How can a green economy defined as "one that results in 'improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" (UNEP cited in Reddy and Wilkes, 2015: 34) be achieved in such a system where carbon plays a key role as a source of energy generation?

Conclusion

On a positive note, South Africa ranks as a foremost tourists' destination in Africa, and also one of the important destinations in the world. The tourism sector is a strategic key component of the South African economy with huge potential for the non-mineral transformation of the country's economy. However, unfortunately, South Africa is both a contributor and one of the most hard-hit by climate change, a situation that results from the country's heavy dependence on coal and other carbon-induced mineral resources for both energy generation and the country's general development. The two scenarios present a contradiction at the centre of which is the South African tourism, which again constitutes a green growth and a sustainable development enabler. Moreover, the tourism sector in South Africa holds great promise in terms of huge potential and capacity for the country's smooth and quick transition to a low-carbon economy, inclusive



development, as well as environmental sustainability. These are yet to be sufficiently and fully tapped.

Hence, as a matter of urgency, there is a need to re-position South African tourism not only to continue to serve as a key sector for foreign investments and earnings, massive employment generation, and poverty alleviation, but also as an important catalyst for achieving a green economy and, ultimately, sustainable development. Doing this may require a review of existing tourism-related policy and regulatory frameworks with a view to diversifying the country's economy and placing tourism a major national income earner and a significant contributor to the South African economy, especially such that is comparable to the shares from the manufacturing and the mining/minerals sectors. It is also important that the human capacity of the South African tourism sector should be adequately enhanced through appropriate skill acquisition and professional certification in order to deliver a more responsible national tourism for the overall benefit of the country.

Finally, the efficient use and management of the South African tourism assets should be given top priority to allow the sector to contribute its share of commitments towards the country's GHGEs reduction from business-as-usual. This, no doubt, is in tandem with the Paris agreement and its "ratchet mechanism" otherwise known as INDCs through which state actors (South Africa inclusive) as key players in the global climate change process aim to achieve the ultimate goal of keeping anthropogenic global warming at 2°C, and possibly reducing further to 1.5°C, relative to the pre-industrial levels.

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