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Revenue and conservation implication of South African National Parks' commercialisation

Abstract

The quest for improved self-revenue generation and reduction of the financial burden on government prompted the adoption of public private partnership (PPP) in the management of South African National Parks (SANParks). Accordingly, this paper examined the revenue and conservation implication of PPP in SANParks. Using a statistical t-test of difference in means, before and within the PPP, results show a significant increase in sales revenue and conservation (with significant increase of rare and threatened species) during the PPP period. Additionally, the PPP has supported poverty alleviation through a strategic use of small, micro and medium enterprises with associated local job creation and concomitant increasing support for dependent local family members. This paper thus offers a practical evidence for conservation managers that public private partnership can enhance revenue and conservation of national parks in a developing country. Ascertaining that PPP could enhance revenue and conservation in a national park should motivate conservation managers to improve PPP strategies for reinforcing future revenue streams and attendant conservation in protected areas.

Key words: revenue; commercialisation; public-private partnership; conservation; SANParks; threatened species; poverty relief, tourism; South Africa

Introduction

South Africa is home to one of the richest and unique terrestrial biota of the world (Klopper, 2010); hence, an effective and efficient management from all stakeholders is vital for conservation of its rich biodiversity (Scyphers et al. 2015). The application of public private partnership (PPP) model is still embryonic in national park management (Meyer, 2010). Economic and financial malaise at national and municipal levels of government rationalize the introduction of PPP in the management of national parks (Meyer, 2010; Rypkema & Cheong, 2013). Tourism skills, resources, efficiency and conservation policy administration is the pivot for ensuring vibrant national parks and associated sustainable tourism in the national parks (Eagles, 2002). It is, however, often difficult for the government to possess tourism and conservation skills, resources and efficiency needed for conservation and tourism management in national parks to generate enough revenue (Wells, 1997; Ferri & Zan, 2014; Macdonald & Cheong, 2014). Aside from the required tourism proficiency, financial limitation is a major hindrance for the government to shoulder the responsibility of conservation and tourism management (Laarman & Gregersen, 1996; Rypkema & Cheong, 2013; Macdonald & Cheong, 2014). This is the reason why a public-private partnership in tourism and conservation management becomes an alternative management strategy in national parks (Eagles, 2002). However, PPP constitutes an intractable form of managerial coalition in conservation and tourism management and, hence, requires cautious and tactful

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management to ensure a successful result (Wilson, Nielsen & Buultjens, 2009; Macdonald & Cheong, 2014). In spite of innate intricacies, private participation in conservation and tourism management has become a *sine qua non* in helping the government to meet the required revenue for public conservation demand, meet global trends and protect national heritage sites (Macdonald & Cheong, 2014). Accordingly, in September 1998, the South African Department of Environmental Affairs galvanised strategic innovation in SANParks operations to reduce dependency on government funding. This move formed the crux of the SANParks commercialisation strategy, which was embraced in 2000 (SANParks, 2006). Consequently, the question that underpins this paper is whether there has been improved revenue and conservation following the adoption of PPP management in the SANParks. Hence, the objective of this paper is to evaluate the revenue and conservation implication of PPP in SANParks. However, this question is of international importance because decreasing government finance is not unique to South Africa; it is a problem across the world, which has therefore positioned public private partnership as a worldwide financial and management innovation in the provision and management of public goods (Grimsey & Lewis). The public private partnership is therefore regarded as a catalyst for reducing the financial burden of public goods on the governments whilst increasing the participation of the private sector to improve revenue and skills required for efficient and effective management and provision of public goods (Hall, 1999). The success of public private partnership in national parks requires that the government and the private partners should share a common objective (Kumar, Tiwari & Mishra, 2015). Results from this paper offers essential insight for conservation management in parks worldwide faced with decreased public funding and/or increased visitor pressure.

Related literature

Prior research on national parks' commercialisation opine that despite time constraints and inherent complexities, co-management or public private partnership of national parks enhance effective management and governance of national parks (Indrawan, Lowe, Sundjaya, Hutabarat & Black, 2014). However, aside from governance advantages, some researchers argue that commercialisation of protected areas or reserves might disadvantage conservation goals (e.g. Belcher & Schreckenberg, 2007; Tipton & Himot, 2003). A related research conducted in China accentuates this sentiment by questioning whether national parks development is "conservation or commercialisation" issue (Wang et al., 2012, p. 247). Accordingly, Wang and colleagues maintain that commercialisation of some national parks in China caused apparent degradation of biodiversity in some areas.

However, strong sustainability norm requires a symmetry between commercial and conservation objective (United Nations, 2005). Therefore, revenue or financial sustainability is *sine qua non* for achieving effective conservation in Africa and beyond (de la Harpe et al., 2004). Growing financial burden on governments has warranted the need for government to look beyond state budgets and fashion a new model to fund national parks if they are to meet the conservation goals (Lindsey et al., 2014). Hence the need for PPP; it is believed that partnership with commercial entities attracts private sector management principles and practices into the national parks to improve parks governance, accountability and revenue flow needed for effective conservation (de la Harpe et al., 2004). Accordingly, there is a strong belief that the public private partnership in the management of national parks is an option for improved biodiversity conservation, tourism attractiveness and efficiency (Stoll-Kleemann & O'Riordan, 2002; de la Harpe et al., 2004). Accordingly, the South African National Parks embraced the public private partnership to improve revenue generation, attract private skills to operate commercial activities and enable SANParks to concentrate on its core objective of conservation (SANParks, 2015).

Existing research has found some negative consequences of tourism on protected areas, such as negative impact on the farming livelihood and fisheries, substantial adverse environmental impacts – including *inter alia*, animal and plant biodiversity (Bennett & Dearden, 2014; Liu, Vogt, Luo, He, Frank & Liu, 2012; Pickering & Hill, 2007). Few studies have found that whilst a negative impact of visitors on wildlife and/or flora may exist, the negative impact may not always hold in all circumstances (Orams, 2002). For example, Jacobson and Lopez (1994) found that although tourism caused water and air pollution, there were ecological benefits from tourism, such as conservation of wildlife in protected areas in Tortuguero National Park, Costa Rica.

Therefore the suggestion that the perceived negative impact may not be as pervasive (Orams, 2002) seem to be in congruence with the recommendation of another research that innovation in tourism management models might change negative impacts on conservation (Bushell & Eagles, 2006). Hence, they opine that an adoption of a proactive model of tourism through the involvement of private partners and tourism experts might mitigate some of the negative impact of tourism in protected areas (Ceballos-Lascurain, 1996; Bushell & Eagles, 2006), calling for more research that evaluates partnership between the tourism industry, private sector and professionals taking into consideration potential conservation benefit in addition to the economic benefit that PPP might offer (Bushell & Eagles, 2006).

As regards the methodological approach to evaluate conservation policy benefit, previous literature has highlighted the importance of appropriate measurement method to yield a reliable result of potential conservation benefits (Maron, Rhodes & Gibbons, 2013). Hence, some applied the baseline scenario in which a difference between the conservation action and non-conservation action is calculated to understand which alternative produces a preferred conservation benefit (Gibbons 2010; Gordon et al. 2011, Maron et al, 2015). Others have adopted a maximum return on investment method from a conservation alternative action (Murdoch, Polasky, Wilson, Possingham, Kareiva & Shaw, 2007*;* Murdoch, Ranganathan, Polasky & Regetz, 2010). Still others have used a project optimisation approach to determine allocation of resources to threatened species and to determine eventual performance (Joseph, Maloney & Possingham, 2009). Other experts caution that where conservation decisions involves alternatives, an evaluation methodology devoid of differential benefit between alternative action settings would lead to less efficient decisions (Hodge & Reader, 2010; Maron et al., 2013). Hence, this research adheres to the caution by Hodge and Reader (2010) and Maron et al. (2013) and applies a t-test of difference to measure increases or decrease in revenue and conservation benefit from SANParks' adoption of PPP model in South African National Parks.

Therefore, the benefit from a conservation action, such as the public private partnership with South African National Parks is the difference in value before and within the time of commercialisation (Maron et al. 2013). Evaluating the economic benefits derivable from conservation interventions such as the public private partnership in national parks is invaluable for current and future planning and management of national parks (Maron et al., 2013). Benefits from improvement in national parks' management may rationalise any innovation in park management structure and hence stimulate strategies to improve such conservation action to enhance future potential benefits (Merenlender et al., 2009; Maron et al. 2013).

Whilst previous literature on conservation has a preponderant focus on physical conservation, little literature has paid attention to the revenue or financial aspect of conservation, particularly in connection with the public private partnership (Macdonald & Cheong, 2014). Hence, this paper examines whether SANParks commercialisation through the PPP has improved its revenue and conservation. This paper thus attempts to bridge an apparent gap in the literature about the revenue implication of public-private partnership with the South African National Parks.

SANParks – an overview

The South African National Parks is located in the Republic of South Africa and therefore under the jurisdiction of the government of South Africa. The Republic of South Africa is located in the Southern tip of the African continent with a long coastline of Atlantic and Indian Oceans (South Africa.info, 2016). The South African National Parks have been conserving nature since 1926 (SANParks, 2016d). The SANParks is made up of nineteen major national parks, which are listed at SANPark's A – Z list of parks (2016d). Although there are nineteen major national parks, one of the major national parks, the Garden Route National Park has additional three sub-parks under the Garden Route; these are Knysna Lakes Section, Tsitsikamma Section and the Wilderness Section (SANParks, 2016d).

The national parks cover massive hectares of lands that have increased over the years. The parks under the SANParks are located in different provinces of the country. To highlight a few, the Kruger National Park, the largest park and one of the most attractive parks under SANParks occupies about two million hectares (SANParks, 2016d). Another massive park is the Kgalagadi Transfrontier National Park covering about one million hectares. Another park, the Addo Elephant National Park covers about 180 thousand hectares (SANParks, 2016d). The nineteen national parks are renowned for conserving rare and endangered species, including leopard, elephants, lions, white and black rhinoceros, spotted hyenas, wild dogs, hippopotamus, cheetah and others.

The SANParks offer a holistic park and conservation management of indigenous fauna, flora, landscapes and cultural heritage of South Africa (SANParks, 2016d). Many of the parks offer overnight tourist amenities with exquisite blend of lodging in arid, coastal, mountain and bushveld habitats (SANParks, 2016d). The parks offer a unique variety of tourism opportunities, including game viewing, bush walks, canoeing, and cultural and historical adventures (SANParks, 2016d). To highlight a few, spectacular attractions at the Kruger National Park include the leopard kingdom, child friendly lodges and the big five safaris. The Table Mountain National Park is another scenic attraction - a unique world heritage site and one of the world's new seven wonders of nature – offering touring of magnificent mountains that plunge into the Cape Peninsula of South Africa. The Addo Elephant Park offers attractions such as herds of elephants, lions and the rolling sand dunes. A comprehensive description of all the national parks under the SANParks and varieties of tourism attractions is available at the SANParks www site - www.sanparks.org.

In 1998, the South African Department of Environment and Tourism (DEAT) expressed the need for SANParks to re-strategise its operations toward increased revenue generation in order to become less reliant on government funding (SANParks, 2006). This initiative led to the implementation of commercialisation strategy by SANParks based on PPP since 2000. The SANParks commercialisation strategy was aimed at reducing the burden of funding SANParks on the government who was the sole funder. Through the involvement of experienced private tourism operators, the SANParks therefore aimed to improve commercial tourism services by allowing the private tourism operators to handle the commercial tourism services on a market based value. The PPP therefore aimed to leverage private capital attraction and relevant tourism skill to offer improved and expanded quality tourism products that could generate improved revenue for the SANParks to adequately finance conservation services (SANParks, 2006). To achieve this objective, the development and implementation of PPP strategy by SANParks has been inclusive of all the national parks under SANParks. In short, the commercialisation strategy therefore enhanced the SANParks ability to focus on its core business of biodiversity conservation (SANParks, 2006; Fearnhead, 2003).

The SANParks' PPP operates through the concession model, whereby the SANParks gives permission to a commercial entity or person either to build new tourism facilities within the national parks or to acquire existing facilities (Fearnhead, 2003; Taylor, 2012). The commercial operator pays an agreed concession fees to SANParks and, at the end of twenty-year contract period, the SANParks resumes ownership of the facilities (Fearnhead, 2003). This partnership is bound by a concession contract in which the commercial operator is obliged to operate in adherence to SANParks' strategic goals. Similar to other contractual arrangements, violation of concession contract with SANParks by the commercial operators is penalised with a possibilities of the contract termination (Fearnhead, 2003). SANParks pride itself for its ability to manage the PPP towards desired commercialisation and conservation goals (SANParks, 2006). The SANParks' PPP success has been recognised internationally, for instance, in a World Bank publication in 2006 on "public policy for the private sector", Saporiti (2006) lauds the SANParks PPP achievement of less reliance on government transfers, reduction of employment around parks' neighbourhood and the economic empowerment for previously disadvantaged South Africans (Saporiti, 2006, p. 3). Similar to any other national park, the successes of SANParks' commercialisation and conservation has not been without some challenges; one such challenge is rhino poaching, however, SANParks is proactively managing the poaching challenge through its Rhino Management Strategy (SANParks, 2014).

Method

This paper employed a differential analysis technique by using a statistical t-test of difference in means to evaluate the revenue and conservation benefit during the commercialisation of SANParks. Each test of difference in benefit uses equal number of observation before and during the PPP, therefore the the paired-sample t-test was applied (pre-PPP and within-PPP). According to Maron et al. (2013, p. 359) "*The benefit attributable to a conservation action is the difference between the outcomes of two scenarios: (1) the scenario with the conservation action, and (2) the alternative scenario, in which action did not occur*". Accordingly, using the t-test of difference in means, the difference in means of SANParks' sales revenue growth within commercialization strategy phase and outside of the commercialization strategy phase was tested. Furthermore, Maron et al. (2013) recommends that the difference in conservation improvement value could be analyzed by calculating the difference in "*population size of a threatened species*" (p. 360). Consequently, the t-test of difference in conservation means within and outside of commercialization strategy phase (based on the wildlife population census in Kruger National Park for 2003 and 2006) was used. Using the Microsoft Excel software, the t-test of difference in means was tested at 0.05% significance level. Data was collected from the SANParks' archive of annual reports. The sample of the study was made up of the nineteen major national parks plus three subsections of the Garden Route National park (Knysna Lakes Section, Tsitsikamma Section and the Wilderness Section), which gave a total of twenty-two parks. The t-test of difference in means was deemed suitable as the sample size falls below 30 (Rumsey, 2011); the advantage of t-test is that it can adjust for small samples (Edgar et al., 2014). Furthermore, the use of t-test of difference in means conforms to Maron et al. (2013, p. 359) recommendation that the benefit from a conservation action should be ascertained by comparing the difference in value within and outside of the conservation action. Accordingly, the Rumsey (2010) t-test model was adapted, represented by the following formula:

$t = \frac{\bar{x} - \mu o}{s/\sqrt{n}}$ (Rumsey 2010, p.95)

Where: $\bar{x}$ = mean of paired sample; s = standard deviation of paired sample; n = number of paired differences; $\mu 0$ = constant; $s/\sqrt{n}$ = standard error.

Extant conservation literature indicates that, as part of conservation, tourism should support the socio-economic wellbeing of local communities through job creation and poverty reduction (Akama & Kieti, 2007; Snyman, 2012). The last section of the analysis uses line charts and bar charts to depict a growth trend in SANParks poverty relief programmes. Although there are many poverty relief programmes in SANParks, the paper uses the SMMEs support and local job creation to assess the growth trends in SANParks' poverty relief programmes. The use of trend charts to examine the growth in poverty relief programmes is supported by previous research; trend analysis was used in previous tourism research (Lu, 2009; Ye & Law, 2013; Nunkoo, Ramkissoon & Gursoy, 2013) to analyse the growth trend in the phenomenon examined.

Secondary data and sample description

A description of data used for the analysis of increase in revenue and increase in conservation appears in the following sub-sections.

Data for the test of differential increase in revenue

Whilst the SANParks' public private partnership arrangement began in the year 2000, the first phase of the Strategic Plan for Commercialisation (SPfC) implementation in SANParks was 2006 – 2011 (SANParks, 2006, p. 7). Accordingly, the test of difference in revenue growth was between the first phase of SPfC and before the SPfC (2006 -2011) and (2000 – 2005). Therefore, the SANParks revenue data for each side of the analysis (before and within) comprised of data for six years before the SPfC phase (2000, 2001, 2002, 2003, 2004, 2005) and within the SPfC phase (2006, 2007, 2008, 2009, 2010, 2011). This gave a total of twelve years' observation of revenue growth.

Therefore the revenue data were from the consolidated SANParks' sales revenue from the annual reports of SANParks' for the years 2000 – 2011 (twelve years). The consolidated SANParks' sales revenue in the annual reports comprises of the total of sales revenues from the twenty-two national parks. The SANParks presents annual financial reports using a single consolidated account as it is the parent body of all the national parks.

Data for test of significant increase in rare & threatened species

Similarly, in compliance with Maron et al. (2013), the paper analysed possible improvement in rare and threatened species by analysing the difference in rare and threatened species in 2003/2004 (before the SPfC) and in 2006/2007 (during the SPfC) to evaluate possible significant increase or decrease in threatened species during the PPP phase of SANParks. The rare and threatened species census data for sixteen several species were from the Kruger National park as it is the biggest national park in South Africa and offers unparalleled diversity of African wildlife (SANParks, 2015). The population for threatened species were extracted from the 2003/2004 reporting year (before the first phase of SPfC) and from the 2006/2007 reporting year (within the first phase of SPfC). The population of threatened species were from several species from 2006/2007 and 2003/2004 annual reports. Within the African context, these species are categorised as threatened or near threatened (GAMEVEST, 2016; Wildlife Ranching, 2016).

Data for test of difference in growth of SANParks' land hectares

In addition to the evaluation of possible increase in threatened species, the eventual improvement in the land mass of SANParks (land hectares) during the PPP period was also assessed (SANParks 2016a, p. 1). The data provide increased/decrease in land mass (in hectares) for all the nineteen national parks

and three subsections of Garden Route Park. Therefore, the land mass data used was the increase/decrease land mass data from each national park plus three subsections in Garden Route, which thus gave a population of twenty-two (22) observations. Thus, the number of observations in the t-test equals twenty-two.

Data for the analysis of trend line of SANParks poverty relief programmes

The SANParks believes that tourism should contribute to poverty relief through support to SMMEs and job creation; according to SANParks, one local job created supports up to four local family dependants and hence provides a relief to local poverty (SANParks, 2014). In order to achieve the poverty relief objective, SANParks created the Expanded Public Works Programme (EPWP) during the phase of PPP meant to support local SMMEs and to provide income relief by creating local jobs: *"The main focus of the EPWP is to provide income relief through temporary work for the unemployed to carry out socially useful activities"* (SANParks, 2016b, P.1).

The data for local SMMEs supported and related jobs created by SANParks are available in the annual reports of SANParks. Depending on the availability, these data were collected for the years 2004 (before the first phase of the SPfC and for 2006 to 2014 (within the phase of SPfC). In addition to analyzing the growth trend of SMMEs supported and the number of jobs created, a growth trend of family dependents, which the number of jobs supported was analyzed in a line chart. The number of family dependents supported was based on the SANParks' ratio of one job created for four family dependents (SANParks, 2014); therefore, each job created was multiplied by 4 to prepare a growth trend of the number of family members supported by each job created. Additionally, since many of the South African National Parks are located in rural areas of South Africa, it was pertinent to present a trend of the rural poverty head count of South Africa within the period of SANParks SPfC (between 2006 and 2011). The data for the line chart of the rural poverty head count was collected from the online archives of Statistics South Africa (2014) for 2006 and 2011.

Results

The results section aligns with the two main paper objectives – to examine the differential effect of SANParks' commercialization on SANParks' revenue and to evaluate the differential implication of SANParks' commercialization on conservation.

Revenue implication

As explained in the method section, to test whether SANParks' revenue increased during the SPfC period, a t-test of paired sample revenue before and during the SPfC was conducted with results presented in Table 1. The results reveal that there is a statistically significant mean difference in SANParks revenue during and before the SPfC. Results therefore show that SANParks revenue is higher during the SPfC than before the SPfC. Tested at 0.05 significance level, the t-test of difference in revenue in Table 1 shows that the P value is less than 0.001, which implies that $P < 0.05$; this therefore shows a significant improvement in the revenue of SANPARKS during the implementation of first phase of SANParks' strategic plan for commercialisation more than the revenue before the strategic phase. The difference in revenue generation is graphically depicted in Figure 1.
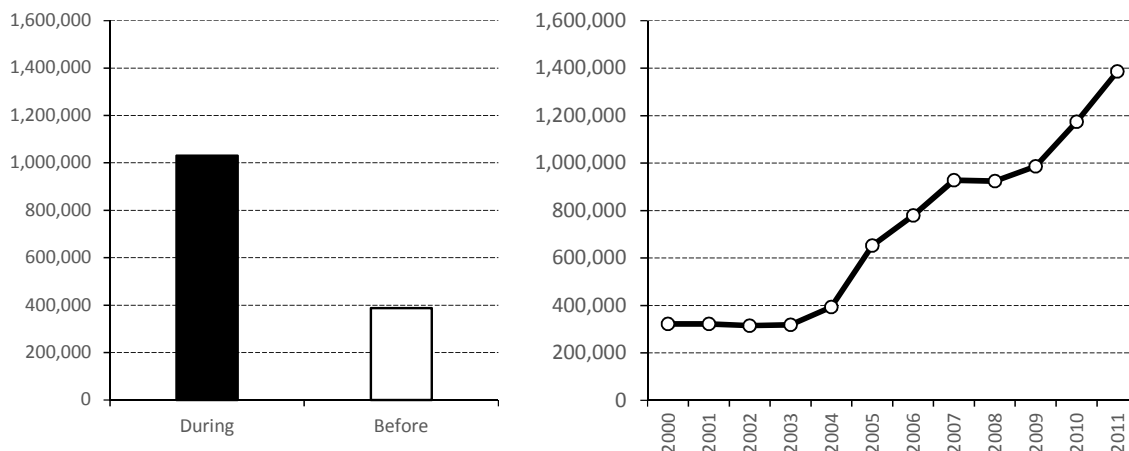
Table 1
Results of t-test of difference for SANParks' revenue during and before the first phase of SPfC

During			Before			Mean difference	t	df
Mean	Var	n	Mean	Var	n			
1,029,403	4,685	6	387,295	1,777	6	642,108	6.18*	8

* p < 0.05.

Figure 1
Chart of revenue improvement in SANParks (R'000)

Source: Adapted from SANParks' annual reports (2004 - 2014), SANParks (2016c).

Conservation improvement

As specified in the methodology section, to test whether SANParks' rate of conservation of rare and threatened species increased during the SPfC, a t-test of paired sample of rare species was conducted with results in Table 2. Tested at 0.05 significance level, the t-test in Table 2 shows that rare species population in Kruger National Park increased significantly between 2003 and 2006 with P less than 0.05 significance level, which is $P<0.05$.

Table 2
Results of t-test of difference for increase in rare and threatened species between 2003/2004 and 2006/2007 (With Kruger National Park Wildlife Census Data)

2006 Census			2003 Census			Mean difference	t	df
Mean	Var	n	Mean	Var	n			
12,693	5.05	16	8,476	3.94	16	4,217	2.16*	15

* p < 0.05.

Improvement in land hectares

As stated in the methodology section, improvement in SANParks' land hectares was conducted using the t-test of paired sample in land hectares before and since commercialisation with results in Table 3. Tested at 0.05 significance level, the t-test in Table 3 shows that land hectares covered by the South African National Parks increased significantly within the commercialisation period more than the pre-commercialisation period at a P value of 0.002 (less than 0.01); this therefore indicates that P is less than the research alpha of 0.05 significance level, which is $P<0.05$. This therefore means that the *PPP* in SANParks has had a significance boost in the size of parks more than before the *PPP*. This is also presented graphically in Figure 2.
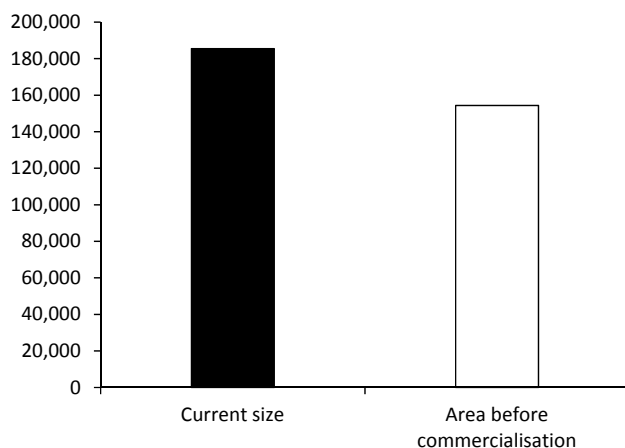
Table 3
Results of t-test of difference for means between parks' land hectares before and since commercialisation

Current			Before commercialisations			Mean difference	t	df
Mean	Var	n	Mean	Var	n			
185,466	1.97	22	154,357	2.04	22	31,109	3.05*	21

* p < 0.05.

Figure 2
Bar chart of SANParks' increase in land hectares since the *PPP*

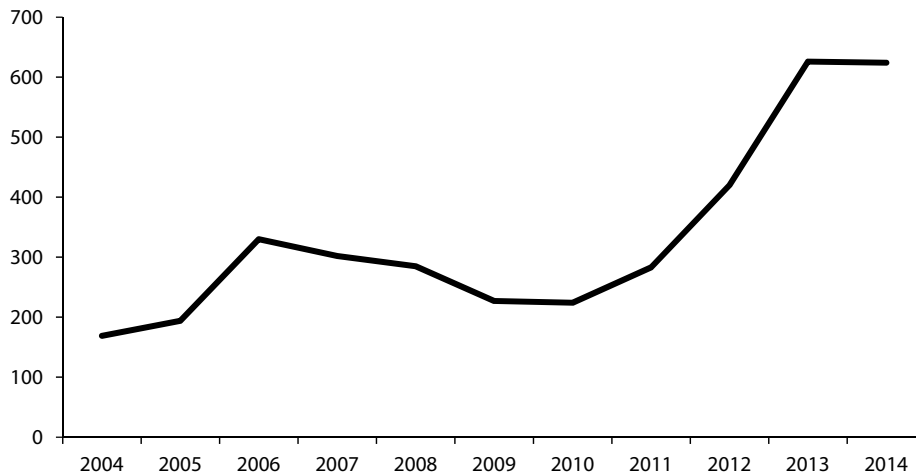Source: Adapted from SANParks (2016a).

Growth trend in SMMEs created by SANParks and local employment by SANParks

Although SMMEs development might emerge from different interventions ranging from government initiatives and/or policy or non-government initiatives (Rogerson, 2006; Wonglimpiyarat, 2015; Blackburn, 2016), it should be noted that the SMMEs creation and development referred to in this research are the SMMEs created solely by SANParks PPP programme as part of SANParks' PPP poverty relief programme (SANParks, 2004). This is because the creation of new SMMEs and the continual support is part of the SANParks rural poverty support programme and empowerment of previously disadvantaged South Africans (Fearnhead, 2003; Saporiti, 2006). Therefore, the SMMEs referred to in this paper are limited to SANParks PPP programme and therefore exclusive of other SMMEs initiatives in the country which sprout either through individual efforts, NGOs or through other national government support programmes or policies. Therefore, the results relating to SMMEs creation and development is attributed to SANParks' PPP initiatives to demonstrate that PPP, if effectively managed as in SANParks, would result in the creation and development of local SMMEs which has been demonstrated by the South African National Parks. The success of SANParks' PPP initiative toward SMMEs can therefore be a lesson to parks in other developing nations as parks strive toward an ecotourism that could contribute to socio-economic development through the empowerment of local communities located close to the parks.

Figure 3 depicts the trend of SMMEs created and supported by SANParks over the years of 2004 and 2005 (before the first phase of SPfC) and 2006 – 2014 (during the SPfC phase). The trend line is evidence of gradual growth in the number of SMMEs supported by SANParks through the PPP model of parks management in South Africa. In the same vein the trend line in Figure 4 depicts growth in the number of local jobs created by SANParks which indicates that the SANParks' PPP model does support the local socioeconomic development through the SANParks' job creation. Since, according to

SANParks (2014) one local job supports up to four family members, the growth in local jobs created within the communities adjacent to parks therefore is a sign of SANParks' contribution to local poverty relief through constant growth trend in the number of family members supported by the SANParks local job creation. Figure 5 shows the growth trend in the number of family members that local jobs supported from 2004 to 2014. Figure 6 shows a gradual reduction in rural poverty head count in South Africa; this may not be surprising given that many of the national parks are located in rural areas of South Africa. These findings support previous studies which found that well-managed tourism may engender socioeconomic economic development in rural areas through job creation and business opportunities (Akama and Kiete, 2007; Campbell, Kartawijaya, Yulianto, Prasetia & Clifton, 2013).

Figure 3
**Growth in SMMEs' support through SANParks' PPP**

Source: Adapted from SANParks' annual reports (2004 - 2014), SANParks (2016c).

Figure 4
**Growth in the number of local jobs created through SANParks' PPP**
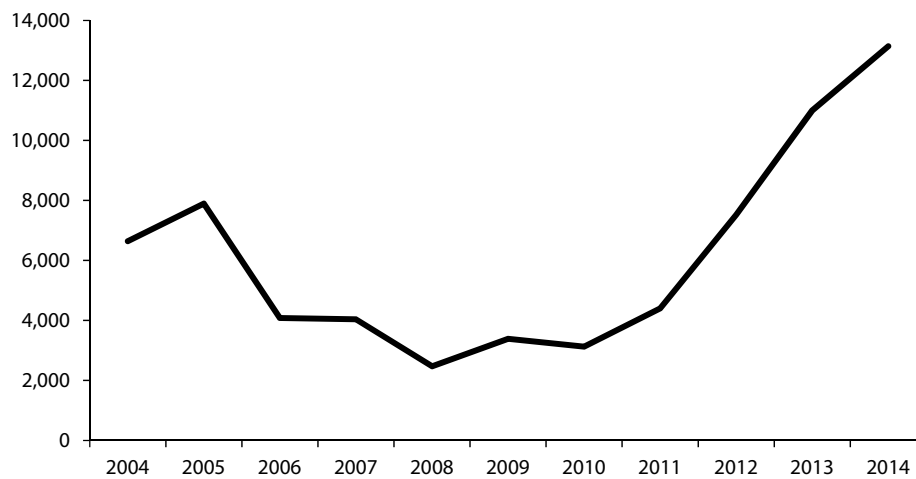
Source: Adapted from SANParks' annual reports (2004 - 2014), SANParks (2016c).

Figure 5

Growth in the number of dependent family members supported through local jobs created by SANParks (Calculated using SANParks' ratio of four family dependents per job created)
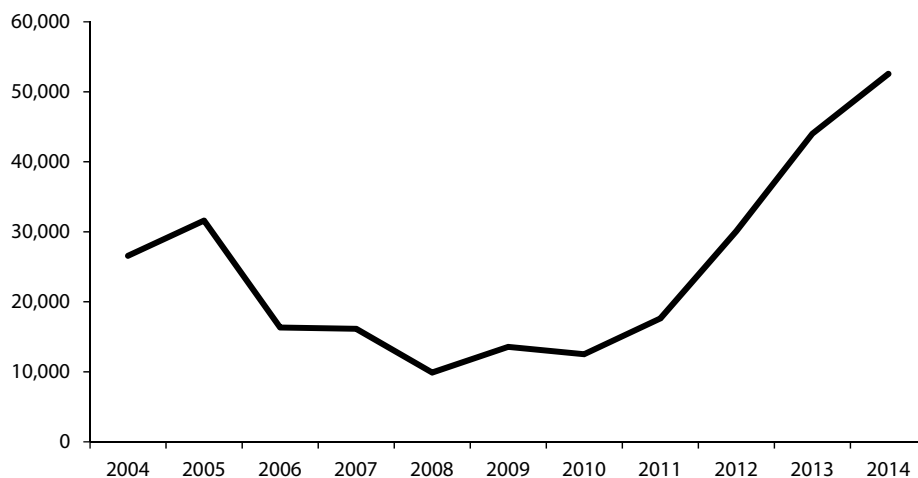
Source: Adapted from: SANParks' annual reports SANParks (2016c; SANParks, 2014, p. 11).

Figure 6

Rural poverty head count reduction in South Africa between 2006 & 2011
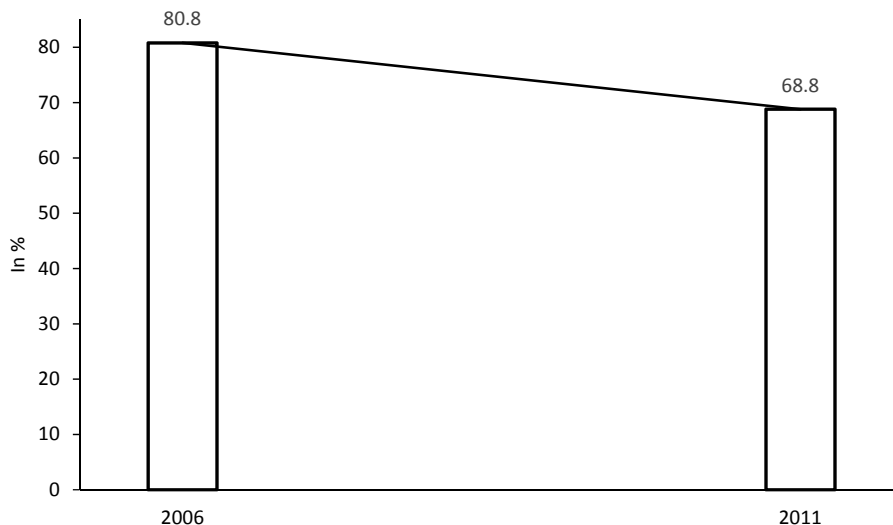
Source: Adapted from Statistics South Africa (2014).

Discussion

Previous research findings have dwelt on the negative impact of tourism on conservation and the potential negative impact on indigenous peoples' socioeconomic welfare (Fairhead & Leach, 2000; Dowie, 2005). Ideally, tourism should not only pursue economic wellbeing of the tourism industry, it should support wildlife conservation and, in addition, enhance poverty alleviation through employment opportunities for the local community around the park neighbourhood (Adams & Hutton, 2007).

Therefore, the main objective of this research was to analyse the conservation and the revenue implication of commercialisation of the SANParks and the concomitant impact on conservation. The data

used in the preceding analysis were extracted from the SANParks' audited annual reports, which are freely available from the SANParks' archives. The methodological choice drew support from previous research recommendations that tourism research involving comparisons between alternatives should make use of a differential methodology (Hodge & Reader, 2010; Maron et al., 2013).

Accordingly, using the statistical t-test of differential increase in revenue (before and within the commercialisation phase), the results show a significant positive difference in revenue growth during the commercialisation phase more than before the commercialisation. Similarly, the results depict a significant positive improvement in conservation (with an increase in rare and threatened species) in 2006/2007 more than in 2003/2004. In addition to the aforesaid improved revenue and conservation, SANParks commercialisation has also brought about a poverty relief initiative – officially referred to as the Extended Public Works Programme (EPWP) (SANParks, 2006, p. 5). Apart from creating many new SMMEs, there has also been a strategic poverty alleviation initiative through a grand support given to SMMEs, many of whom are black owned (SANParks, 2006, p. 42). This support has thus triggered local job creation that contributes to poverty alleviation around Parks' neighbourhood (SANParks, 2006).

The positive trend in revenue and conservation from SANParks' commercialisation concur with previous research findings that mutual efforts by stakeholders is a catalyst that stimulates conservation and social attainment (Scyphers et al., 2015; Basurto & Ostrom, 2009; Ostrom, 2009). Findings from this paper thus highlight that the public private partnership could spur improvement in parks' revenue and conservation; this finding support previous literature which indicates that the government may achieve improved conservation if it collaborates with private partners (Endicott 1993; Groves, Klein & Breden, 1995; Adams, Hodge & Sandbrook, 2014; Tengberg, Radstake, Zhang & Dunn, 2015). This paper thus accentuates the importance of the public private partnership in conservation management.

Contrary to prevalent research about the negative effects of tourism on protected areas (Bushell & Eagle, 2006; Liu et al, 2012; Bennett & Dearden, 2014). This research adds another insight from the South African setting to show that the public private partnership with the tourism industry could boost the revenue and conservation capacity of national parks. This paper thus provides a practical demonstration to the recommendations made by previous researchers that tourism may offer improved conservation and economic benefits if private partners and tourism experts are involved in tourism management (Ceballos-Lascurain, 1996; Bushell & Eagle, 2006). The preceding analysis provides findings that are somewhat contrary to previous research findings and shows that it is not in all cases that tourism may be inimical to environmental conservation and social wellbeing of local people (Fairhead & Leach, 2000; Dowie, 2005; Ceballos et al, 2015; Bennett & Dearden, 2014). Whilst the negative consequences of tourism in protected areas is indisputable, the results of this paper suggests that contended negative consequences of tourism in protected areas might not occur in the same magnitude incessantly and in all cases under certain models of tourism such as the SANParks' PPP model.

Conclusion

This paper examined the revenue and conservation implication of public-private partnership (PPP) in South African National Parks (SANParks). Using the statistical t-test of difference in means (before and within the SPfC), results from the analysis disclosed a significant increase in sales revenue during the Strategic Plan for Commercialisation (SPfC) Implementation phase. Similarly, results disclosed a significant increase in conservation (with increase in rare and threatened species and an increase

in hectares of parklands) during the SPfC period. Additionally, an analysis of growth trend in, local employment and local SMMEs supported by SANParks indicates that PPP has enhanced support for poverty alleviation through a strategic use of local SMMEs to create local jobs. The local poverty relief is evident on the increased number of local family dependents galvanised by increased number of jobs offered to local communities. The period of SANParks SPFC also aligns with a downward trend in the rural poverty headcount. This paper thus provides a practical evidence for conservation managers and planners that public private partnership can enhance revenue and conservation of national parks in a developing country. Unlike pervasive literature, that bemoans the negative impact of tourism on conservation this paper's findings points to the contrary, at least from a developing country perspective and thus provide a different insight into the literature. These findings about the benefit of PPP in national parks should encourage conservation managers to improve PPP strategies for reinforcing future revenue streams and concomitant conservation in developing countries.

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