

# The impact of ecotourism employment on rural household incomes and social welfare in six southern African countries

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## Abstract

Rural African communities are largely characterised by high levels of unemployment and poverty, low skills levels and a heavy reliance on natural resources. Increasing populations, together with the impacts of climate change, are putting pressure on natural resources and the issue of sustainable land use is becoming critically important. Ecotourism is one possible sustainable land use which can also assist with both local socio-economic development and biodiversity conservation. This paper looks at the impact of ecotourism employment on rural household incomes and overall social welfare in six southern African countries. Extensive socio-economic interview schedules were conducted in camps run by Wilderness Safaris in Botswana, Malawi, Namibia, South Africa, Zambia and Zimbabwe. A total of 385 staff interviews were conducted in 16 high-end ecotourism camps, constituting a majority of the staff in these camps. A further 1400 community interviews were conducted in over 30 rural communities associated with these ecotourism camps. Two types of community members are differentiated in this study: those directly employed in a high-end ecotourism operation (staff) and those not employed in the high-end ecotourism operation (non-staff). For every camp, both groups of respondents were from the same community, living either in or around the protected area where the ecotourism operation was situated; allowing for comparisons between the two groups. The results show that rural households are relying heavily on the market economy, largely in the form of ecotourism, for support and highlight ecotourism employment's important role in local socio-economic development in remote, rural areas. The results also highlight the importance of formal education, livelihood diversification and other formal employment in these areas. Suggestions for increasing the benefits to local communities are put forward.

## Keywords

Ecotourism, employment, rural household incomes, poverty reduction, socio-economic development, social welfare, southern Africa

## Introduction

Africa is largely characterised by high levels of poverty and unemployment, and a dependence on natural resources for survival (Barbier, 2010). Its unique fauna, flora, scenery and cultural heritage are, however, all appealing for ecotourism. In 2011, the World Travel and Tourism Council (WTTC) anticipated that the direct contribution of travel and tourism<sup>1</sup> to GDP in sub-Saharan Africa would be US\$39.7 billion (or 3.1% of combined regional GDPs) and the

direct employment contribution was expected to be 4,763,000 jobs (2.3% of total employment). The ability of ecotourism to contribute towards poverty reduction and local socio-economic development has been put forward by numerous authors (Mitchell and

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Ashley, 2010; Spenceley, 2008b) and organisations (World Bank, UNWTO, WTTC).

Ecotourism is, therefore, frequently put forward as a potential tool for conservation and sustainable development (Telfer and Sharpley, 2008). Despite reducing risk for local communities through incomes earned, ecotourism has its own risks, some of which are potentially more problematic than agriculture's; for example, sensitivity to exchange rates and the oil price, natural disasters, politics and health scares, all of which can destroy ecotourism in an area (Ashley and Roe, 2002; Zhao and Brent Ritchie, 2007). Ecotourism's promised employment and income impact, positive social welfare impacts and limited impacts on the environment, however, give the potential to offer a viable and sustainable land use alternative in many remote rural areas (Mitchell and Ashley, 2010).

One area of difficulty for ecotourism development is to balance all the costs (human-wildlife conflict) and benefits of such development. Though ecotourism may be an unreliable source of income for rural households, especially in marginal economies, by supplementing incomes derived in other ways, it can help disperse risk (Tao and Wall, 2009). Additionally, ecotourism employees spending their salaries buying goods and services from other community members spreads tourism's benefits beyond simple direct employment (Mitchell and Ashley, 2010; Telfer and Sharpley, 2008). In Lepp's (2007: 881) study in Uganda, 'an elderly man, still farming, explained "when those people get money from tourism so do we because they buy food from us" (Mzee Isabirye, 2003, personal communication).' Similarly, many respondents in the present study mentioned that ecotourism staff spending their income in the villages benefitted them and their households.

It is clear that ecotourism can impose profound costs and benefits on local communities (Mitchell and Ashley, 2010; Telfer and Sharpley, 2008). The policy implication is simple; ecotourism is becoming an increasingly complex phenomenon, with political, economic, social, cultural, educational, ecological, psychological and aesthetic dimensions and in rural areas, ecotourism's sustainability will require it to provide benefits to communities as a means of motivating and enabling them to care for and maintain their natural and cultural heritage.

All communities described in this paper are either directly or indirectly affected by the conservation and ecotourism strategies in their area, while their activities in turn impact on nearby protected areas and ecotourism operations. Communities are not homogenous (Igoe, 2006; Jones, 1999a, 2001; Novelli and Scarth, 2007; Scheyvens, 1999; Worah, 2002). Boggs (2004)

suggests a number of variational types including ethnic background, historical land use practices, age and level of cohesion of the community, size and natural resources available in the area, land tenure, historical ties to the land, cultural and spiritual beliefs regarding their interaction with wildlife and other natural resources and their acceptance of a market economy. This heterogeneity of communities needs to be understood and appropriately integrated into conservation and ecotourism in Africa. The camps associated with the study communities were all ecotourism camps in terms of their location and the activities offered.

This paper aims to fill various information gaps by providing an understanding of the income sources available to rural households, the composition of rural household incomes, and how ecotourism impacts incomes and household social welfare across six countries. A feature of the present study is its range. While economic studies on the impact of ecotourism are numerous (e.g. Barnes et al., 2001; Bandyopadhyay et al., 2004; Muchapondwa, 2003; Turpie et al., 2006), the majority are confined to one country, and sometimes two.

The main goal of this study was to quantify the direct impact of ecotourism employment on rural household incomes in six southern African countries and to understand ecotourism's role in terms of absolute poverty reduction and improvements in social welfare. The research objectives were therefore:

1. To determine the main income sources of rural households in six southern African countries;
2. To analyse the levels of livelihood diversification in rural households;
3. To evaluate the reliance of rural households on ecotourism;
4. To determine the direct impact that ecotourism employment has on rural household incomes and social welfare.

## Conceptual framework and literature review

As the concept of community is central to the analysis in this paper the term needs to be clarified. For the purposes of this paper we follow Borrini's 1992 (as cited in Borrini-Feyerabend et al., 2004, p. 9) description of it as 'a human group sharing a territory and involved in different but related aspects of livelihoods – such as managing natural resources, producing knowledge and culture, and developing technologies and practices,' while a local community is a group who interact regularly or who influence one another's daily lives.

Defining ecotourism and its relationship to conservation is also contextually important at this stage. In summarising the literature, De Witt et al. (2011, p. 1139) suggest that the key principles of ecotourism are that it should foster a genuine interest in nature, contribute to conservation, respect and conserve local culture, make non-consumptive use of natural resources, yield benefits to the local community and create tourist awareness of conservation and local community issues. Based on this definition, ecotourism in this paper is taken to include activities which are nature- and culture-based, sustainable, promote conservation and provide benefits to local people in the area. Since many of the impacts, costs and benefits of tourism are the same as those for ecotourism in the study areas, the two terms are used synonymously throughout the paper.

Poverty is multi-dimensional, with its roots in political, social and economic processes (see for example Jones, 2004, p. 10). There are approaches that define poverty in terms of income and expenditures/consumption, and others that include concepts such as living standards, basic needs, the human development index and inequality (Spenceley, 2008b; Spenceley and Goodwin, 2007). The World Bank has adopted \$1.25 a day as the global baseline for defining extreme poverty. Recent figures suggest that, globally, 1.2 billion people live beneath this threshold, while a total of 2.4 billion people live on less than \$2 a day (World Bank, 2014). The key point is that approaches to poverty use the term in one of two basic ways: absolute poverty (being hungry when one goes to bed) or relative poverty (my neighbour has two televisions and I only have one). In this paper it is absolute poverty we are concerned about, though relative poverty too can have impacts on resource management.

The overall contestation of the notion of poverty makes the issue of poverty alleviation and reduction subjective. Despite this, strong views have been expressed; for example Dewdney (1996: 64, as cited in Jones, 2004, p. 13) defines poverty reduction as 'The long-term decline in the incidence of poverty as a result of an increase in the ability of poor households to help themselves, through increasing subsistence output or gaining employment.' And he (Dewdney, 1996: 64, as cited in Jones, 2004, p. 13) defines poverty alleviation as 'The short-term relief from the symptoms of poverty, often by the State through transfer payments but also – and especially in developing countries – through NGOs, donors and community self-help mechanisms.' According to Dewdney's definition, ecotourism employment can, therefore, assist in poverty reduction.

There will sometimes be an immediate need for poverty alleviation in order to save lives, but strategies

should largely aim for poverty reduction and long-term solutions. Ultimately, as highlighted by Jones (2004), development strategies should aim to deal with the root causes of poverty and develop ways to lift people out of poverty for the long term. Spenceley (2003) made the point that the long-term economic sustainability of tourism in Africa will depend on its ability to lift local people out of poverty.

Livelihood strategies in which households engage are important in terms of overall poverty reduction.

The particular livelihood/s that households choose are determined by a number of factors including; culture, traditions, economic conditions, environment and local demography (Ellis, 2000). It is not always possible for households to secure their own livelihoods in the face of external factors beyond their control (Vedeld et al., 2012). Those observed in this study (and found by Vedeld et al., 2012) include land access and tenure policies; market access; inadequate transport and road networks; weak and/or corrupt institutions; human-wildlife conflict; imperfect markets; and asymmetric power relations. This paper follows Ellis (1998) and Niehof (2004) in defining livelihood diversification as the process by which households construct a diverse portfolio of activities in order to survive, making use of diverse combinations of resources and assets.

Ellis and Allison (2004) and Igoe (2006) describe five different forms of capital (assets) that affect the success or failure of such attempts at livelihood diversification; human capital (skills, health, education, capacity), physical capital (infrastructure), financial capital (money, savings), natural capital (land, water) and social capital (networks, institutions). A household's access to these determines the options available to them. It will be shown that ecotourism has the ability to add to each of these 'capitals' and, therefore, to provide individuals and households with a broader range of livelihood options in the long run.

According to Ravallion (1992, as cited in Ellis, 1998) the actual composition of rural household incomes is relatively poorly researched compared to other aspects of rural livelihoods. Gartner and Cukier (2011, p. 2) also emphasise that 'much remains to be understood about how tourism development processes unfold at the household level in specific environments.' They also state that there is a 'void of research upon the influence of economic impacts on poverty conditions at the intra-household level.'

Previous research has addressed several aspects of tourism's role in local socio-economic development and poverty reduction through revenue generation (Ahebwa et al, 2011; Novelli and Scarth, 2007), employment (Gartner and Cukier, 2011; Mitchell and Ashley, 2010), use of local suppliers (Meyer,

2008; Rogerson, 2012), philanthropy (Ashley and Haysom, 2006) and various partnerships with local communities (Ahebwa et al., 2012; Ashley and Jones, 2001; Snyman, 2012a). To date, there has been no study which has comprehensively attempted to determine the direct impacts of ecotourism on rural household incomes and welfare<sup>2</sup> across six countries. Though numerous studies have looked at the socio-economic impacts of tourism on various communities or countries, these have largely addressed it in terms of contribution to gross domestic product (GDP) or to community funds/trusts (Mbaiwa, 2008; Spenceley, 2008b; Turpie et al., 2006).

Sharpley and Naidoo (2010, p. 146) stress that while there has been extensive literature on the economic consequences of tourism development in general, few academic studies have explored the mechanics of tourism's impacts on poverty. Rogerson (2006, p. 49) also emphasised this; 'at present only limited material is available concerning the local-level impacts of tourism on poverty alleviation.' Spenceley (2008a) looked at the impact of wildlife tourism on rural livelihoods in Namibia, Botswana, South Africa, Zimbabwe and Zambia in terms of overall revenues earned from wildlife tourism, not in terms of the direct impact on household income.

Muganda et al. (2010) went further and criticised the fact that few researchers have incorporated the relationship between tourism development and poverty alleviation into their research. Although writers have attempted to redress this issue (Ashley and Jones, 2001; Ashley and Mitchell, 2005; Ashley and Roe, 2002; Mitchell and Ashley, 2010; Reid, 2001; Zhao and Brent Ritchie, 2007) it remains a major shortcoming and needs to be addressed if tourism development is to play a significant role in the alleviation of poverty and related socio-economic development.

In summary, this paper aims to fill the abovementioned gaps in the literature and to increase the understanding of the role played by ecotourism employment in poverty reduction at a household level in rural areas. A number of authors (Ashley and Roe, 2002; Lapeyre, 2011; Scherl et al., 2004; Spenceley and Goodwin, 2007) have stressed that tourism is one of few activities able to generate income in impoverished agriculturally marginal rural areas, making it important to research and fully understand tourism in the rural context.

## Methods

In this study extensive interviews were conducted in over 30 rural communities in six southern African countries.<sup>3</sup> In total, 1785 community interviews were conducted in ecotourism camps (385 staff) and rural

villages (1400 non-staff) either within or adjacent to PAs (see Table 1). This paper forms part of a larger doctoral study looking at the socio-economic impact of ecotourism on rural communities (Snyman, 2013a), but this paper focuses specifically on the direct impact of ecotourism employment on household incomes and social welfare.

Two types of community member were targeted in this study; those from the community employed in the high-end ecotourism operation (staff) and those from the community not employed in the ecotourism operation (non-staff). All respondents lived in, or adjacent to, the conservation area in which the ecotourism operation was situated. This allowed the comparison of community member's household income and attitudes with those of an equivalent person employed in high-end ecotourism.

Before any interviews were conducted in the communities, permission was obtained from the relevant local authority; Community Trust, Chief, Tribal Authority or Headman. The interviews were conducted by both male and female interviewers, and local translators were used in circumstances where the respondent could not speak or understand English. The interview schedule consisted of a structured set of questions, with the majority being closed-ended, and a few having the option for further explanation. The interview schedules contained questions relating to demographics, social welfare and living standards, education, employment patterns, income and expenses, health and safety, and attitudes toward tourism and conservation. Each interview was conducted verbally, with the interviewer completing the interview schedule. Each interview took approximately 20–45 min depending on the respondent's educational level and whether or not translation was required. Staff and non-staff respondents were given the same interview schedules, except for a short section in the attitudes section where non-staff respondents had additional questions related to Wilderness Safaris (WS). Every effort was made to keep the interviews uniform and to ask questions in such a manner as to reduce bias or at least keep it consistent. In order to render any existing bias relatively constant, the author conducted over 1000 of the interviews herself. Eight other interviewers assisted across the six countries and were informally trained by the author.

Respondents were told that the surveys were confidential and their participation in answering all questions was voluntary. This resulted in some questions not being answered. Non-response to questions did not cluster on particular questions, as no particular question had a greater non-response rate than any other question (Snyman, 2012a). Where multiple responses were given to questions, data are presented

**Table 1.** Study sites and number of interviews.

Country	List of camps surveyed <sup>1</sup>	Land ownership	List of communities surveyed	Number of interview schedules conducted	Associated protected/conservation area
Botswana	Duba Plains, Vumbura Plains, Little Vumbura	Kwedi Concession where camps situated is owned by the Okavango Community Trust (Community concession)	Okavango Community Trust (OCT) villages – Seronga, Gunotsoga, Beetsha, Eretsha, Gudigwa	Staff: 99 Non-staff: 261	Okavango Delta
Malawi	Mvuu Camp, Mvuu Wilderness Lodge	National Parks owns the land (Government)	Balaka District, bordering Liwonde National Park	Staff: 74 Non-staff: 251	Liwonde National Park
Namibia	Skeleton Coast Camp	Ministry of Environment and Tourism (MET) runs Skeleton Coast National Park (Government). Voluntary community levies are paid to the four adjacent conservancies.	Okondjombo Conservancy; Purros Conservancy; Sanitatas Conservancy; Orupembe Conservancy	Staff: 81 Non-staff: 271	Skeleton Coast National Park
South Africa	Palmwag Lodge; Doro Nawas Lodge; Damaraland Camp	For Palmwag Lodge: Ministry of Environment and Tourism (MET) as well as the Big Three Conservancies (government & conservancy payments). For Doro Nawas Camp a joint venture with the Doro! Nawas Conservancy. For Damaraland Camp: a <i>joint venture</i> with Torra Conservancy	Torra, Anabeb and Sesfontein Conservancies		Palmwag Concession area
South Africa	Rocktail Beach Camp	iSimangaliso Wetland Park owns the land. Joint venture partnership between WS & the Mpukane Community	Mpukane Community	Staff: 61 Non-staff: 329	iSimangaliso Wetland Park
	Pafuri Camp	Tripartite agreement between the Makuleke community, Wilderness Safaris and South African National Parks (Community, private sector & government)	Three villages in the Makuleke community		Kruger National Park
Zambia	Kalamu Lagoon Camp	National Parks owns the land (Government)	Villages in the Malama Chiefdom adjacent to South Luangwa National Park	Staff: 15 Non-staff: 67	South Luangwa National Park
Zimbabwe	Davisons Camp, Makalolo Plains, Little Makalolo & Linkwasha	National Parks owns the land (Government)	Villages in Tshototsho District adjacent to Hwange National Park	Staff: 55 Non-staff: 221	Hwange National Park

Source: Snyman, forthcoming.

as a percentage of respondents giving each response and may, therefore, sum to more than 100%. In certain analyses, for ease of analysis and comparison, only the definitive 'yes' or 'no' answers are included and may therefore sum to less than the total number of respondents. Additionally, not all of those interviewed answered all questions, certain analyses, therefore, had to be conducted using a smaller sample.

The Zambian sample is included in the analysis because, despite being small, it was felt to be relevant and representative of the area where the interviews were conducted. Inferences drawn from the Zambian results should however be viewed with caution.

In analyses looking at employment of the respondent with WS there may be issues of endogeneity caused by omitted variables. For example, there may be unexplained variables, such as ability or motivation that explain why the respondent was employed. It is not possible to control for these unobservable variables. Every effort was made to control for all observable variables, e.g. education level, household size, etc. but it is important to keep in mind non-observable factors which may affect the results. The interview schedule did not estimate monetary values for subsistence agriculture or use of natural resources, the absence of such values could impact the welfare analysis. The paper however focuses specifically on cash income and the impact of this on household poverty.

As a result of the diversity in tourism camps, ethnic groups and different land management systems, issues of heterogeneity could be present. As the main aim of the paper was to quantify the impacts of ecotourism employment per se, it was felt that these differences added qualitatively to the analysis and provided important analyses of comparisons between different areas and countries.

Communities associated with a single ecotourism enterprise, WS,<sup>4</sup> were surveyed in this study. It was the only ecotourism company that had parallel ecotourism operations, operating according to a standard policy framework, over the six Anglophone countries in the region. The use of a single company made for ease of comparison since the head office imposes a consistent management style over its different camps in southern Africa. The company itself wished to quantify the impact of its ecotourism operations on rural communities, and gave the author access to its camps and staff and to the communities with whom they engage.

The process followed does, however, mean that certain limitations attach to this research (Snyman, 2013a):

- Although the camps and communities were diverse (with varying land management systems, ethnic

groups, tourism camp price ranges), as only one ecotourism operator was included in the analysis, there could be limitations to the generalizability of the research.

- The author was employed by WS to conduct a study on the impact of the company's activities on rural communities. This study was, however, performed as an independent researcher looking to discover the realities of ecotourism and community development and was not influenced by the company.
- Local residents would have associated interviewers with WS because of the use of WS vehicles in certain areas and through the introduction process. This may have biased responses to questions about WS. It is however impossible to predict the direction of the bias a priori; respondents may have been strategically negative in order to ensure changes or positive in order to win favour with the private sector operator in the area (Allendorf et al., 2006). The results showed both positive and negative responses in all areas and many respondents were clearly comfortable expressing negative responses.
- The presence of the researcher during the administration of the interview schedule may have influenced certain respondents and their answers to attitudinal questions regarding tourism and conservation. The bulk of the interview schedule was, however, socio-economic in nature, and this should not have proven problematic. There remained the risk of strategic bias. When it was felt that this was occurring, the author re-iterated to the respondent that the interview was anonymous and honest answers were required.

All data collected were analysed using SPSS, v. 12 and STATA v. 10.2, and a combination of descriptive statistics, Mann-Whitney *U* tests and *t* tests were used.

## Results

In order to contextualise the results, Table 2 summarizes several important demographic statistics from the interviews.

Table 2 shows that staff respondents were, on average, slightly younger and more educated than non-staff respondents. Average household size was, however, found to be similar.

### *Household income and income sources*

Table 3 highlights the centrality of formal, salaried employment, of any kind, as the major source of income for households in remote, rural areas.

**Table 2.** Summary of respondents' demographic statistics.

Country	Respondent	Average age (in years)	Gender (%male:%female)	No. of years educated	Average number in the household
Botswana	Staff	31.57	46:54	8.69	4.12
	Non-staff	33.45	43:57	6.59	6.59
Malawi	Staff	36.30	88:12	8.08	5.53
	Non-staff	38.73	39:61	3.19	4.58
Namibia	Staff	32.49	40:59	9.75	8.62
	Non-staff	36.84	55:45	5.14	8.21
South Africa	Staff	36.70	39:61	10.33	6.93
	Non-staff	44.30	31:69	6.90	6.39
Zambia	Staff	36.80	100:0	8.87	6.4
	Non-staff	40.88	27:73	5.66	5.99
Zimbabwe	Staff	36.15	100:0	9.09	7.05
	Non-staff	43.47	35:64	6.92	6.67
Average	Staff	34.35	61:38	9.12	6.3
	Non-staff	39.53	40:60	5.78	6.48

Source: Snyman, forthcoming.

**Table 3.** Main household income sources for staff and non-staff respondents by location.

Country	Group sampled	Main household income source	Second most important household income source
Botswana	Staff	Job (97%)	Other* (2%)
	Non-staff	Family/Spouse (25.7%)	Casual labour (19.2%)
Malawi	Staff	Job (97.4%)	Family/Spouse (1.3%) and Weaving (1.3%)
	Non-staff	Farming (32.3%)	Business (13.9%)
Namibia	Staff	Job (83.3%)	Other* (11.9%)
	Non-staff	Selling livestock (24%)	Employment (15.5%)
South Africa	Staff	Job (90.3%)	Family/spouse (8.1%)
	Non-staff	Government grant (47.7%)	Family/spouse (25.5%)
Zambia	Staff	Job (100%)	N/A
	Non-staff	Family/Spouse (35.8%)	Piecework (13.4%)
Zimbabwe	Staff	Job (100%)	N/A
	Non-staff	Piecework/Jobs (22.7%)	Family/Spouse (22.6%)

\*'Other' included: personal pensions, brewing beer, etc.

Source: Snyman, forthcoming.

For non-staff households the most commonly observed source of cash income was employment of a family member or spouse (19.5%), highlighting the importance of formal employment, of any kind, in these rural areas. The other main sources were: government grants/pensions (11.2%), their own formal job (8.1%), selling livestock (7.8%), piecework (6%) and farming/agriculture (7.6%).

A diversity of household income sources was found in all areas, with a few people being particularly

entrepreneurial. One female respondent in Malawi had purchased a small solar panel and was charging other villagers a fee to use it for charging mobile phones and radio batteries. Piecework and casual labour were also common sources of income in these rural areas. Cash did not always change hands for piecework but people were paid in-kind, usually with food (this was frequently observed in Zimbabwe, Zambia and Malawi). This is not reflected in household income figures, but contributes to household

**Table 4.** Mean monthly household income for staff and non-staff respondents by location.

Country	Group sampled	Mean stated monthly household income (US\$ 2011)	Mean monthly log income (US\$ 2011)	Statistical significance (log of income/employment)
Botswana	Staff ( $n=95$ )	290.94	5.26	$U=3382, Z=-10.828, p<0.001$
	Non-staff ( $n=251$ )	92.92	3.22	
Malawi	Staff ( $n=74$ )	102.93	4.39	$U=3172.5, Z=-8.609, p<0.001$
	Non-staff ( $n=246$ )	47.13	2.89	
Namibia	Staff ( $n=80$ )	363.85	5.58	$U=5931.5, Z=-6.156, p<0.001$
	Non-staff ( $n=257$ )	221.54	4.58	
South Africa	Staff ( $n=61$ )	544.37	6.15	$U=2927.5, Z=-8.794, p<0.001$
	Non-staff ( $n=313$ )	274.76	4.97	
Zambia	Staff ( $n=15$ )	218.06	5.08	$U=115, Z=-4.65, p<0.001$
	Non-staff ( $n=63$ )	89.84	3.2	
Zimbabwe	Staff ( $n=55$ )	308.83	5.17	$U=1200.5, Z=-8.978, p<0.001$
	Non-staff ( $n=206$ )	63.88	3.2	

Source: Snyman, forthcoming.

survival. In the Namibian sites, livestock were central to the survival of households both as a source of cash from their sale, and of products for household use (milk, meat, animal hides) (also observed by Ashley and Barnes (1996)).

For the majority (94%) of staff respondents, the main household income source was their salary in ecotourism, with 2% getting it from another employed family member or spouse. This heavy reliance of staff respondents on their salary as the main support for their household is of itself a source of risk for the household due to the vulnerability of the ecotourism industry. Unfortunately there are few alternative income-earning opportunities in the area, though the problem may be accentuated by income targeting; the income earned from ecotourism employment being seen as 'sufficient.'

Table 4 shows stated monthly household incomes for staff and non-staff respondents in each country and indicates that earnings of ecotourism staff were statistically higher than those of other non-staff households in all countries. The value of subsistence and in-kind income is, however, not recognised in these figures. Houses built with local materials and food grown and gathered locally, contribute to real income and wealth, but are excluded from the income statistics.

#### Household income diversification levels

Looking at the entire set of households interviewed in this study, the non-staff respondents had a marginally higher mean number of household income sources ( $n=1386$ ;  $M=1.57$ , min. 0; max. 6, mode 1) than staff respondents ( $n=385$ ;  $M=1.52$ , min. 1; max. 6,

mode 1). However, the difference was not statistically significant. Table 5 shows the mean number of household income sources for staff and non-staff respondents in each country, and whether or not there was a statistical difference between them: illustrating levels of diversification.

The mean number of income sources varied considerably across sites. South African staff respondents had the highest mean number of household income sources (2.18), followed by South African non-staff respondents (1.9) and Zimbabwe non-staff respondents (1.73). The high numbers in South Africa may be related to the higher household incomes (see Table 4) available and consequent ability to invest in income-generating assets and other livelihood opportunities, however, a considerable impact came from the fact that many households were receiving a government grant of some kind (75% of South African non-staff respondents and 63% of staff respondents were in households that received at least one government grant every month). In the study, countries where there is little or no government support (Malawi, Zambia and Zimbabwe), the role of ecotourism employment in household survival is even more important.

#### Ecotourism's contribution to household incomes

Important in understanding ecotourism's role in local socio-economic development is understanding its contribution to household incomes in rural areas. Computations of ecotourism's contribution to household incomes in these rural areas were based on the



**Table 5.** Mean number of household income sources for staff and non-staff respondents by location.

Country	Group sampled	Mean number of household income sources	Statistical significance
Botswana	Staff ( $n=99$ )	1.12	Not significant
	Non-staff ( $n=261$ )	1.23	
Malawi	Staff ( $n=74$ )	1.47	Not significant
	Non-staff ( $n=251$ )	1.36	
Namibia	Staff ( $n=81$ )	1.72	Not significant
	Non-staff ( $n=287$ )	1.55	
South Africa	Staff ( $n=61$ )	2.18	$U=7924$ , $Z=-2.457$ , $p<0.05$ , $r=-0.126$
	Non-staff ( $n=319$ )	1.90	
Zambia	Staff ( $n=15$ )	1.53	Not significant
	Non-staff ( $n=67$ )	1.63	
Zimbabwe	Staff ( $n=55$ )	1.31	$U=4455$ , $Z=-3.268$ , $p<0.05$ , $r=-0.196$
	Non-staff ( $n=221$ )	1.73	

Source: Snyman, forthcoming.

**Table 6.** Staff sample only: percentage monthly household income from ecotourism.

National group sampled	100% of monthly household income from ecotourism	More than 50% of monthly household income from ecotourism
Botswana	88%	94%
Malawi	59%	97%
Namibia	42%	82%
South Africa	26%	84%
Zambia	67%	100%
Zimbabwe	73%	100%
Average	59%	93%

Source: Snyman, forthcoming.

staff respondent's stated salaries and their stated monthly household incomes; the contribution was typically substantial.

Table 6 shows 59% of staff respondents reporting that their salary in ecotourism made up 100% of their total household income, while 93% reported that it made up more than 50% of their monthly household income. These figures illustrate a heavy reliance of these households on the market economy, in the form of ecotourism, for support. The lower percentage contribution among South African employees reflects the number of households receiving one or more government grants. South African staff, as shown earlier, also had the greatest livelihood diversification: 77% living in households with two or more income sources. In Botswana, only 12% of staff households interviewed indicated two or more income sources, though it is the author's opinion that this result may be understated

and that a few of the Botswana staff may have responded to the question strategically, not mentioning other income sources in order to create an impression of poverty, as many appeared to hesitate before answering the income source and total household income questions.<sup>5</sup> In Malawi, 43% acknowledged two or more household income sources; in Namibia, 61%; in Zambia, 33% and in Zimbabwe 33%.

Table 6 illustrates the heavy dependence on ecotourism of these staff households proximate to the ecotourism operation sites studied. Ecotourism may be a less uncertain livelihood than agriculture in these areas, but household incomes clearly remain at risk (Snyman, 2013a).

### *Ecotourism's overall impact on household welfare*

One of the arguments given for ecotourism is that it is more than a source of employment: in rural areas where few opportunities exist for local residents to acquire marketable skills it can provide associated skills development, empowerment and training (Mitchell and Ashley, 2010). To assess the importance of this aspect, respondents were asked whether or not they had ever had a permanent job before. Table 7 presents the results for staff and non-staff respondents in each country.

The ecotourism camp surveyed in Zambia had been owned previously by another tourism company and the majority of the staff were re-employed when ownership was transferred. As a result, a high proportion of Zambian staff had been in permanent employment beforehand, though the majority of them had still acquired their skills and training through ecotourism. In terms of staff respondents, the

**Table 7.** Country study site comparison of percentage respondents who have had a permanent job before.

Country	National group sampled	% who have had a permanent job before
Botswana	Staff ( $n=99$ )	21.2%
	Non-staff ( $n=261$ )	21.1%
Malawi	Staff ( $n=74$ )	39.2%
	Non-staff ( $n=251$ )	27.1%
Namibia	Staff ( $n=81$ )	40.7%
	Non-staff ( $n=271$ )	18.8%
South Africa	Staff ( $n=61$ )	26.2%
	Non-staff ( $n=329$ )	28.6%
Zambia	Staff ( $n=15$ )	73.3%
	Non-staff ( $n=67$ )	25.4%
Zimbabwe	Staff ( $n=55$ )	58.0%
	Non-staff ( $n=221$ )	28.1%
Average	Staff ( $n=385$ )	36.9%
	Non-staff ( $n=1400$ )	27.4%
Total sample ( $n=1785$ )		27.4%

Botswana study sites had the highest proportion of ‘first time’ workers. Seventy-four percent of the total staff at the three surveyed camps in Botswana were from the local community, suggesting a significant contribution to skills training and development in this community.

Sixty-three percent of staff respondents declared that their current job in ecotourism was their first permanent job; highlighting the broader development benefits that flow from good training programmes on the part of ecotourism companies. Since 73% of the total sample had never had a permanent job before, the lack of alternative permanent employment options is clear, as is the importance of ecotourism skills acquisition in the study areas.

### Household welfare

Household welfare relies on both economic and non-economic factors. Thus, access to water, electricity, ablution facilities, etc. all impact on social welfare, as does the ability to invest in durable assets for the household. The ownership of durable assets can also protect households against economic shocks, where such assets can be sold if necessary. Investments in livestock (‘traditional’) and in household capital goods and consumer durables (‘modern’, such as sewing machines and tools) are in a sense equivalent strategies (Snyman, 2013a). Table 8 details the ownership of various assets analysed in the interview schedules.

Eighty-two percent of staff respondents owned/had access in their households to mobile phones; these not only give individuals access to communication (and sometimes banking, weather reports, etc.), they also increasingly appear as status accessories in communities. In all countries, except Namibia, staff owned, on average, more cattle than non-staff respondents. In terms of ‘all assets’ in Table 8 there were, in general, more staff respondents who owned the specified assets than non-staff respondents. This not only adds to overall social welfare for households, but also (as discussed in the introduction) assists households to diversify their livelihoods, and lower household risk.

### Discussion of the main results

One factor differentiating the poor from the better-off in rural societies is the ability of more affluent households to ‘trade-up’ assets in sequence, for example, to use cash from non-farm income to buy farm inputs to earn higher income to buy land, livestock or both (Ellis and Bahiigwa, 2003; Ellis and Mdoe, 2003; Freeman et al., 2004). It was in this regard that ecotourism employment was observed to assist rural households in diversification; the security of a permanent, monthly income allowed households to invest in assets which, in the long run, can cushion them against future economic shocks.

### Impact of ecotourism employment

It has been shown that employment in ecotourism positively affects household incomes, but the effect on risk may be ambivalent; it can decrease the risk if diversification increases, but it can increase the risk if households become reliant on ecotourism in areas where ecotourism demand may be volatile (Mitchell and Ashley, 2010) or ecotourism may be susceptible to exogenous shocks, both economic and non-economic.

Overall, the employment offered by high-end ecotourism in these remote, rural areas was shown to offer a more secure, reliable source of income for households, who would often not otherwise have one (as there are few alternatives available or possible, or those options that are available are seasonal). In the staff interview schedules, support from other employed family members or a spouse was often the second most important source of income in the household; highlighting the importance of formal employment in general. The important point to note is that there are currently few alternatives to ecotourism in these remote areas (Ashley and Roe, 2002; Lapeyre, 2011; Scherl et al., 2004; Spenceley and Goodwin, 2007).

**Table 8.** Staff and non-staff respondents: country asset comparisons.

Country	National group sampled	Own a mobile phone	Own a car	Own a television	Mean no. of cattle	Mean no. of goats	Mean no. of chickens
Botswana	Staff	93% (n = 99)	41% (n = 99)	27% (n = 99)	10.54 (n = 80)	Missing	Missing
	Non-staff	46% (n = 261)	8% (n = 261)	4% (n = 261)	4.7 (n = 253)	1.59 (n = 255)	3.22 (n = 255)
Malawi	Staff	72% (n = 74)	3% (n = 74)	24% (n = 74)	0.05 (n = 73)	2.61 (n = 74)	3.55 (n = 74)
	Non-staff	27% (n = 251)	5% (n = 251)	0% (n = 251)	0 (n = 251)	1.41 (n = 249)	2.31 (n = 249)
Namibia	Staff	96% (n = 81)	65% (n = 81)	46% (n = 81)	28.73 (n = 81)	Missing	Missing
	Non-staff	41% (n = 271)	16% (n = 271)	14% (n = 271)	29.64 (n = 252)	62.67 (n = 248)	2.24 (n = 248)
South Africa	Staff	95% (n = 61)	28% (n = 61)	54% (n = 61)	2.44 (n = 61)	0.98 (n = 61)	7.67 (n = 61)
	Non-staff	91% (n = 329)	14% (n = 329)	72% (n = 329)	1.28 (n = 325)	0.50 (n = 324)	3.81 (n = 322)
Zambia	Staff	87% (n = 15)	0% (n = 15)	60% (n = 15)	0.13* (n = 15)	0* (n = 15)	10.87 (n = 15)
	Non-staff	36% (n = 67)	2% (n = 67)	2% (n = 67)	0* (n = 67)	0* (n = 67)	7.88 (n = 67)
Zimbabwe	Staff	44% (n = 55)	11% (n = 55)	40% (n = 55)	5.62 (n = 55)	5.95 (n = 55)	13.31 (n = 55)
	Non-staff	6% (n = 221)	7% (n = 221)	0.9% (n = 221)	3.65 (n = 219)	2.29 (n = 221)	8.37 (n = 221)
Average	Staff***	83% (n = 385)	31% (n = 385)	38% (n = 385)	9.96 (n = 365)	2.83** (n = 205)	7.99** (n = 205)
	Non-staff***	41% (n = 1400)	9% (n = 1400)	15% (n = 1400)	7.22 (n = 1367)	12.44 (n = 1364)	4.08 (n = 1362)

Missing: these were not included in the interview schedules of the staff in Botswana and Namibia which were the first interviews conducted.

\*As a result of tsetse flies, there was very little livestock in the Zambian study area.

\*\*These figures were calculated only for the countries where the question was included in the interview schedule.

\*\*\*Calculated for the whole sample, not averages of the country figures in the table.

Ecotourism's ability to increase incomes among local households is, however, only one measure of its success in poverty reduction. Other effects include its positive impacts on livelihoods in general, social welfare, skills development, local knock-on effects and on the empowerment of individuals and communities (Lapeyre, 2011; Mitchell and Ashley, 2010). These may have greater long-term significance and all were observed in this study. The opportunity to learn new skills while working in the tourism industry creates opportunities to participate in other livelihood activities (Lapeyre, 2011). It can also provide other livelihood strategies and opportunities, by improving chances of getting other employment later if needed.

### *Household income diversification*

In a study of the impacts of Madikwe Game Reserve in South Africa, Relly (2004, as cited in Rogerson, 2006, p. 54) noted that 'the wages earned from the formal lodge industry in a protected area are the single most significant contribution towards poverty alleviation and local economic development and will continue to be so for some time.' This study also found that ecotourism jobs paid better than local alternatives, and staff stated monthly household incomes were consequently statistically significantly higher than average non-staff stated household incomes. The literature has however been ambiguous in its findings relating to diversification. A study by Ellis (1999) found that as household income increases there is a decrease in the diversification of livelihoods (i.e. one high income member means other household members need not work elsewhere), as well as a decrease in reliance on agriculture. In this view, increased household income increases financial security and lowers the risk faced by households, thereby obviating the need for diversification. Barrett et al. (2001) and Davis et al. (2009), however, found that as household income increased, there was an increase in diversification. As wealthier households have more income available they invest in assets, and diversify into other, non-farm, as well as more advanced farm activities.

The present study's findings also showed non-uniformity across the sites surveyed. In South Africa, Malawi and Namibia increased income from ecotourism employment for staff respondents resulted in greater diversification. In Botswana, Zambia and Zimbabwe non-staff respondents tended to have more income sources than staff respondents, despite the latter typically having higher incomes; suggesting a reduction in diversification as household income increased. This could reflect the scarcity of reliable, secure livelihoods in these study areas, necessitating greater diversification for non-staff respondents.

Alternatively, tourism income may have been seen as 'sufficient,' thereby decreasing the demand for other income sources. Staff's decreased diversification may render such households vulnerable in the event of external shocks that influence ecotourism, in general, or these operations in particular.

### *Overall household welfare*

It has been shown in this paper that ecotourism employees' ability to invest in assets and human capital (through education) provides opportunities to cope with future vulnerability and the adoption of more efficient livelihood strategies. Ecotourism employment can therefore assist in long-term stability for households, reducing risk and vulnerability and therefore the stress faced by households. This can, however, deepen inequalities in rural areas as staff are able to reduce risks, earn more income and educate their families further, while other households remain 'trapped' in a subsistence lifestyle, vulnerable to shocks. Community lifestyles help negate this somewhat as staff support their extended families and, in certain cases, friends (Snyman, 2013a).

When conducting interviews across the communities, it appeared that the homes of ecotourism staff had, in general, more 'luxury' items (e.g. satellite television, generators, motor vehicles) and were larger than the average non-staff household. Such 'luxury' items can lead to overall improvements in household welfare and utility. In Malawi, Zimbabwe and South Africa, tourism resulted in improved access to goods and services (such as schools, roads, clinics, etc.) which benefitted both staff and non-staff. Specific tourism-related community development programmes and philanthropic donations can also bring socio-economic benefits to both staff and non-staff.

Cattle are also frequently seen as security or savings (Hoon, 2004) and as a sign of wealth in many African communities (Low et al., 1980). The ability to purchase cattle as a store of wealth therefore plays an important role in reducing future risk and adding to overall household security and status. As shown earlier, outside of Namibia, ecotourism staff owned more cattle than other non-staff respondents. All livestock are a store of value that denote high wealth, as well as being a substitutable asset that can be sold as and when necessary in order to invest in other assets such as land or small businesses (Freeman et al., 2004). Long (2002) emphasises that the opportunity to have cash income from ecotourism employment, and not to have to sell livestock whenever cash is needed, means that livestock can be kept and used instead as a buffer in times of crisis or shock. It has been shown that non-farm income, such as that earned

in ecotourism, can be used to purchase livestock and build up herds, with a view to long-term household welfare. Many staff respondents mentioned to the author that they were 'investing' in livestock for their retirement and that this was a major benefit of ecotourism employment.

## Conclusions

This paper has illustrated that ecotourism itself may bring immediate and important direct economic and financial benefits to people in rural areas, specifically ecotourism staff. Sharpley and Naidoo (2010) argue that it does not offer a long-term solution to the challenges of poverty and its overall reduction or alleviation, but that other national and international policies should address the needs of the poor and the causes of poverty. What was argued in this paper is that ecotourism can reduce poverty by increasing real household incomes and opportunities in the long term and ecotourism employment was shown to reduce absolute poverty in rural areas, through steady, secure cash income provision in areas where there were few alternative income-earning opportunities.

Ecotourism employment has been shown to contribute to local socio-economic development, increased household incomes, improved household welfare and increased opportunities. However, the level of this contribution varies between areas, different ecotourism operations and communities. In order to ensure sustainability, it is important that the contribution is maximised and that local people benefit (and see themselves benefitting) from ecotourism in their area.

The ability of ecotourism alone to significantly affect poverty levels in rural areas of Africa is limited (Butcher, 2006) mostly by the size of the operations and therefore, by the number of people they can employ. The direct impacts of income from employment are obviously the most significant poverty reduction benefits of ecotourism in rural areas. Other than increasing the size of the ecotourism operation and therefore employing more people, the integration of the camp into the local economy as a purchaser of locally produced goods and services<sup>6</sup> can extend the impact of ecotourism operations to more families and therefore have a greater impact on poverty (Mitchell and Ashley, 2010).

The ability of ecotourism staff, through their regular monthly income, to invest in consumer durables and in productive assets can both enhance their welfare and improve their ability to cope with shocks, risks and other economic stresses. Although they were found to be diversifying their livelihoods, there was still a heavy reliance on ecotourism for support.

In the long term, this can be risky. In an ideal world, ecotourism would be accompanied by the promotion of livelihood diversification, through skills training and development, institutional support and education. The introduction of mentorships, internships and scholarship programmes would assist in improving education and providing important skills training and development.

Ensuring that ecotourism operations are paying equitable wages and salaries to employees and that working conditions and accommodations are of a high standard, as well as providing ongoing skills training and development for all community members, specifically business skills training is important in terms of empowering communities and ensuring a more equitable partnership between communities and the private sector. The promotion of philanthropic donations towards community projects which are appropriate, do not require ongoing funding and have a broad impact, is more sustainable and effective than simple handouts or cash transfers.

Governments should be encouraged to invest in local infrastructure, such as hospitals, schools, road networks, provision of safe drinking water and communications: benefitting local communities as well as the tourism industry. This will promote overall local socio-economic development to a broader group of people. It was also found in this study that rural households still rely heavily on natural resources and it is, therefore, important, in terms of long-term poverty reduction, to ensure that use is sustainable. This can be encouraged by setting up trainings and workshops on sustainable natural resource use.

Ideally, ecotourism should operate in conjunction with other development policies that build capacity, educate and empower local communities. This requires efficient, transparent, equitable and accountable local government and support institutions, secure land and resource rights, partnering with the private sector and a desire in the community to empower, educate and uplift themselves.

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## Notes

1. Calculated using methodology that is fully consistent with the UN Statistics Division-approved 2008 Tourism Satellite Account: Recommended Methodological Framework (TSA:RMF 2008) (WTTC, 2011).

2. Welfare is defined in this paper as the overall social and economic situation of the household, including the number of household assets, livestock, income available for saving, etc.
3. Taken from Snyman (2013a, 2013b).
4. For more information on Wilderness Safaris see [www.wilderness-safaris.com](http://www.wilderness-safaris.com).
5. Perhaps in the hope that the results of the study would lead to increases in salaries, or perhaps because they believed that reporting other incomes would lead to job insecurity or lowering of income and benefits.
6. Christian et al. (2011); Mitchell and Ashley (2010); Mitchell (2012); Rogerson (2012) provide more information on tourism value chains and ways to increase local multipliers.

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### Author Biography

**Susan Snyman** has a Master of Business Science (Economics) from the University of Cape Town, South Africa, and recently completed a PhD (Economics) at the same university. Having completed PhD coursework at the University of Goteborg in Sweden in 2008, the focus of her PhD research was on the socio-economic impact of high-end ecotourism in remote, rural communities adjacent to protected areas, based on over 1800 community

surveys in six southern African countries. Sue has 15 years' experience in the luxury ecotourism industry in southern Africa, including guiding, community development and liaison, camp management and environmental impact assessments as an independent consultant. Sue is the Regional Community Development and Culture Co-ordinator for Wilderness Safaris, as well as the Regional Director of Children in the Wilderness. Other positions include Vice-Chair of the IUCN WCPA Tourism and Protected Areas Specialist Groups (TAPASG), Research Fellow at the Environmental Economics Policy Research Unit at the University of Cape Town and member of the UNISA Tourism Advisory Committee.