THE IMPACTS OF ECOTOURISM AND CONSERVATION MEASURES IN PROTECTED AREAS ON LOCAL COMMUNITIES IN CAMEROON

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The growth of ecotourism has an impact on the livelihoods of people living within and adjacent to protected areas, where ecotourism activities often take place. In some cases, evolving ecotourism has compromised the ability of locals to sustain and diversify their livelihoods. The aim of this study was to examine the impact of ecotourism and conservation measures implemented in protected areas in Cameroon on local communities residing either within or in close proximity to them. The study employed a mixed method research approach based on two case study areas in Cameroon (the Mount Cameroon National Park and the Douala Edea Wildlife Reserve). Key findings of the study suggest that the geographic location of communities, coupled with instituted conservation and preservation measures and the level of ecotourism activity, has a direct bearing on the severity of resultant impacts experienced by locals. Overall, measures in protected areas have been found to increase the conservation and preservation thereof. However, the extent to which communities are impacted upon by these measures differs in each case study area owing to factors such as geographical proximity, livelihood strategies, and community involvement in ecotourism.

Key words: Ecotourism impacts; Livelihood strategies; Environmental impacts; Local communities; Cameroon

Introduction

The ability of the tourism industry to trigger and impart socioeconomic growth in destination economies, as well as its reputation as a resilient industry, has been widely noted (Kimbu & Ngoasong, 2013; Tyrrell et al., 2013). Based on this, the industry has become increasingly policy relevant to countries located in the Global South, where weak socio-economic growth is a primary concern (Langoya & Long, 2016; Siakwah et al., 2020; Venkatesh & Gouda, 2016). Furthermore, the World Bank (2018) and the United Nations (2017) have indicated the aptness of the industry within...
the African context, to spur development in these countries.

In Africa, international tourist arrivals were estimated at between 5% and 7% in 2018 (World Tourism Organization [UNWTO], 2017), illustrating the growth potential of the industry. The UNWTO (2020) noted that although there is a decrease in the predicted growth, compared to the high growth rates observed in recent years, it is still predicted that international tourist arrivals in Africa will be between 3% and 5% for 2020. Within the Cameroonian context, according to the World Travel & Tourism Council (WTTC) (2018), the direct contribution of the sector to the country’s GDP amounted to roughly 4.6%, while the total contribution of the sector in the country amounted to over 8% in 2018. Moreover, the tourism sector’s contribution to direct and total employment accounted for 387,000 jobs and 875,000 jobs, respectively (WTTC, 2018). These figures, both in Africa and within Cameroon itself, provide a basis for understanding why tourism has been earmarked as a key sector to spur economic growth and development (Kimbu & Ngoasong, 2013), in the varying Global South contexts.

The ecotourism sector has been touted as being the panacea to the lack of growth and a way towards sustainable development in many countries in the Global South (Atieno & Njoroge, 2015; Butcher, 2011; Das & Chatterjee, 2015; Duffy, 2006; Masud et al., 2017; Pasape et al., 2015; Siakwah et al., 2019). The sector has experienced rapid growth, in comparison to all the other subsectors in the tourism industry (Atieno & Njoroge, 2015). Additionally, ecotourism is known to bring with it many benefits that can be leveraged onto the local people, such as the alleviation or reduction of poverty through the creation of employment, community development, and nature and culture conservation (see Andereck et al., 2005; Das & Chatterjee, 2015; Hugo & Nyaupane, 2016; Scheyvens, 1999; World Bank, 2018). The notion is supported by Buckley (2003), who noted the central principles of ecotourism as being those of a “nature-based product [consisting of] minimal impact management, environmental education, contribution to conservation and contribution to communities” (p. 76).

The above indicates the potential widespread benefits that the country (and its people) could accrue from the sustained growth of the industry, especially considering the potential of Cameroon as an ecotourism destination. The varied landscapes, including mountainous areas, rainforest regions and black sand coastal areas within the country, as well as the rich and in cases endemic biodiversity, speak to the country’s ecotourism potential (Ministry of Forestry and Wildlife [MINFOF], 2014). Currently, there are many protected areas in the country where ecotourism occurs. However, some of these areas have been variously impacted upon, such as the Waza National Park, located in the northern region of the country, where political extremist activity has affected the ability of tourism to operate. However, in other regions of the country, such as Buea, where the Mount Cameroon National Park (MCNP) is located, many tourists are drawn to the protected area to view the largest active volcano in the country, as well as to climb its slopes, while hoping to glimpse upon the rare African elephant, which resides in this region (Tata & Lambi, 2014). Additionally, tourists frequent the Doual’A Edea Wildlife Reserve (DEWR), a marine protected areas, as well as a rare mangrove forest and indulge in activities such as hiking, fishing, bird and animal watching, and conservation activities (Ajonina et al., 2005). However, although these ecotourism activities exist in these specific areas in the country, the scale of ecotourism activities is not what they could be, and the levels of meaningful community involvement and participation are low.

Linked to the growth and development of the ecotourism sector in Cameroon is the maintenance of the protected areas in the country, coupled with the impact of the sector on local communities. To ensure the conservation and preservation of protected areas (which are essential for the occurrence of ecotourism), local communities are frequently impacted upon, through a disruption of their livelihood and social activities, stemming from the (often) exclusionary practices that enable the conservation and preservation of these areas. Community participation, livelihoods, and displacement or marginalization studies form some of the core issues in ecotourism research in the Global South contexts (see Blaikie & Brookfield, 1987; Nepal & Saarinen, 2016; Robbins, 2004). Hence, given that local community involvement is central to the development and operation of ecotourism (Chiutsi
& Saarinen, 2019), it is important to interrogate the resultant impacts on local communities. These impacts, be they positive or negative, can shape local perceptions of ecotourism, having a direct impact on the success of the sector.

Therefore, the current article seeks to examine the impact of ecotourism and conservation measures implemented in protected areas on local communities, through an examination of the impacts on the livelihood and social activities of local communities residing within or in close proximity to the selected protected areas of the Mount Cameroon National Park and the Douala Edea Wildlife Reserve in Cameroon. Given the still developing nature of Cameroon’s ecotourism sector, the lack of dedicated ecotourism policy to guide the formation of specific plans and strategies, coupled with the lack of research-based information to guide its development (Harilal et al., 2019), the current article intends to contribute to this knowledge gap. As a growing sector that has potentially strong ties to community involvement and benefit sharing, the research into, and subsequent informed development of, the sector is hoped to positively impact on local communities, whereby the sector is come to be seen as one that promotes inclusivity. However, in order for this to be realized, it is essential that all possible impacts are examined, including the impacts of conservation and preservation measures in protected areas on local communities. Hence, the rationale for this article is grounded in a consideration of the country’s immense ecotourism potential and its limited (inclusive and equitable) development thus far, stemming in part from a lack of knowledge on the various possible impacts.

Ecotourism Impacts in Context

Ecotourism has been touted to be a lower impact form of tourism, with fewer negative impacts than has traditional mass tourism (Butler, 2018; Hugo & Nyaupane, 2016). Moswete and Thapa (2015) noted that not only is ecotourism considered to be a low-impact form of tourism but that it is also seen as being a form that is beneficial to the different communities as well. However, despite the possible positive impacts of ecotourism, it has the potential to trigger economic, social, cultural, and environmental change that threatens the livelihoods of the locals, as well as the health of the natural environment (Stronza & Gordillo, 2008).

Ecotourism has been noted to impart positive impacts on the physical environment through the institution of conservation and preservation measures in protected areas (and in other nature areas where ecotourism occurs). This is an important point for consideration, given the above-mentioned principles of ecotourism, coupled with the often limited funds available for the conservation and preservation of natural areas. Furthermore, the implementation of these measures may guide the sustainable use of natural resources contained within these areas (Boley & Green, 2016; Donohoe & Needham, 2006; Irizarry, 2017; Lu et al., 2016). The sentiment was echoed by Neba (2009), who noted that “ecotourism has been suggested as a key to sustainable development of protected areas” (p. 105). Emanating from the aforementioned notion, ecotourism has therefore been endorsed as a tool for implementing conservation measures in the protected areas (Wardle et al., 2018).

Similarly, Tran and Walter (2014) suggested that the implementation of community-based ecotourism is linked to the sustainable development of communities, while also contributing to the conservation of the protected areas. Community development and conservation can be seen as mutually beneficial concepts when viewed through the lens of community-based ecotourism (see Eshun & Tichaawa, 2020; Nepal & Saarinen, 2016). The locals should have opportunities to engage in ecotourism-related activities, as well as to contribute to the conservation and management of natural resources in the protected areas, thus lessening the burden placed upon the ecologically sensitive areas.

However, positive environmental and socioeconomic outcomes are not the only possible results (Buckley, 2003, 2009). Negative socioeconomic and cultural impacts may also result from the conservation and preservation measures that prioritize the conservation of the physical environment over the traditional use of these areas and the resources contained therein by locals (Poudel et al., 2016; Stronza & Gordillo, 2008). Thus, the livelihood and social activities of locals may become threatened as a result of conservation measures supported by ecotourism initiatives, especially when there is a lack of community involvement and participation in the
activities (Pemunta, 2019; Saarinen, 2019a). In turn, in response to being denied access to protected areas and use of the natural resources, locals may turn to the prohibited use of resources, violating rules and regulation related to conservation and preservation of these spaces, to ensure that they can sustain their livelihood and social activities (Attia et al., 2018). Therefore, it is important to consider the primary issues (other than the impacts of conservation and preservation measures) from which the impacts on community livelihood and social activities stem, such as the level and type of community involvement and participation in ecotourism and related activities (Eshun & Tichaawa, 2019, 2020; Harilal & Tichaawa, 2018).

It has become increasingly important to consider the impacts of tourism on the natural environment (Carter, 2006; Mkiramweni et al., 2016). The negative ecological impacts, especially when they are not well managed, often results in high levels of pollution and waste generation in the protected areas (Setiyorini et al., 2019). However, apart from the high environmental cost resulting from improperly managed tourism-related activities, the above has a knock-on effect on the well-being of the locals who depend on tourist arrivals in the areas involved (Setiyorini et al., 2019). The conservation efforts that are aimed at the protected areas are often inhibited due to various factors, including a lack of funding and inadequate and ineffectual management and participation mechanisms (Stronza et al., 2019).

As noted, the adoption of ecotourism has become a popular tool for boosting conservation efforts, through the provision of the funding generated from ecotourism-related activities, and the adoption of effective and sustainable management strategies, which incorporate the local population in the management of the protected areas, thus reducing pressure on the areas and resources concerned (Buckley, 2019). The inclusion of the locals in the management of the protected areas is a central underpinning of community-based ecotourism especially (Wardle et al., 2018). Given that the communities wish to utilize the protected area resources for their cultural needs, as well as for the sustenance of their livelihood activities, any restrictions placed on their access to, and their use of, such resources as a result of ecotourism and conservation activities can have a negative impact on their perceptions of the sector (Blangy & Mehta, 2006).

Community Involvement Needs in Ecotourism and Conservation

Many researchers have realized the developmental capacity of ecotourism (see Ebua et al., 2011; Nkemnyi et al., 2013; Vodouhê et al., 2010), noting that ecotourism ventures, and the related conservation programs, usually have a relatively high level of overall success if the local stakeholders are included in the process (Lenao & Saarinen, 2015; Poudel et al., 2016). Heslinga et al. (2019) have stated that locals’ use of protected areas for their livelihood activities, combined with the tourism sector’s use of the protected areas for economic gains and to activate conservation agendas, can often lead to discord among stakeholders. Thus, Fu et al. (2018) argued that it is important to develop systems that attend to, and that balance the needs of, the locals with economic considerations and the conservation of the protected areas, with the failure to do so potentially resulting in the inability of the protected areas to support the livelihoods of the locals, due to the degradation of the physical environment.

The abovementioned aspects require being deliberated upon, given the relationship that exists between conservation, the protected areas, communities, and ecotourism. Heslinga et al. (2018) and Saarinen (2019b) stated that while tourism is used as a means of generating funds for the conservation of the protected areas, as well as being touted as a sector that is renowned for benefit sharing among the locals, negative impacts can also arise from tourism, especially ecotourism, which occurs in the ecologically vulnerable areas. Furthermore, exploitation for economic gain, or as a result of people being barred from, or restricted in relation to, certain protected areas can also compromise the integrity of the natural environments. Within the African context, Pemunta (2019) asserted that the conservation method of so-called fortress conservation still prevails, with the overall understanding being that the conservation of the natural environment heavily depends on the exclusion of the locals and the local communities from the areas concerned. However, it is important to note that the continued exclusion of locals from protected areas can lead to the unregulated and damaging use of resources by locals, in an attempt to support themselves or...
as a means of remaining connected to their culture and traditions. Given that the primary livelihood strategies of locals in Cameroon is contingent upon their access to protected areas and use of the natural resource base contained therein (Pemunta, 2019), these points are especially important to note within the context of this study. Moreover, as Stronza et al. (2019) argued, the coupling of ecotourism with an untouched, pristine image of nature also enables the socioeconomic displacement and cultural marginalization of locals.

**Protected Areas in Cameroon**

Cameroon, a country rich in diverse flora and fauna and numerous geographic landscapes (Kimbu, 2011; Harilal & Tichaawa, 2018) and often referred to as an “Africa in miniature” (Tichaawa, 2017), possesses immense potential to become an ecotourism destination (Kimbu, 2011). Linked to this, through the necessity to preserve and conserve the natural environment in the country for the sustainability of ecotourism, is the creation and management of protected areas. Primarily created for the purpose of conservation and land management (Stone & Nyaupane, 2016), ecotourism further incentivizes the conservation of protected areas, and often provide the much-needed funds to aid in the measures to be implemented (Heslinga et al., 2018).

Protected areas in Cameroon are separated into different categories, namely: national parks, zoological gardens, wildlife sanctuaries, fauna reserves, safari hunting zones, and community management zones. According to the Cameroon Fourth National Report to The Convention on Biological Diversity (Ministry of Environment and Protection of Nature [MINEP], 2009), protected areas in Cameroon account for approximately 29% to 30% of the land area in the country (Table 1).

Upon further examination, as can be seen from the table above, the IUCN categories of protected areas (including forest reserves, sacred forests, and botanical gardens) have been included, in addition to the inclusion of safari hunting zones. The inclusion of these zones has served to increase the percentage of land in the country under protection. However, actual protected areas constitute approximately 11% of the country’s land area (Fig. 1). The efforts of Cameroonian authorities to increase the percentage of protected areas in the country is much needed to realize the full ecotourism potential of the country, especially because Cameroon has been ranked as the second most biodiverse African country (Tata & Lambi, 2014).

The two case study areas chosen for this study included the Mount Cameroon National Park (MCNP) and the Douala Edea Wildlife Reserve (DEWR) (Fig. 1). These areas were selected owing to factors such as their status as protected areas, the geographic location of the protected areas in relation to local communities, the historical past of these areas, as well as the potential for these areas to become thriving ecotourism areas in the country. Regarding the geographic location of these areas, and linked to the historical past of these areas, each of the selected case study areas is located in either a Francophone- or Anglophone-dominant region of the country. The classification of these areas as either Francophone or Anglophone in nature stems from the country’s colonial past and has resulted in seven out of the nine provinces in the country being predominantly Francophone in nature, with the remaining two provinces as Anglophone (Scopa,

<table>
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<th>Table 1</th>
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<td>Protected Areas in Cameroon</td>
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<table>
<thead>
<tr>
<th>Status</th>
<th>National Coverage (ha)</th>
<th>% of National Land Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected areas IUCN rating</td>
<td>3,482,741</td>
<td>7.00%</td>
</tr>
<tr>
<td>Forest reserves</td>
<td>920,000</td>
<td>1.90%</td>
</tr>
<tr>
<td>Under creation</td>
<td>975,091</td>
<td>2.10%</td>
</tr>
<tr>
<td>Total area under protection</td>
<td>5,777,830</td>
<td>11.00%</td>
</tr>
<tr>
<td>Safari hunting zones</td>
<td>8,138,800</td>
<td>18.00%</td>
</tr>
<tr>
<td>Total area under protection and management</td>
<td>13,516,632</td>
<td>29.00%</td>
</tr>
</tbody>
</table>

Source: Adapted from MINEP (2009).
Although relatively small in size, but significant economic contributors nationally) calling for their own independent state (Kindzeka, 2019). Hence, MCNP and the DEWR as study sites were chosen, as they provided an insight into the differing perceptions of respondents across a geopolitical spectrum, influenced by the historical past of the country.

It is also important to note that further contextualizing and adding to the political nature of this conflict is the fact the ruling political party in Cameroon is founded on a Francophone ethos. The sociopolitical tension that exists between these two groups reached boiling point during the latter part of 2017, with the two Anglophone provinces

Figure 1. Cameroon’s protected areas. The case study areas of this study are indicated within the circle on the map. Source: Authors’ own, based on fieldwork.
Methodology

A mixed method approach was adopted for this study, with both quantitative and qualitative research methods being used. The limited tourism research done in Cameroon, as yet, necessitated the need for a mixed methods research study, so as to be capable of generating the required data pertaining to the region (Tichaawa & Bob, 2015). Employing a mixed methods research design helped to ensure that the study was able to target the relevant stakeholder groups, using the appropriate methods, and to facilitate the gathering of a holistic dataset for analysis, and for the drawing of valid and reliable conclusions.

Fieldwork for this study transpired in the during the period June–September 2017 and data collection was conducted in the two specifically selected case study areas (each classified as protected areas) in Cameroon, as discussed above. Two different population groups were targeted in this study—heads of households in local communities in the MCNP and DEWR regions, as well as relevant key stakeholders with in-depth knowledge of ecotourism in Cameroon. The quantitative aspect of this study involved the dissemination of a community survey to the head of households. As there was no accurate record of the number of households in the case study areas, this resulted in an unknown sample size. Therefore, the sample for this study was processed based on an unknown population size (see Isaac & Micheal, 1981). By using systematic intervals (every third house) in household selections, a total of 442 household surveys were done. As the MCNP region is larger more households were surveyed (227) compared to DEWR (215).

The surveys were structured with mainly closed-ended and a few open-ended questions, measuring demographic variables (including but not limited to age, gender, employment status, and education level), as well as the perception of residents regarding variables related to various socio-economic, cultural, and environmental impacts of ecotourism, measured using a 5-point Likert scale (with 1 = strongly disagree to 5 = strongly agree). The survey was administered to respondents with the assistance of trained fieldworks. The data collected using these surveys were analyzed using the Statistical Package for Social Sciences (SPSS) (version 25) software, which facilitated the generation of descriptive statistics.

Additionally, a total of 12 in-depth, face-to-face interviews were conducted with key tourism stakeholders in Cameroon. The duration of the interviews with each key informant typically lasted an average of 60 min, with the interviews conducted being recorded, transcribed, and analyzed using thematic, content analysis. Through this method of analysis, the interview transcripts were analyzed with key themes emerging. This allowed for similarities and differences to be highlighted, allowing for an in-depth analysis of the data. The interviewees were selected using a purposive sampling method, which is often used in qualitative research (Cohen et al., 2002). Interviewees were selected from key stakeholder groups, according to the researcher’s knowledge and opinion, who were felt to be the most appropriate respondents for investigating the topic at hand, based on their specific knowledge of ecotourism in the Cameroonian context. This specific knowledge included the state of ecotourism in the case study areas, community involvement and the level to which they are impacted upon by ecotourism, and the historical geopolitical context that characterizes Cameroon.

The stakeholders interviewed included the local community chiefs, representatives of the community leadership forums, the national park managers, nongovernmental organizations (NGOs) involved in ecotourism related matters, and community tour operators, each of whom was able to provide valuable information on ecotourism in the case study areas, community involvement and the level to which they are impacted upon by ecotourism, and the historical geopolitical context that characterizes Cameroon.
Results and Discussion

Sociodemographic Profiles

In the DEWR region, a fairly large percentage (63.7%) of respondents surveyed occupied the position of the head of household, compared to the smaller percentage (51.8%) of respondents from the MCNP region (Table 2). The balance of respondents, 48.2% from the MCNP region and 36.3% from the DEWR region, were adult representatives of the household. Of all the respondents, in both regions, most respondents were male (82.3% in the DEWR region and 71.3% in the MCNP region). This is unsurprising, given the patriarchal nature of traditional African society. The age range of the respondents in the DEWR region exceeded 65 years of age, while the age of respondents in the MCNP region included respondents of up to 65 years in age.

The employment status of respondents in the regions differed, with there being a higher percentage of respondents indicating that they were self-employed in the DEWR region (47.6%), compared to 41.6% of respondents in the MCNP region. In the MCNP region, 24.2% of respondents indicated that they occupied full-time employment, while this figure was drastically decreased in the DEWR region, where only 9.5% of respondents occupied full-time employment. In both case study regions, a significant percentage of respondents from both regions (18.6% of respondents from DEWR and 13% from MCNP) indicated that they were unemployed, while 10.5% of respondents from the DEWR region and 8.1% of respondents from the MCNP region indicated that they were employed on a part-time basis.

Community Perceptions of Ecotourism-Induced Environmental Impacts

A 5-point Likert scale was used in gauging community perceptions of environmental impacts thought to be triggered (either positively or negatively) by ecotourism (Table 3). There are mainly positive responses to the impacts of ecotourism, from both the MCNP and DEWR regions. These positive responses could be influenced by respondents awareness and knowledge of the (potential) benefits of ecotourism (see Harilal & Tichaawa, 2018), with these sentiments also being alluded to by stakeholders interviewed. However, given that the levels of ecotourism in these regions are not particularly high, the scale and severity of ecotourism-induced impacts have not, at least not yet, emerged.

The majority of responses from both regions indicated that respondents do not perceive ecotourism as a cause of pollution in the physical

Table 2

Summary of the Sociodemographic Profile of Respondents Residing in the Case Study Regions: Mount Cameroon National Park (MCNP) and Douala Edea Wildlife Reserve (DEWR)

<table>
<thead>
<tr>
<th>Position in household</th>
<th>MCNP (N = 227)</th>
<th>DEWR (N = 215)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of household</td>
<td>48.2%</td>
<td>63.7%</td>
</tr>
<tr>
<td>Adult representative of household</td>
<td>51.8%</td>
<td>36.3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>MCNP (N = 227)</th>
<th>DEWR (N = 215)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>71.3%</td>
<td>82.3%</td>
</tr>
<tr>
<td>Female</td>
<td>28.7%</td>
<td>17.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>MCNP (N = 227)</th>
<th>DEWR (N = 215)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All respondents</td>
<td>≥65 years</td>
<td>&gt;65 years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment status</th>
<th>MCNP (N = 227)</th>
<th>DEWR (N = 215)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-employed</td>
<td>41.6%</td>
<td>47.6%</td>
</tr>
<tr>
<td>Working full-time</td>
<td>24.2%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>13.0%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Working part-time</td>
<td>8.1%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Home executive</td>
<td>8.7%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Retired/pensioner</td>
<td>4.4%</td>
<td>8.1%</td>
</tr>
</tbody>
</table>
environment. There is a slight exception though, with the indicated sentiment of ecotourism being linked to littering. It is important to reiterate at this point the still developing state of the ecotourism in Cameroon (Harilal & Tichaawa, 2018; Kimbu, 2011), with the nature of development thus far being relatively uneven. For example, although the MCNP and the DEWR are both protected areas, each with a unique potential to host a vibrant ecotourism sector, the MCNP region has received a lot more in terms of the development of infrastructure to support the industry, as well as the formulation of strategies to guide the sector. Moreover, the level of local community involvement in the MCNP region is relatively higher than in the DEWR region, with some community members being involved in various activities such as porterage, tour guiding, or small-scale hospitality, according to the community representatives interviewed. This type of development in the DEWR region has been largely absent, with little to no planning and strategy formulated for the growth and development of ecotourism in the region, resulting (in part) in the low levels of community involvement in the sector. Hence, the slightly lower mean and standard deviation results emanating from the DEWR region can be linked to the extremely low level of ecotourism activity in the region. This sentiment was echoed by a community representative from DEWR, who stated that:

there is no formal organization for ecotourism in the region. When tourist’s come, there is no organization, so locals are not very involved in that activity.

Table 3

<table>
<thead>
<tr>
<th></th>
<th>MCNP</th>
<th></th>
<th>SD</th>
<th></th>
<th>DEWR</th>
<th></th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 Ecotourism causes environmental pollution</td>
<td>1.95</td>
<td>1.213</td>
<td>1.92</td>
<td>1.222</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V2 Ecotourism produces noise pollution</td>
<td>2.08</td>
<td>1.311</td>
<td>1.88</td>
<td>1.170</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V3 Ecotourism produces littering</td>
<td>2.65</td>
<td>1.497</td>
<td>1.94</td>
<td>1.210</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 Ecotourism produces traffic congestion</td>
<td>1.90</td>
<td>1.227</td>
<td>1.89</td>
<td>1.239</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V5 Ecotourism activities degrade the natural environment</td>
<td>2.29</td>
<td>1.360</td>
<td>1.98</td>
<td>1.215</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6 Ecotourism produces large quantities of waste products</td>
<td>2.14</td>
<td>1.308</td>
<td>1.91</td>
<td>1.202</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>V7 Tourists littering destroys the beauty of the natural landscape</td>
<td>3.80</td>
<td>1.471</td>
<td>2.57</td>
<td>1.486</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V8 Ecotourism has contributed to the preservation of the natural environment</td>
<td>4.18</td>
<td>1.241</td>
<td>3.18</td>
<td>1.440</td>
<td></td>
<td></td>
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<tr>
<td>V9 Ecotourism has contributed to the preservation of wildlife</td>
<td>4.58</td>
<td>0.792</td>
<td>3.73</td>
<td>3.677</td>
<td></td>
<td></td>
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<tr>
<td>V10 Ecotourism has increased conservation awareness among local communities, authorities and stakeholders</td>
<td>4.26</td>
<td>0.889</td>
<td>3.47</td>
<td>1.179</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>V11 Ecotourism has resulted in increased conservation and preservation of natural resources</td>
<td>4.35</td>
<td>0.863</td>
<td>3.84</td>
<td>2.172</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>V12 Ecotourism has resulted in decreased conservation and preservation of natural resources</td>
<td>1.81</td>
<td>1.089</td>
<td>2.35</td>
<td>1.030</td>
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<tr>
<td>V13 Ecotourism has resulted in an increase in the abundance of flora and fauna in the national protected area</td>
<td>3.90</td>
<td>0.970</td>
<td>3.34</td>
<td>1.108</td>
<td></td>
<td></td>
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<tr>
<td>V14 Ecotourism has resulted in a decrease in the abundance of flora and fauna in the national protected area</td>
<td>2.35</td>
<td>1.179</td>
<td>2.41</td>
<td>1.081</td>
<td></td>
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<tr>
<td>V15 Ecotourism activities has resulted in increased aesthetics of the national protected area</td>
<td>3.96</td>
<td>0.956</td>
<td>3.27</td>
<td>1.140</td>
<td></td>
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<tr>
<td>V16 Ecotourism activities has resulted in decreased aesthetics of the national protected area</td>
<td>2.05</td>
<td>0.947</td>
<td>2.35</td>
<td>1.078</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>V17 Ecotourism activities has resulted in the destruction of natural habitats of fauna</td>
<td>2.74</td>
<td>1.355</td>
<td>2.43</td>
<td>2.303</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>V18 I source food from the national protected area</td>
<td>2.08</td>
<td>1.384</td>
<td>3.54</td>
<td>1.611</td>
<td></td>
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</tr>
<tr>
<td>V19 I source natural resources from the national protected area</td>
<td>2.36</td>
<td>1.453</td>
<td>3.65</td>
<td>1.610</td>
<td></td>
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<tr>
<td>V20 My livelihood strategy is dependent on access to the national protected area</td>
<td>2.14</td>
<td>1.484</td>
<td>3.70</td>
<td>1.593</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>V21 I require access and use of the national protected area for my cultural and traditional activities</td>
<td>2.40</td>
<td>1.457</td>
<td>3.14</td>
<td>1.769</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>V22 I rely on the national protected area for the collection of wood</td>
<td>1.84</td>
<td>1.292</td>
<td>3.14</td>
<td>1.767</td>
<td></td>
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<tr>
<td>V23 I hunt in the national protected area to secure a source of food and income</td>
<td>1.77</td>
<td>1.267</td>
<td>2.27</td>
<td>1.664</td>
<td></td>
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</tr>
<tr>
<td>V24 I use the national protected area for recreational activities</td>
<td>2.00</td>
<td>1.336</td>
<td>3.19</td>
<td>1.631</td>
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</tbody>
</table>
Furthermore, the lack of development in the DEWR region has resulted in a low level of community participation and involvement in these activities. Hence, resident perceptions can be influenced by their level of participation and the benefits they derive therefrom. However, the ecotourism sector can prove to be exclusionary, especially in cases like that of the DEWR, where development is stunted, in addition to not involving locals. This, in turn, can serve to taint local perceptions of the industry, as well as demotivate their compliance with conservation and preservation measures instituted in lieu of ecotourism, which hinder their ability to carry out their livelihood activities.

There is a sentiment that ecotourism has contributed to the preservation of the natural environment and wildlife (Table 3), which is reflected in the link between ecotourism and conservation. The mean results for these statements (V8 = 4.18 and V9 = 4.58) in the MCNP region are quite high, indicating that a large proportion of respondents supported these statements. This is expected, due to the fact that the MCNP was formalized as a PA in 2009 (Attia et al., 2018; MINFOF, 2104), bringing conservation and preservation measures linked to PAs. Residents and communities in the MCNP region are well aware of these measures, understanding the intention of being a contributor to the conservation and preservation of the PA.

Although slightly lower in the DEWR region, the mean results are also indicative of respondents who are in agreement with these statements, despite there being a very low level of ecotourism activities in the region. However, although levels of ecotourism in this region are low, and although residents reside within the PA itself, many of them are fully aware of instituted conservation and preservation measures in the PA, having to abide by them in their day-to-day lives. These measures are mostly accepted, with residents and community members recognizing their role in the preservation of not only the physical environment, but the historic cultural environment too, as noted by community representatives:

> there is conservation [in the DEWR], and there is also preservation of their heritage. In this sense, the community is happy.

At this juncture, it is prudent to consider respondent’s awareness and knowledge of ecotourism, where knowing about the potential associated benefits could shape their perceptions of the associated impacts (Harilal & Tichaawa, 2018). Considering the situation in the DEWR region, this seems to be a likely scenario, evidenced by the pattern that emerges from the results (indicated in Table 3), where respondents are in relative agreement that there are positive impacts associated with ecotourism, as well as that there are negative impacts that have not been realized, all against the background of a region that does not have a developed ecotourism sector. Hence, the resident’s knowledge of ecotourism may have shaped their perception of ecotourism’s ability to contribute to the preservation of the natural environment and wildlife.

The ecotourism sector in Cameroon is still in its developmental stages, and locals are not involved in the planning, development, or operation of the sector, yet are required to abide by environmental conservation measures implemented in the PA. Hence, this directly impacts locals residing within the PA, through certain restrictions being placed on their traditional way of life, and their means of supporting themselves. The traditional livelihood strategies of locals in the DEWR region are largely dependent on the natural resources contained within the PA, given that these communities reside within the PA itself (as opposed to the MCNP region, where communities reside outside of the borders of the PA). This is evident from the results displayed in Table 3 (V18–V24), which illustrate locals’ dependence on the PA. In the DEWR region, many residents indicated that they are reliant on the protected area for their livelihood strategy (V20).

There is a significant proportion of respondents from the DEWR region who rely on the PA to source food (V18), with NGO and community representatives expressing this too:

> There is a lot of food coming out of Edea . . . you have fish, you have clams, you have seafood, you have fruits . . . a lot of . . . wild fruits, indigenous to the area.

Contrarily, the mean result for this statement for the MCNP region is lower, indicating a limited reliance of communities and residents on the PA to source food. This is to be expected, considering the geographical proximity of these communities to the two PAs, as well as the livelihood activities
practiced by each. In the DEWR region, there were many respondents who indicated that they are reliant on the PA for their traditional, cultural, and recreational activities (Table 3). This differs from responses gained from the MCNP region, where mean results for these statements (V21 = 2.40 and V24 = 2.00) were decidedly lower in the DEWR.

An NGO representative interviewed attested to these sentiments:

The community from DEWR benefits more from the resources, because one, they live in the PA, therefore they have the opportunity to access [it]. As for MCNP, they live at the foot of the mountain which, first of all, is difficult to ascend, [as] it starts away from those villages, so it is just more difficult to access. They have other means of survival, food, water resources, but those of DEWR, they have no other choice than to explore what they have.

It is interesting to note that the responses to the statement (V23) addressing the activity of hunting within the PA are particularly low in both regions. Although a large proportion of respondents have indicated that they source food from the PA, few respondents indicate that they hunt in the PA for food. This is also the lowest mean for the MCNP region. Hunting in PAs in Cameroon is highly governed, with there being strict rules and regulations regarding hunting in PAs, with many species being protected and thus prohibited from being hunted. Hence, the negative response to this statement. However, it is important to note that bushmeat is an important source of protein in the diets of many locals and communities (MINOF, 2014).

The aforementioned restrictions placed on hunting form part of the various conservation measures in PAs in Cameroon, with a view to protect, conserve, and preserve the natural resource base, flora and fauna in the country. This also feeds directly into the narrative of ecotourism, which is dependent on pristine natural areas and PAs, as well as flora and fauna, for tourists to experience and enjoy (Vaccaro et al., 2013). Hence, many of these measures curtail the use of PAs where locals are concerned (Fletcher, 2017), with this type of exclusion being a theme that emanates from these results. In instances where communities are not directly reliant on PAs and the resources contained therein, this is not a dire threat to the sustenance of their livelihood. This can be seen from the mean results emanating from the MCNP region, where the results indicate relative independence of locals from the PA (mean results for statements V18–V24 for the MCNP region range from 1.77 to 2.40). Many locals in the MCNP region engage in alternate livelihood activities (as opposed to the predominant traditional livelihood activities in the DEWR region), with the result that the impact of conservation and preservation measures instituted within the PA have not, in most cases, had a dire impact on residents from this region.

The situation differs in the DEWR region, given that resident communities reside within the PA, and are directly reliant on the PA for food, as noted above. Stakeholders from both regions indicated that hunting does occur—however, at a time when there is an absence of police and guards to notice, as well as in areas where they are unlikely to be caught out. A community representative explained:

They have asked us not to hunt . . . we still do that illegally . . . it is very difficult to go up for somebody who hunts from there . . . police they don’t even go there.

This highlights the significance of geographic impact on communities in relation to PAs and the resultant protected area dynamics. Furthermore, the conservation and preservation measures, whose primary purpose is to conserve and protect PAs, have ultimately led to this unregulated use of the area and its resources, thus aligning with the aforementioned themes of conservation and control, access to and use of resources and that of local livelihoods. Moreover, the unregulated use of resources by locals is a consequence of inefficient management of PAs, where the needs of communities and locals as important stakeholders are not given adequate recognition, a sentiment that is echoed by many (see Ismail et al., 2015), illustrating the consequences of exclusionary measures. This is important to note, as although communities are not benefiting (as they should from a type of tourism such as ecotourism), especially in the DEWR region, they are still impacted by it.

A recurring theme emanates from these results, illuminating the greater dependence of residents and communities from the DEWR region on the PA. This dependence is directly linked to the fact that residents reside within the PA itself.
Furthermore, given the geographical terrain of the region, although the PA is located in the Douala region of Cameroon—one of the economic hubs of the country (Harilal et al., 2019; Tichaawa & Kimbu, 2019)—it is not feasible for residents to hold employment outside of the PA while residing in it. Despite the fact that there are conservation and preservation measures in place in the PA, with residents aware of and abiding by them, in this case these measures do not seem to have had a negative impact on residents’ ability to engage in their livelihood and social activities, nor has the use of the PA by locals been to its detriment. However, certain traditional livelihood activities, such as hunting, have been curtailed to an extent, given that certain species of fauna are protected by preservation measures in the PA.

These results draw attention to the various livelihood activities practiced by locals, as well as to the historical and cultural relations to place. In this instance, hunting is a longstanding cultural livelihood strategy practiced by many locals, consequently strengthening locals’ relation to place. Hence, these findings highlight the importance of recognizing the integral role of local communities in the development and management of ecotourism and the conservation of protected areas. The livelihood activities of locals should be given due consideration to mitigate negative consequences such as the exclusion and marginalization of locals and regulate the equitable use of resources.

Conclusion

It is evident that the geographic location of communities (i.e., their proximity to PAs) is linked to successful conservation and preservation measures instituted therein, as well as on the impacts to emanate from activities that occur in the PA, such as the day-to-day livelihood activities of locals, and other activities such as ecotourism. In the case of the MCNP region, where communities are located adjacent to the PA itself, the impact of environmental conservation measures, as well as environmental impacts of ecotourism activities, is in most cases minimal. However, this is not the case in the DEWR region, where communities reside within the PA and are directly affected by environmental conservation measures and by the impacts of ecotourism. Although these measures have contributed to a shift away from traditional lifestyles in certain cases (e.g., the MCNP residents who engage in alternate livelihood strategies), there has been an overall positive perception of these measures, coupled with ecotourism activities, on the physical environment.

To mitigate these impacts in the future, the results of this study have highlighted the importance of ecotourism development being premised upon community involvement and participation, which is currently not a true reality in either case study area, to ensure that residents are not marginalized and negatively affected by various measures and that they are instead the beneficiaries of measures instituted. Furthermore, it is important to consider the incorporation of traditional practices and indigenous knowledge in planned ecotourism development and conservation measures, as well as in the operation of the ecotourism sector itself. This could serve as a way to ensure that residents are actively involved in the sector, as well as have a vested interest in it, thereby ensuring that there is a greater commitment to ensuring the longevity of the sector through adherence to suitable conservation and preservation measures, as well as ecotourism-related plans and strategies. Although the levels of ecotourism-related activities in both the MCNP and DEWR region are low, the measures, combined with residents’ knowledge on the (potential) benefits of ecotourism have resulted in perceptions of a relatively low environmental impact sector, which can be beneficial to both the physical environment and resident communities alike. Ultimately, this would contribute to curbing the unregulated use of PAs by stakeholders, be it locals or those involved in the ecotourism and conservation sector.

The current article examined the impact of conservation measures in protected areas on local communities in Cameroon. In addition to an impact-based perspective, the analysis of this article extended to encompass two different geographical zones and political boundaries (the MCNP and the DEWR). The inclusion of this analysis is a unique attribute and contribution of the current article, and can practically contribute to informing the formulation of dedicated ecotourism policy for the sector, one that promotes inclusive and low-impact development. Additionally, the current study has contributed to
the limited discourse and knowledge on ecotourism within the West and Central African context, and particularly to the scant body of literature on ecotourism in Cameroon. Although numerous studies have been conducted on ecotourism within the African context, most of the studies have focused on Southern and Eastern Africa. However, considering the varied circumstances that exist within the African context, it is necessary for research within specific locales to be conducted, in order to be context sensitive and avoid potentially misleading generalizations. Obviously, this context sensitivity is also a limitation of the current study as the results are based on two case sites only.

Drawing on the foregoing discussion, recommendations and areas for future research include that ecotourism-related research be undertaken on a broader geopolitical scale, to gain further insights into some of the issues examined in this article, and to overcome the limitation associated with findings that may be applicable to these regions in the country only. For example, other important aspects, such as community perceptions of trust in government, could aid in understanding the reasons why locals trust or distrust government, which in turn has implications for policy development. Through a thorough assessment of these and other issues, the formulation of appropriate (eco)tourism-related policy can be undertaken.

References


