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Perceptions of Ecotourism Potential Amongst Residents in the Central Plateau of Angola

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Abstract

The present article explores the resident's perceptions of the existing ecotourism potential in the Central Plateau of Angola. A quantitative methodological approach was adopted, involving the application of a questionnaire to a sample of 682 residents from Huambo Province. The findings indicate a strong ecotourism potential in Angola's Central Plateau, alongside a high level of resident awareness regarding its significance."It identifies three main motivating factors for practicing ecotourism, such as enjoying nature, making new discoveries, and seeking peace and adventure. In general, the destination that stands out the most is Morro do Môco due to its wildlife component. However, the privatization mechanism has enabled some areas to achieve the quality of an ecotourism destination, despite the non-wild characteristics. Additionally, the results also call for police makers, entrepreneurs and science involvement. It is hoped that this study can contribute to the development of tourism policies and the economic and social growth of rural regions.

Keywords: Ecotourism, sustainable tourism, environment, experiences, central plateau

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Introduction

The African continent possesses a range of characteristics that are typically conducive to the development of ecotourism, featuring diverse natural structures such as mountain ranges, forests, deserts, and rivers (Ferreira, 2004; Manico et al., 2020). These are complemented by rich green landscapes and a diversity of fauna, including numerous species of birds and animals that inhabit these ecosystems. However, some countries have failed to explore and take advantage of such potential, so their ecotourism strength remains unknown (Pinheiro et al., 2003). The Central Plateau of Angola is a region with clear potential for hosting various ecotourism activities, but for unclear reasons, it seems unknown (Dentinho & Oliveira, 2011; Huntley et al., 2019). Ecotourism has experienced significant growth, and it is increasingly seen as a sustainable alternative to conventional tourism, contributing to the socioeconomic development of rural areas (Sharpley, 2006). It aims at benefiting the environment, local communities and cultures, providing a responsible and sustainable form of tourism (Chamas & Schmidt, 2011). According to Smith (1994) and Hultman et al. (2015), ecotourism should be environmentally sustainable and offer learning experiences about nature. Ramaano (2021) identified three essential pillars - environment, development, and experience - emphasising the need to reduce environmental impact, promote local control and provide opportunities for learning and interaction. Despite the lack of alignment between community values and conservation strategies, ecotourism remains a form of sustainable tourism that emerges with a view to protect the environment while promoting economic growth (KC et al., 2021). Ecotourism is seen as a promising solution for balancing economic development and environmental preservation. However, its implementation requires collaboration among management, governments, communities and the private sector (Chi 2021). Unless a sustainable strategy is developed, factors such as conservation of nature, cultural heritage, and economic opportunities for local populations are doomed to failure (Ramaano, 2021). Accordingly, this article examines the ecotourism potential of the region, contributing to the recognition and promotion of its value. This study seeks to explore the perceptions of ecotourism among residents of the Central Plateau of Angola. Apart from this introduction, the paper includes a second section that provides a literature review on ecotourism, where concepts such as emotional experience in ecotourism, value and satisfaction, strategy, as well as its sustainability, are discussed. The methodology section follows, followed by the presentation and discussion of the empirical findings. Finally, the study presents its conclusions.

Literature review

Ecotourism resilience in diversity

There are challenges associated with implementing ecotourism. McKercher (1993) highlights that, although sustainable tourism is the ideal, many tourists still seek entertainment over environmental engagement, making the expected behavioural shift difficult. Resilience is a crucial factor for the sustainability of any sector. Confronted by market fluctuations and uncertainties, resilience is becoming increasingly decisive in facing ecotourism challenges (Kimaro et al., 2023). Chandel & Mishra (2016) suggest that there are difficulties faced by local communities when trying to benefit from ecotourism in areas where elites control the decision-making process. According to Baral (2014), an ecotourism destination can be considered resilient only if, when faced with adverse situations, it is able to draw on the capacity of its promoters while remaining aligned with its strategic guidelines for survival and development. However, resilience is essential to rural populations. Therefore, Choi et al. (2021) believe that, for resilience to be effective, communities must recognise the need for their involvement in the process. Scholars can also play a key role in finding solutions and managing changes (Batabyal, 2016). Materialism and irresponsible consumption, as pointed out by Hultman et al. (2015), negatively impact ecotourism, indicating the need for a change in environmental attitudes and beliefs for sustainable ecotourism to thrive. Furthermore, while wildlife observation is promoted as a non-consumptive activity, its success is contingent upon the effective management of ecotourism activities (Hughes, 2011). Ren et al. (2021) claim that ecotourism provides a beneficial relationship between environmental protection and economic development, leading to sustainable and educational practices. The slowdown of modern life, promoted by rural tourism, offers a refuge from urban stress, encouraging the adoption of simple lifestyles and an appreciation of nature. By integrating local traditions and identity, rural tourism fosters economic diversification (Epuran et al., 2020). Thus, ecotourism should be seen as part of a broader strategy for rural development and environmental protection, requiring cooperation between public authorities and local organisations.

Emotional value and cultural satisfaction

The interplay between the tourism sector and a dynamic system of changes presents a challenge that demands special attention from tourism operators, as it impacts the satisfaction and behaviour of ecotourists (Maroofi & Dehghan, 2012; Zhang & Chan, 2021). Ecotourism activities are not limited to tangible factors. These encompass elements of local identity such as heritage, culture and traditions (Utami et al., 2023). So, by using non-material factors of local identity and cultural transmission, ecotourism provides exciting experiences. The interaction between ecotourists and service providers generates positive emotional experiences, especially where expectations are exceeded (Quynh et al., 2021). According to Hultman et al. (2015), cognitive and affective attitudes shape ecotourists' decisions, and the willingness to pay for ecotourism services is linked to the desire to meet environmental expectations. Several Western countries have transformed rural areas into ecotourism and entertainment hubs, preserving natural and cultural heritage (Vega & Pintado, 2016). This strategy fosters employment by utilising cultural assets and engaging the local community, thereby enhancing the destination's attractiveness (Rogerson, 2023). Social factors are instrumental in encouraging participation in ecotourism, stimulating entrepreneurship, and generating wider economic benefits (Nee & Beckmann, 2011). Destination image plays a vital role in the decision-making process, as destinations perceived positively tend to yield higher visitor satisfaction and increase the likelihood of return visits (Ren et al., 2021 and Hunitie et al., 2022). Thus, Carrascosa-Lópes et al. (2021) highlight that, although ecotourists may not return to the same destination, they recommend it to others. In contrast, Kia (2021) argues that while ecotourism may provide both economic and emotional benefits to local communities, its tangible impact on social life has yet to be fully demonstrated. Zhang & Chan (2021) point out that the experience in ecotourism affects the intention to purchase natural services, but environmental knowledge has proven ineffective in predicting consumption attitudes. Social events that take place between local communities and ecotourists contribute to the creation of unforgettable experiences while sharing traditions and values through communication (Quynh et al., 2021). Huaranja et al. (2023) emphasise that social resources serve as the fundamental basis for the development of emotional bonds and the preservation of cultural heritage.

Sustainable ecotourism strategy

The sustainability of ecotourism depends on a variety of factors. Kuguyo & Gandiwa (2023) suggest a combination of several forces, especially in controlled areas or national parks. Meyer et al. (2019) believe that wildlife preservation actions must be combined with creativity and innovation to develop distinct products and services. It is therefore essential to define clear, destination-focused marketing objectives and to periodically evaluate visitor satisfaction levels. Kia (2021) developed a conceptual framework for ecotourism based on three main approaches: planning and management of ecotourism, sustainable development, and ecological policy. The study identified three key dimensions: tourism sustainability, the role of social resources in ecotourism, and decision-making within the sector. Chamas & Schmidt (2011) reinforce the need for an integrated study on the production and consumption of tourism, especially in the context of wildlife, where these processes are still under development. Heshmati et al. (2022) propose an interactive approach that integrates multiple methodologies, such as visual and contextual analysis, and incorporates reviews of materials from environmental authorities to achieve a more comprehensive understanding. Ren et al. (2021) warn of the need for greater environmental awareness among tourists, as inappropriate behaviour contributes to ecological fragility. Ecotourism, while promising, has yet to reach its full potential due to challenges in aligning its practice with environmental protection. A management model exemplified in Zimbabwe integrates non-wildlife ecotourism attractions - such as dams, rivers, Victoria Falls, caves, and the Great Zimbabwe monuments - into promotional efforts alongside wildlife-based tourism, which traditionally emphasises the Big Five animals (Zingi et al., 2022). These

attractions leverage public events and social media to enhance visibility and significance. According to Mmopelwa et al. (2023), key factors attracting financiers to ecotourism in developing nations include demonstrating sustainable rural livelihoods and adherence to nature preservation criteria.

Studies indicate that, despite responsible tourism being discussed in the literature, there is still limited understanding of its antecedents and implications (Kizanlikli et al., 2023). The relationship between eco-brand and eco-label is crucial for sustainable consumption, mediated by motivation and environmental concerns (Chi, 2021). Selecting the right attributes in rural tourism is key to creating more appealing products (An & Alarcón, 2021). Responsible tourism, which emerged with the sustainable tourism movement in the 1980s, promotes cultural and environmental conservation, being seen as a means to achieve the UN's sustainable development goals (Kizanlikli et al., 2023). However, there are challenges, such as the lack of stakeholder participation and low awareness of the subject (Hughes, 2011). Owing to its complexity and the variation across countries, ecotourism remains challenging to define (Rosalina et al., 2021). Additionally, Hultman et al. (2015) describe ecotourism offerings as typically involving higher costs and lower levels of comfort in comparison to mass tourism.

The role of entrepreneurship in rural areas

Entrepreneurship has long played a significant role in rural areas, being recognised as a key driver of economic development and a crucial factor in enhancing the value of rural regions (Utami et al., 2023). Human capital is key in the execution of entrepreneurial tasks. In the rural context, it has proven to be a driving force in the manifestation of creativity and innovation (Abbasi et al., 2022). The environmentally responsible behaviour of residents is linked to the sustainable consumption of tourists, which in turn influences tourists' environmental concerns (Ramaano, 2021). Ecotourism, as a form of alternative tourism, focuses on ecological sustainability, community involvement, and the preservation of natural resources, alleviating rural poverty (Samdin et al., 2022). Shi et al. (2022) highlight that ecotourism in rural areas offers health benefits, which is a decisive factor for tourists seeking healthier environments. The integration of human resources and business fosters innovation, driving rural development (Soenarto et al., 2019). Successful ecotourism entrepreneurship requires both tangible and intangible assets. Asadi & Kohan (2011) highlight political resources as key drivers of entrepreneurial initiatives in ecotourism. This aligns with Altinay and Taheri (2019) and Turekulova et al. (2022), who define sustainable ecotourism as reliant on organizational and political resources for rural development. According to Chi (2021), sustainable tourism seeks to balance the interactions among host, tourists and the industry, promoting development that minimises environmental and cultural damage, while driving long-term economic growth. Ramaano (2021) highlights that ecotourism, as a component of sustainable tourism, involves recreational activities that align with the natural environment while fostering both cultural and ecological preservation.

The impact of ecotourism on society and its resilience

Globalization and competition pose significant challenges for ecotourism destinations, requiring the adoption of sustainable and innovative management strategies to respond promptly to evolving demand (Eddyono et al., 2021). Big data technology has transformed tourism research, enabled real-time analysis and fostered the robust development of ecotourism, particularly in enhancing the quality of life in affected areas (Shi et al., 2022). This sector has garnered increasing attention due to its economic and environmental benefits, attracting interested tourists (Parvin et al., 2021). Sustainability in tourism is a central issue, especially due to the impact of "overtourism," which has harmed the environment and the tourism experience in various destinations (An & Alarcón, 2021). Ecotourism, which grows at a rate of 10-12% per year, is seen as a sustainable alternative to minimize negative impacts, preserving ecological areas, and contributing to the local economy (Shi et al., 2022). However, challenges regarding the inclusion of local communities prevail, especially for farmers living near reserves, whose traditional lives have been altered by ecotourism (Parvin et al., 2021). The development of tourism in rural areas has been widely debated, especially regarding its sustainability and the negative impacts on local communities and the environment. Recent studies emphasize that rural communities are often at a disadvantage compared to urban areas, due to limited access to services and opportunities (Heshmati et al., 2022). Silva et al. (2022) point out that tourism can harm nature and local culture, particularly when exploited in a predatory manner. However, Brumatti & Rozendo (2021) state that ecotourism has the potential to improve the quality of life in rural communities by generating jobs and revenue, as well as promoting environmental preservation. Environmental appreciation has been expanding rapidly, extending beyond forests and the leisure sector (Parvin et al., 2021). Reference centers dedicated to ecotourism allow students to explore and reflect on this topic, fostering debates about integrating ecotourism into markets and its strategic management (Neiman et al., 2010). Thus, while environmental appreciation is constrained by challenges, it creates new opportunities for exploration.

Across much of the world, ecotourism has emerged as a key driver of rural development (Wijayanti et al., 2023). When compared to other tourism segments, it stands out due to its preservation and health characteristics (Eddyono et al., 2021). Safety and biodiversity aspects are an added value to ecotourism. However, in certain African locations, this type of tourism still faces infrastructural, financial, social and conservation challenges (Anunobi & Okpoko, 2024). For example, the Môco forest mountain in the Central Plateau of Angola is home to around thirty species at risk of extinction. Among these, some can only be found in the mountains of Malawi, Tanzania, Ethiopia and Cameroon (Huntley et al., 2019).

Despite the unanswered question, Dean et al. (2019) believe that this particular aspect can make the mountain and the Central Plateau a point of interest. Like other tourism segments, ecotourism has been influenced by concepts of history, traditions and qualities that a given country or society has acquired over the years (Agyeman et al., 2019). This argument aligns with Chirenje (2017), who identifies nature-based tourism, historical tourism, and shopping as key drivers of development. Turekulova et al. (2022) identify four key factors that influence the competitiveness of ecotourism destinations: infrastructure

and accessibility; cultural and historical resources; efficient management; and the quality of the local environment. The development of sustainable ecotourism depends on the participation of local communities, a key factor for conservation of natural resources and socioeconomic progress (Heshmati et al., 2022). Turekulova et al. (2022) propose an initial framework for analyzing the ecotourism industry, focusing on factors like national competitive advantages, economic growth, and biodiversity preservation, inspired by Porter's model. Qualified ecotourism management leverages key factors to attract tourists and foster socioeconomic development (Muzvidziwa, 2013). In a competitive market, it is essential to balance the use of natural resources with the needs of local communities and the requirements of future sustainability (Chisala, 2023). Wijayanti et al. (2023) define the business model as an interconnected system revealing value creation, institutional processes, investment returns, and resource allocation. Dayour et al. (2024) underscore the role of these models in elucidating value creation and the capture of long-term profits. Nevertheless, Kirkby (2010) observes that ecotourism operators rarely implement such models, whereas Geraldes et al. (2017) point to a general lack of managerial awareness concerning their advantages. Consequently, ecotourism entrepreneurs resist change, adhering to traditional approaches despite technological, competitive, and market shifts (Thompson, 2022). To meet customer expectations, modern strategies must be implemented to optimize value creation, attraction, and delivery in an efficient and competitive manner.

Figure 1: Môco Mountain
Source: Adapted from Angola Image Bank (2022)

Methodology

This research was developed based on both qualitative and quantitative scientific approaches. After an in-depth literature review, the study conducted interviews with the provincial directorates of Culture, Tourism and Sports, Environment and the Provincial Planning and Statistics Office. In quantitative terms, the study developed a questionnaire to survey a sample of the population living in the province of Huambo. The survey was conducted across multiple locations, targeting various segments and groups that typically benefit from the ecotourism services. These included municipal and communal administrations, cultural centers, provincial directorates, and higher education institutions. In total, the sample consisted of 682 participants. The data was processed using the IBM SPSS Statistics computer programme. This is as an exploratory analysis technique designed to uncover and analyse a set of interrelated variables with the aim of constructing a measurement scale for factors that govern the original variables. The variables analyzed in such multivariate studies are typically derived from responses to questions measured on a Likert scale ranging from 1 to 5 (Bonafé et al., 2018; Pestana & Gageiro, 2014) Regarding the Kaiser-Meyer-Olkin (KMO) test, Pestana & Gageiro (2014) outline the following interpretation criteria: values within the range]0.9 – 1.0] indicate excellent adequacy;]0.8 – 0.9], great;]0.7 – 0.8], good;]0.6 – 0.7], fair;]0.5 – 0.6], mediocre; and values ≤0.5 are deemed inadequate. The Bartlett test was applied to evaluate the significance level; if the p-value equals 0.000, the null hypothesis that the population correlation matrix is an identity matrix is rejected. For reliability assessment, Cronbach's Alpha is interpreted based on the thresholds proposed by George & Mallery (2019): values in the range]0.9 – 1.0] are considered excellent;]0.8 – 0.9], good;]0.7 – 0.8], acceptable;]0.6 – 0.7], questionable;]0.5 – 0.6], poor; and ≤0.5, unacceptable. The determination of the number of extracted components did not fully follow the criteria proposed by Rittichainuwat (2013), who recommends retaining only components with eigenvalues greater than 1. This recommendation, however, is not universally applicable in all contexts (Sharma & Rojek, 2020). An orthogonal factor rotation model was applied due to its relative simplicity. The varimax orthogonal rotation method with Kaiser normalisation was applied. According to Bonafé et al. (2018), this method aims at achieving a factor structure where each original variable is strongly associated with only one factor, while exhibiting minimal association with others. This minimises intermediate values that could complicate the interpretation of the results. Multiple linear regression was employed to assess the impact of the factors derived from the factor analysis on key dimensions of financial literacy. The regression model was evaluated using several diagnostic measures, including the correlation coefficient (R), coefficient of determination (R^2), Durbin–Watson statistic, Kolmogorov–Smirnov test for normality, and collinearity diagnostics. A 5% significance level was adopted for interpreting the regression results, based on the p-value (observed significance level). The coefficient of determination (R^2) reflects the proportion of variation in the dependent variable that can be explained by the independent variables included in the regression model (Bonafé et al., 2018). It represents the

degree to which the total variability in Y is attributable to its relationship with the explanatory variables Xi, as modeled by the regression equation. Values of R^2 range from 0 to 1, where 0 indicates no explanatory power, and 1 signifies a perfect model fit. The threshold for an acceptable model fit varies by context; in the natural sciences, R^2 values above 0.9 are generally considered strong, whereas in the social sciences, values above 0.5 are often deemed adequate (Bonafé et al., 2018). The analysis also confirmed the absence of multicollinearity among the independent variables. This conclusion was supported by the variance inflation factor (VIF), which remained below 2 across all models tested in the empirical evaluation (Bonafé et al., 2018).

Results and discussion

The study revolves around a sample consisting of 682 individuals aged between 18 and 65 years old, with an average age of approximately 33 years old. (=32.83), with a median of 32 years, indicating that the age distribution is relatively symmetrical, with a standard deviation of 7.610. Regarding gender, 55.1% are male and 44.9% are female, showing a moderate variation in ages.

Importance of Central Plateau ecotourism

The following table presents the assessment of the perceived importance of ecotourism destinations in Huambo.

Table 1: Importance of ecotourism destinations in Huambo

Destination	Average	Median	Fashion	Standard deviation	Nothing important	Not very important	Indifferent	Important	Very important
Moco Hill	4.73	5.00	5	0.552	0.3%	0.4%	2.2%	20.5%	76.5%
Carlos Grace Resort	4.36	5.00	5	0.852	1.5%	2.6%	8.1%	34.5%	53.4%
Mount Luvilli	4.14	4.00	4	0.808	0.9%	2.6%	13.5%	47.9%	35.0%
Brogodo	4.10	4.00	4	0.851	1.3%	3.8%	12.2%	48.5%	34.2%
Hama Hot Springs	4.07	4.00	4	0.791	1.0%	2.6%	14.1%	53.2%	29.0%
Tchinossanda	4.02	4.00	4	0.781	0.9%	3.2%	14.7%	55.7%	25.5%
Island of Love	4.01	4.00	4	0.821	0.7%	4.3%	15.8%	51.3	27.9%
Calima Lodge	3.90	4.00	4	0.822	1.2%	5.4%	15.8%	57.2%	20.4%
Audacity Tourist Farm	3.44	3.00	4	0.892	3.5%	11.1%	28.9%	50.7%	5.7%
Peace Corner Tourist Farm	3.25	3.00	4	0.904	3.4%	16.7%	36.4%	38.9%	4.7%

Morro do Môco is widely seen as the most important destination, followed by the Carlos Graça Resort. Evidence indicates that the appreciation for Môco stems from the concentration of rare animal species, whereas the appeal of the latter is attributed to its hospitable conditions and striking landscape, emphasizing the importance of private management. This perspective is in line with Zingi et al. (2022) on the greatest ecotourism attraction. Most participants (57.0%) usually go on vacation at least twice a year, 12.0% three times a year, 23.9% only go on vacation once a year, and finally, 6.9% declare that they take vacations four or more times throughout the year. The data reveals that 6.3% spend weekends away from home once a year, 28.9% twice, 33.6% three times and 31.2% four or more times. Additionally, 8.0% of participants reported spending weekends away from home alone, while 92% indicated they are always accompanied by partners, family, or friends. However, the majority of participants who do not spend time alone (35.5%) do so with only one person.

Assessment of motivational factors

The following table presents the importance of activities based on the respondents' perspectives.

Table 2: Importance of Activities

Destination	Average	Median	Trend	Standard deviation	Nothing important	Not very important	Indifferent	Important	Very important
Enjoy nature	4.72	5.00	5	0.523	0.1%	0.6%	1.0%	23.3%	74.9%
New discoveries	4.46	5.00	5	0.695	1.2%	0.7%	2.5%	42.4%	53.2%
Search for peace and quiet	4.23	4.00	4	0.878	2.5%	3.1%	5.4%	46.8%	42.2%
Adventure	4.23	4.00	4	0.810	1.0%	3.4%	7.8%	47.7%	40.2%
Need for rest	4.14	4.00	4	0.906	3.4%	2.9%	5.9%	51.8%	36.1%
Search for peace and silence	4.01	4.00	4	0.746	0.9%	3.5%	11.4%	62.0%	22.1%
Influence of friends	3.89	4.00	4	0.989	2.9%	7.0%	16.3%	45.6%	28.2%

The factors that exert the greatest influence on the motivation to practice ecotourism in the Central Plateau are "appreciating nature" and "new discoveries", while the "influence of friends" is considered less important. This may mean that this region is conducive to distraction, physical and mental relaxation, but also has conditions that arouse interest in new knowledge. This reinforces the perception of Dentinho & Oliveira (2011); Huntley et al. (2019), on the importance of this region for tourism. This leads to a significant tendency to prioritize experiences that promote connection with nature and personal discoveries. This understanding is in line with Chi (2021) and Quynh et al. (2021).

Satisfaction with the environment configuration

The table below presents the respondents' satisfaction with a variety of aspects.

Table 3: Satisfaction with configuration

	Average	Median	Trend	Standard Deviation	Very dissatisfied	Dissatisfied	Indifferent	Satisfied	Very satisfied
Peace and tranquillity	4.59	5.00	5	0.587	0.4%	0.4%	1.2%	35.6%	62.3%
Greatness of biodiversity	4.51	5.00	5	0.675	0.3%	1.3%	4.5%	35.0%	58.8%
Rare animal species	4.43	5.00	5	0.710	0.4%	1.6%	5.4%	39.3%	53.2%
Mountain Tops	4.00	4.00	4	0.905	1.9%	5.3%	13.8%	49.3%	29.8%
Health benefits of the waters	3.87	4.00	4	0.812	1.5%	4.4%	18.0%	57.5%	18.6%
Diversity of water current flows	3.69	4.00	4	0.978	3.4%	8.2%	23.2%	46.5%	18.8%
Local Communities	3.51	4.00	4	0.861	2.2%	11.6%	25.8%	54.1%	6.3%
Traditional access protocol	3.11	3.00	3	0.970	6.5%	18.3%	37.0%	34.0%	4.3%

The data shows that “peace and tranquility” and “great biodiversity” are the most satisfactory aspects, while “traditional access protocol” is least appreciated. It is clear that ecotourism practitioners feel safe in this region, and the great variety of biodiversity is at the center of attention. These factors are also highlighted by Kuguyo & Gandiwa (2023) as crucial for the sustainability of the sector. The satisfaction tends to be high for experiences involving nature and biodiversity. On the other hand, evidence points to a clear lack of interest in experiences related to local communities and procedures. The statistical observation of other motivational factors for ecotourism consumption is shown in the following table.

Table 4: Other motivational components

	Average	Median	Trend	Standard Deviation	Not motivating at all	Not very motivating	Indifferent	Motivating	Totally motivating
Acquire new knowledge	4.49	5.00	5	0.618	0%	0.9%	4.0%	40.8%	54.4%
Enjoy the peace of nature	4.48	5.00	5	0.666	0.4%	1.5%	2.6%	40.3%	55.1%
Enjoy exotic places	4.48	5.00	5	0.609	0.1%	0.4%	3.8%	42.2%	53.4%
Contribute to the socio-economic development of rural areas	4.43	5.00	5	0.720	0.6%	1.6%	5.3%	39.3%	53.2%
To relax	4.37	4.00	4	0.738	1.3%	1.8%	2.3%	47.8%	46.8%
Absorb the surprises of the people's customs and cultures	4.02	4.00	4	0.933	1.8%	4.7%	17.9%	41.2%	34.5%
Freeing yourself from population densities	3.94	4.00	4	0.713	0.9%	3.4%	12.9%	66.1%	16.7%
Interact with local communities	3.70	4.00	4	0.789	2.1%	4.3%	25.8%	57.8%	10.1%

Unquestionably, “acquiring new knowledge” and “enjoying the peace nature” are the most motivating activities, followed by “enjoying exotic places” and “contributing to socioeconomic development”. Here, two major aspects draw attention: first, the rural nature of the Central Plateau can be a source of new discoveries, which is a motivating factor for science; second, it has the potential to boost economic growth. This perspective, on one hand, contrasts with the country's official ecotourism itinerary, which excludes this region; on the other hand, it is supported by Chirenje (2017), Kia (2021), and Meyer et al. (2019), who highlight the vast potential for ecotourism Now, “interacting with local communities” is less motivating. These evidences suggest high levels of interest in activities that involve learning and connecting with nature, which is supported by Samdin et al. (2022) and Shi et al. (2022)

Importance of ecotourism attractions

Each attraction has its own importance, so the table below evaluates the degree of importance of the different attractions in the region. The results show a strong appreciation for “attractiveness of nature”, “landscape” and “vegetation”, while “location” and “size of mountains” have received less attention. Nonetheless, the overall consensus is largely positive, reflecting a strong perception of the importance of nature. These results are in line with Neiman et al. (2010) and Turekulova et al. (2022).

Table 5: Importance of identified attractions

	Average	Median	Trend	Standard Deviation	Nothing important	Not very important	Indifferent	Important	Very important
Nature's attractiveness	4.70	5.00	5	0.505	0.1%	0.1%	0.9%	27.4%	71.4%
Landscapes	4.58	5.00	5	0.529	0.1%	0.4%	0.4%	40.0%	59.1%
Vegetation	4.50	5.00	5	0.682	0.3%	1.3%	5.0%	34.5%	58.9%
Rare species of wild animals	4.45	5.00	5	0.656	0.3%	0.7%	5.1%	41.3%	52.5%
Special characteristics of the waters	4.20	4.00	4	0.835	0.9%	3.5%	11.1%	44.1%	40.3%
Unique dimension of mountains	3.93	4.00	4	0.897	2.3%	5.3%	13.8%	53.8%	24.8%
Location	3.61	4.00	4	0.796	1.2%	7.0%	30.2%	52.3%	9.2%

Information media

Regarding tourist information, Table 6 illustrates respondents’ perceptions of the importance of various information means.

Table 6: Importance of information means

	Average	Median	Trend	Standard Deviation	Nothing important	Not very important	Indifferent	Important	Very important
Internet	4.74	5.00	5	0.516	0.1%	0.6%	1.2%	20.8%	77.3%
Social media (Facebook, TikTok, Instagram, others)	4.64	5.00	5	0.588	0.3%	1.0%	0.9%	30.4%	67.4%
TV, Radio, Newspaper, Magazines	4.49	5.00	5	0.690	0.4%	1.3%	4.7%	35.8%	57.8%
Tourist Blog	4.45	5.00	5	0.624	0.3%	0.9%	2.6%	45.5%	50.7%
Tourist Information Centre	4.33	4.00	4	0.680	0.4%	1.5%	5.0%	50.7%	42.4%
Incentive Mechanism for a Revisit	4.29	4.00	5	0.793	0.3%	2.6%	11.4%	39.1%	46.5%
Recommendations from others	4.08	4.00	4	0.717	0.7%	3.1%	8.4%	63.0%	24.8%
Pamphlets	3.86	4.00	4	0.697	0.6%	4.1%	16.6%	66.4%	12.3%
Visitor information centers	3.67	4.00	4	0.815	0.6%	9.4%	23.3%	55.7%	11.0%

Statistical data reveals that the internet and social media are clearly the channels most valued by participants, while visitor information centers and pamphlets are the least important. The homogeneity in opinions for the most valued channels indicates a consensus on the effectiveness of these media in promoting the ecotourism destinations in the region. This observation confirms the argument of Carvache-Franco et al. (2020); Nee & Beckmann (2011), on the success produced through the information sharing process.

Relationship between Resident Ecotourists and their broader motivations

The table below measures participants' relationship with various travel motivation factors.

Table 7: Relationship

	Average	Median	Trend	Standard Deviation	Nothing related	Little related	Indifferent	Related	Totally related
Seek unique experiences	4.70	5.00	5	0.602	0.9%	0.6%	0.6%	23.3%	74.6%
Discover places never visited before	4.61	5.00	5	0.555	0.1%	0.4%	1.3%	34.0%	64.1%
Being able to have fun	4.54	5.00	5	0.565	0.1%	0.7%	0.4%	42.2%	56.5%
Open new horizons	4.44	4.00	5	0.630	0.6%	0.6%	2.2%	47.4%	49.3%
Strengthen family or friendship ties	4.37	4.00	4	0.692	0.7%	0.7%	5.7%	46.9%	45.9%
Challenge abilities	4.05	4.00	4	0.776	1.2%	3.2%	10.9%	58.7%	26.1%
Surprise family and friends	4.02	4.00	4	0.797	1.5%	2.8%	13.5%	56.6%	25.7%
Escape from the daily hustle and bustle of work	3.99	4.00	4	0.791	1.8%	3.1%	12.0%	60.9%	22.3%
Enjoy moments with people at my level	3.77	4.00	5	1,234	6.2%	11.2%	19.6%	25.4%	37.7%
Meet new people	3.75	4.00	4	0.725	1.8%	4.3%	18.6%	68.0%	7.3%
Experience a simpler lifestyle	3.72	4.00	4	0.977	1.9%	8.4%	28.7%	37.4%	23.6%
Relax mentally and physically	3.31	3.00	3	0.640	0.0%	1.2%	5.7%	53.8%	39.3%
Enjoy with friends	2.79	4.00	4	1.64	0.9%	1.6%	7.0%	52.2%	38.3%

It is obvious that motivations for ecotourism are varied and intensely focused on unique experiences, adventure, exploration of new horizons, and social connections. Destinations that offer a combination of these characteristics, in conjunction with tranquil natural environments and challenging activities, have significant appeal. These results are in line with Eddyono et al. (2021). Here, the last aspects contradict the fact that ecotourism tends to take simplicity, health and friendly environment into consideration, just as authors like Eddyono et al. (2021); Samdin et al. (2022); and Shi et al. (2022) emphasised.

Importance of support structures

The following table evaluates structural factors supporting ecotourism.

Table 8: Supporting structures

	Average	Median	Fashion	Standard Deviation	Nothing important	Not very important	Indifferent	Important	Very important
Information and communication systems	4.67	5.00	5	0.569	0.4%	0.4%	1.2%	27.4%	70.5%
Ease of access	4.63	5.00	5	0.645	0.3%	1.2%	3.8%	24.6%	70.1%
Accommodation	4.51	5.00	5	0.628	0.1%	1.0%	3.2%	38.4%	57.2%
Transport	4.49	5.00	5	0.673	0.6%	1.6%	1.8%	40.0%	56.0%
Protection and security	4.34	4.00	5	0.708	0.1%	1.9%	7.2%	45.2%	45.6%
Tourist guides	4.27	4.00	4	0.688	0.9%	1.2%	5.0%	56.2%	36.8%
Health services	4.06	4.00	4	0.737	0.4%	2.1%	15.4%	55.0%	27.1%
Food	4.03	4.00	4	0.663	0.7%	1.9%	9.8%	68.9%	18.6%

Despite the relevance of all factors, information and communication systems, access, accommodation and transport stand out, suggesting that the availability of these factors would make ecotourism in the Central Plateau more attractive, which is supported by Anunobi & Okpoko, (2024); Turekulova et al. (2022) when suggesting that the success of ecotourism depend mainly on infrastructure and accessibility.

Constraining factors

There are a number of constraining factors within ecotourism as outlined in the table below.

Table 9: Constraining

	Average	Median	Trend	Standard Deviation	I totally disagree	I disagree	I neither disagree nor agree	I agree	I totally agree
The costs associated with ecotourism are not accessible to all those interested in participating in this activity.	4.24	4.00	4	0.829	1.3%	2.9%	8.5%	44.9%	42.4%
In the process of environmental management, reason and logic have overshadowed sentimental attachment to nature.	4.04	4.00	4	0.831	0.9%	3.8%	15.8%	49.4%	30.1%
The results of the relationship between man and the environment affect all participants and non-participants.	3.99	4.00	4	1,097	5.1%	6.2%	11.4%	39.3%	38.0%
The process of satisfying material needs is incompatible with the maintenance of ecotourism.	3.94	4.00	4	0.930	2.1%	5.9%	16.3%	47.4%	28.4%
Ecotourism designed with a luxury component is harmful to communities.	3.83	4.00	4	1,094	4.5%	8.7%	16.7%	39.7%	30.4%
The concern with making ecotourism a source of wealth makes it a non-inclusive activity.	3.83	4.00	4	1,041	3.7	9.2	14.7	45.7	26.7

There is a strong consensus on the perception that ecotourism prices are high and that this limits access to the activity. The relationship between logic and emotional attachment to environmental management is also well recognised, raising concerns with the humanisation of nature. Additionally, the disagreement regarding luxury ecotourism and its non-inclusive characteristics raises concern about the social impact of ecotourism practices. This is a wake-up call not only for Angola but also for all African countries, which, according to Pinheiro et al. (2003), have demonstrated a lack of ability to take advantage of their natural resources in a sustainable way.

Experiences of resident ecotourists

The next table shows the respondents' perception after visiting destinations in Huambo.

Table 10: Perception and attitude

	Average	Median	Trend	Standard Deviation	I totally disagree	I disagree	I neither disagree nor agree	I agree	I totally agree
Visiting these places was worth the effort and time.	4.40	4.00	4	0.612	0.0%	0.3%	5.9%	47.8%	46.0%
The nature of these places is surprising.	4.39	4.00	4	0.586	0.1%	0.4%	3.1%	53.1%	43.3%
It's worth going back to these places.	4.36	4.00	4	0.595	0.0%	0.4%	4.8%	52.9%	41.8%
I share information and experiences on social media.	4.29	4.00	4	0.585	0.3%	0.6%	3.2%	61.4%	34.5%
I recommend my family and friends visiting these places.	4.24	4.00	4	0.493	0.0%	0.6%	1.3%	71.8%	26.2%
Visiting these places exceeded my expectations.	4.14	4.00	4	0.693	0.3%	1.5%	11.9%	56.9%	29.5%

The responses indicate an extremely positive assessment of the destinations, with high levels of intention to promote and revisit the places. A significant majority of participants feel that the visit was worthwhile, and the natural beauty seems to be the greatest factor in their enchantment. The results are aligned with the studies by Heshmati et al. (2022) and Epuran et al. (2020). Most participants are quite satisfied with the destinations visited, finding the choice assertive and their expectations exceeded. The destinations are seen as surprising in terms of nature, with a strong positive consensus. This perception suggests that if, under current conditions, the region's ecotourism destinations already provide visitor satisfaction due to their resilience (Choi et al., 2021), then incorporating this region into government resource allocation programmes would allow these destinations to better meet national and international ecotourism standards.

Factor analysis of residents' motivations for ecotourism

To determine the adequacy of Factor Analysis, the KMO statistic was calculated, and the Bartlett test was used. With a KMO value of 0.879, the adequacy of the sample for factor analysis is considered excellent. This indicates that the correlations between the variables are sufficiently high and, therefore, justify the use of Factor Analysis. Bartlett's Test of Sphericity checks whether the correlation matrix is an identity matrix (i.e., whether the variables are uncorrelated). If so, factor analysis is not appropriate. This test evaluates the null hypothesis that the variables are uncorrelated. A significance level of less than 0.001 indicates that the null hypothesis can be rejected. This means that there are significant correlations between the variables, making factor analysis appropriate. Having examined the correlation between the variables in the two tests announced, it is now possible to continue with Factor Analysis, which will analyse Cronbach's Alpha to assess the internal consistency of the components. The table below presents the results of the rotated component matrix from the principal component analysis. With Varimax rotation, the analysis includes three extracted components, presenting an explained variance of 52.038%.

Table 11: Total explanatory variance of residents' motivations

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% variance	% cumulative	Total	% variance	% cumulative	Total	% variance	% cumulative
1	2,863	28,629	28,629	2,863	28,629	28,629	2,082	20,816	20,816
2	1,285	12,853	41,482	1,285	12,853	41,482	1,593	15,933	36,749
3	1,056	10,556	52,038	1,056	10,556	52,038	1,529	15,289	52,038

Extraction method: Principal component analysis

The following table presents the variable loadings in each component. It also includes Cronbach´s Alpha values that allows measuring the internal consistency of the factors within each component.

Table 12: Matrix of Rotating Components of Residents' Motivations

	Component			
	1	2	3	Factor
Experience a simpler lifestyle	,716	,039	,038	New lifestyle
Learn about different customs and lifestyles	,680	-,038	-,016	
Get away from a polluted environment for a few moments	,666	,311	,040	
Surprise family and friends	,538	,328	,252	
Strengthen family or friendship ties	,228	,707	,076	Enjoy family and friends
Being able to have fun	-,075	,678	-,013	
Enjoy friendly company	,351	,542	,148	
Open new horizons	,140	,279	,742	New discoveries
Search for news	,070	-,157	,721	
Meet new people	,410	,176	,603	
Cronbach's Alpha	**0,641**	**0,597**	**0,603**	

In this order, higher values suggest that there is a greater correlation between the variable and the respective factor. This, in turn, means that the variable is a good representative of the factor in question. The first factor suggests that it is linked to factors not only of personal change but also of seeking experiences that lead to testing a different lifestyle. There, the variables associated with this component show the desire for simplicity and distancing from the usual environment. However, Cronbach's Alpha presents a dubious consistency. This factor concurs with the studies by Epuran et al. (2020). The second factor reveals aspects linked not only to sociability but also to strengthening ties and having fun in the company of family and friends. Cronbach's Alpha shows poor consistency, which is in line with the emotional aspects studies by Carrascosa-Lópes et al. (2021). The third factor proves to be strongly related to the great desire to explore and discover new things. These results are in line with Tung & Ritchie (2011). Higher values suggest that there is a greater correlation between the variable and its factor. This, in turn, means that the variable is a good representative of the factor in question. The first factor suggests that it is linked to components not only of personal change, but also of the search for new experiences. Thus, the variables associated with this component show the desire for simplicity and isolation from the usual environment. Therefore, although Cronbach's Alpha presents a dubious consistency, this factor finds support in Huntley et al. (2019) in the description of the environment conducive to ecotourism. The second factor reveals aspects related to sociability, but also to strengthening bonds and having fun in the company of family and friends. Cronbach's Alpha shows poor consistency. In comparative terms, it can be classified under the perspective of Quynh et al. (2021); Utami et al. (2023), on the approach to ecotourism interactions. The third factor is strongly related to the great desire to explore and discover something new, whether in the context of people, ideas or experiences. These aspects were also studied and found to be important by Batabyal, (2016), when associating the intervention of scholars with the best ecotourism positioning.

Multiple linear regression

Based on the results presented in Table 13, it is possible to perform an interpretation of the factor analysis, considering two elements: first, the coefficients of the factors; second, the statistics of the models presented. Thus, analysing each of the models and the factors that influence the dependent variable in reference, the study observes the following: in model 1 – Being able to have fun, there is a constant of 4.541 ($p<0.001$). Here, factor 1 – New lifestyle is -0.042 ($p<0.01$) and factor 2 – Enjoying family and friends is 0.383 ($p<0.001$). R: 0.682, R^2: 0.465, adjusted R^2: 0.463, Durbin-Watson (DW): 2.055 and F: 294.974 ($p<0.001$).

Table 13: Dependent variable according to the model

	Model 1 – Being able to have fun		Model 2 – Try a simpler lifestyle		Model 3 – Surprise family and friends		Model 4 – Enjoy friendly company	
(Constant)	4,541	***	3,724	***	4,022	***	4,116	***
Factor 1 – New lifestyle	-0.042	***	0.700	***	0.429	***	0.382	***
Factor 2 – Enjoying family and friends	0.383	***			0.262	***	0.247	***
Factor 3 – New discoveries					0.201	***	0.104	***
R	0.682		0.716		0.679		0.663	
R2	0.465		0.513		0.461		0.439	
R2a	0.463		0.512		0.459		0.437	
DW	2,055		1,616		1,877		1,955	
F	294,974	***	716,254	***	193,374	***	176,856	***

*Note: H0 = Equality of variances/means; * p<0.05; ** p<0.01 and *** p<0.001.*

The model 1 reveals that the factor "Enjoying family and friends" exerts a considerable positive influence on the perception of being able to have fun, revealing a coefficient of 0.383. In contrast, the factor "New lifestyle" exerts a negative influence, although very small, with a coefficient of -0.042. Thus, the model explains 46.5% of the variability of the dependent variable ($R^2 = 0.465$). The F statistic suggests that the model is statistically significant ($p<0.001$), and the Durbin-Watson value (2.055) shows that there are no relevant problems of autocorrelation of the residuals. Model 2 – Trying a simpler lifestyle has a constant of 3.724 ($p<0.001$). Here factor 1 – New lifestyle is 0.700 ($p<0.001$), being R: 0.716, R^2: 0.513, adjusted R^2: 0.512, Durbin-Watson (DW): 1.616 and F: 716.254 ($p<0.001$). This model reveals that the "New lifestyle" factor is the only one included. It is noted that it exerts a significant positive influence on the dependent variable "Trying a simpler lifestyle", with a coefficient of 0.700. This model explains 51.3% of the variability of the dependent variable ($R^2 = 0.513$). The F statistic reveals that the model is highly significant ($p<0.001$). The Durbin-Watson value (1.616) somehow suggests concern regarding the autocorrelation of the residuals. However, in general, it is acceptable. Model 3 – Surprising family and friends, has a constant of 4.022 ($p<0.001$). Here factor 1 – New lifestyle is 0.429 ($p<0.001$), factor 2 – Enjoying family and friends is 0.262 ($p<0.001$) and factor 3 – New discoveries is 0.201 ($p<0.001$), being R: 0.679, R^2: 0.461, adjusted R^2: 0.459, Durbin-Watson (DW): 1.877 and F: 193.374 ($p<0.001$). This model reveals that the three factors exert a positive influence on the dependent variable "Surprising family and friends", although the factor "New lifestyle" is the one that stands out the most, with a coefficient of 0.429. This model explains 46.1% of the variability of the dependent variable ($R^2 = 0.461$), and the F statistic, in turn, confirms the significance of the model ($p<0.001$). The Durbin-Watson value (1.877) shows that there are no relevant autocorrelation problems. Model 4 – Enjoying friendly company has a constant of 4.116 ($p<0.001$). Here, factor 1 – New lifestyle, is 0.382 ($p<0.001$), factor 2 – Enjoying family and friends, is 0.247 ($p<0.001$) and factor 3 – New discoveries, is 0.104 ($p<0.001$), being R: 0.663, R^2: 0.439, adjusted R^2: 0.437, Durbin-Watson (DW): 1.955 and F: 176.856 ($p<0.001$). This model 4 shows that each of these three factors exerts a positive influence on the dependent variable "Enjoying friendly company". In the hierarchy of power of influence, it is noted that the factor "New lifestyle" exerts the greatest influence, with a coefficient of 0.382. This is followed by the factor "Enjoying family and friends" with a coefficient of 0.247, and, finally, the factor "New discoveries" (0.104). This model explains 43.9% of the variability of the dependent variable ($R^2 = 0.439$). Meanwhile, the F statistic indicates that the model is significant ($p<0.001$). The Durbin-Watson value (1.955) indicates a slight autocorrelation of the residuals; however, within acceptable limits. In summary, the models show that the "New lifestyle" factor plays a determining role in the most diverse areas of the dependent variables, standing out especially in model 2. In this order, the existence of the "Enjoying family and friends" factor also occupies a significant place, particularly in model 1. In general, all models are statistically significant, indicating that the identified factors adequately explain the dependent variables analysed, with R^2 varying between 43.9% and 51.3%. The fact that the autocorrelation of the residuals is generally low indicates the robustness of the models.

Conclusions

On the whole, this work aimed to study the perceptions of ecotourism held by residents of the Central Plateau of Angola. It was found that the motivating factors for ecotourism are appreciating nature, making new discoveries, and seeking tranquillity and adventure. Ecotourism seeks peace and quiet and to learn about biodiversity and rare animal species. For ecotourism to be sustainable, environmental conservation is essential, which will naturally result in economic returns and social benefits. Indeed, what attracts ecotourists is the appeal of nature, landscapes, vegetation, and rare species of wildlife. Ecotourists primarily seek information digitally, notably on the internet, social media, and tourism blogs, as well as on TV, radio, newspapers, and magazines. They look for unique and new experiences, discovering places never visited, and enjoying broadening their horizons. Many ecotourists seek to relish the tranquillity of the countryside and rural areas with family and friends, or with a friendly companion. The perception of ecotourists in the Central Plateau of Angola, in the Province of Huambo, is that the visit was worthwhile and justified the effort, as the natural beauty of these places is astonishing. Exploratory factor analysis revealed three key factors influencing the perceptions of ecotourist preferences. The first factor is the search for a new lifestyle. The second factor is enjoying time with family and friends, and the third factor is the pursuit of novelty. Through multiple linear regressions, it was also shown that the "new lifestyle" and "enjoying family and friends" played a determining role across various models. It is hoped that this study will impact tourism policymakers, particularly in the Central Plateau of Angola, where ecotourism is in its infancy. Additionally, it may serve as an analysis for other regions of a large country like Angola. It is further hoped that this study will contribute to the development of tourism policies and the economic and social growth of rural areas. For future work, it would be interesting to verify and compare with studies in other regions of Africa. It lays a foundation to search for an equilibrium between maximising wealth and inclusion.

Overall, there is a strong similarity between the determinants of ecotourism announced in the literature and those identified in the Central Plateau of Angola. The analysis of the factors reveals that the region holds significant potential for ecotourism development. However, despite the satisfaction demonstrated by the respondents, they recognise the precarious conditions of many of these destinations. There is an effort by local businesses to improve the sector in this region. These signs are notable in places such as Resort Carlos Graças, Brogodó, and Tchinossanda, which are private properties. This suggests that in this region, there is a deep need for investment in the ecotourism sector. For policymakers and legislators, the findings of this study can serve as a foundation for reflection when developing policies and strategies that define the national ecotourism route, along with the associated financial resources. The same results can encourage local and national business classes to invest in the sector. In scientific terms, the results call attention to the need for a more in-depth study of the rare species found on Morro do Môco. It would also be important to use this study to develop suggestive strategies that help combine the wildlife of Morro do Môco with non-wild elements from other reported sites to create a more complete regional ecotourism package.

Finally, it highlights the need to discover why rare species survive only on Morro do Môco and not in other areas of this region or the country.

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