



Research Article

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Interconnectedness between Green Economy, Eco-tourism, Landscape Protection and Local Economic Development: A Case study of the Rapti Peace Park, Nepal



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Abstract

The study explores the interconnectedness of the green economy, ecotourism, landscape protection, and local development, envisioning a harmonious co-existence where environmental sustainability, economic prosperity, and community well-being converge. Focused on the dynamics of Rapti Peace Park in Tulsipur, Dang, Nepal, the research aims to contribute valuable insights to the broader understanding of creating synergy between these elements. Employing diverse methods such as site observation, questionnaire surveys, key informant interviews, and focus group discussions, the study assesses the park's contributions in terms of visitor demographics, ecotourism activities, biodiversity preservation, and economic benefits to the local community. Key findings highlight the park as a driver of the green economy, generating local employment and promoting sustainable natural resource use. Local residents secure employment through various ecotourism-related activities, including horse riding services, photography guides, cultural performances, eco-friendly tour guides, handicrafts, community-based lodging, and environmental education programs. With over 150 preserved tree species and efforts in biodiversity conservation, habitat restoration, sustainable forest management, and landscape conservation, the park serves as a sanctuary for diverse flora and fauna, contributing to nature conservation and overall well-being. The study underscores ecotourism as a valuable strategy for environmental and socio-economic sustainability, promoting responsible tourism practices. While Rapti Peace Park demonstrates positive impacts, the gaps and proposes practical measures for improvement to enhance contributions to the green economy are highlighted.

Keywords: Green infrastructure, Local well-being, Responsible tourism, Landscape conservation

Introduction

In the immediate aftermath of the RIO+20 conference in 2012, the United Nations, together with international organizations such as the Organization for Economic Co-operation and Development (OECD), the International Monetary Fund (IMF), the World Bank, the World Trade Organization (WTO) and the World Business Council on Sustainable Development, strongly advocated a revival of interest in the green economy. This thrust came in spite of its presence in the scientific literature for decades [1-3]. Responding to the 2008 financial crisis, the Green Economy Momentum was aimed at redirecting public and private funds to finance green

initiatives, moving away from the conventional brown economy [4]. Solutions include various aspects of green activities to “reduce carbon emissions and pollution, improve energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services” [5]. A green economy aims to reduce environmental hazards and ecological scarcities while improving social equity and human well-being [6]. It promotes long-term economic growth by recognizing the value of ecological services and addressing biodiversity concerns, effectively managing strategic uncertainties such as adverse climate and environmental change, and improving the efficiency of policy instruments. According to

the UNEP report, "Forests are a critical link in the transition to a green economy - one that promotes sustainable development and poverty eradication as we move towards a low-carbon and more equitable future" [7].

Nepal has a high potential for a bio-green economy for sustainable economic growth, with forests covering 44.47%, agricultural land 21.88%, grasslands 2.60%, and a predominant energy source of hydropower [8]. Nepal is initiating a green economy through national and international dialogues and seminars. Although Nepal's contribution to GHG emissions is minimal, the adoption of a green economy is crucial for economic growth due to its lower energy consumption and job creation. Nepal needs to adopt green economy policies to remain competitive in the global market as the world is increasingly adopting this economic strategy [9]. The green economic philosophy will benefit Nepal's community forestry by recognizing and compensating forest dependent communities for the environmental services they provide. These communities have played a vital role in regenerating natural water sources, increasing natural water storage, reducing the risk of floods and landslides, and improving the overall quality of the forest landscape. This approach not only provides strong incentives for community forest user groups to protect forests, but also facilitates the transition of the economy from forestry to services, reducing pressure on forests [10].

"Tourism in the green economy refers to activities that can be maintained or sustained indefinitely in their social, economic, cultural and environmental contexts - what is commonly known as sustainable tourism" [7]. The concept of tourism is one of the developments of sustainable tourism by prioritizing aspects of conservation and community welfare [11]. Sustainable tourism considers the needs of tourists, businesses, the environment and host communities [12]. The concept of the green economy has been applied to the introduction of new tourist attractions for the development and growth of the existing tourist attractions [13]. The tourism industry's ability to contribute to the green economy through more sustainable practices, climate change mitigation and ecotourism is increasingly recognized [14]. The study envisions a harmonious co-existence between the green economy, ecotourism, landscape protection, and local development, where environmental sustainability, economic prosperity, and community well-being converge. Recognizing the local natural landscape are not only invaluable reservoirs of biodiversity but also integral components of economic and cultural fabric including sustainable prosperity, inclusivity and community empowerment, preservation of natural beauty, cultural enrichment, responsible tourism practice and education and awareness.

As the global population increased, the demand for new infrastructure and urban development also rose. These significant land-use changes have an undeniable impact on the habitats of wild flora and fauna, as well as their ecological connectivity. Habitat loss, fragmentation and the creation of new barriers

as a result of land use changes (e.g. increase in unsuitable land cover or linear infrastructure impeding species movement) affect ecological connectivity for different species [15,16]. Balancing intensive development and biodiversity conservation with the creation of a green economy nexus are the next crucial steps to achieve ecological connectivity. Community-based ecotourism (CBET) has the potential to both improve the conservation status of a potential ecotourism destination and boost the local economy Runya et al. (2022). Ecotourism promotes the well-being of host communities. CBET is realized, which includes both conservation and socio-economic impacts in its implementation Ma et al. (2019). The CBET approach emphasizes the general understanding of sustainable tourism and recognizes the importance of local communities and helps to improve their contribution to a better life Runya et al. (2022).

The rationale behind this study is rooted in the recognition of the intricate relationships between ecotourism, landscape restoration, and the local economy. The importance of establishing a well-coordinated link between these elements is emphasized, with a focus on fostering synergy within the framework of the green economy. The integration of various components in this synergy is acknowledged, but the study recognizes the existence of unattended aspects within each element. This highlights the complexity of the interconnections and emphasizes the need for a comprehensive approach to address all facets. The ultimate goal is to facilitate a smooth transition to a green economy, where sustainability and environmental considerations are paramount. A critical aspect of this transition involves addressing local challenges. The study emphasizes the significance of landscape conservation as an integral part of overcoming these challenges. By actively conserving and sustainably managing landscapes, the study aims to contribute to the broader objective of achieving a green economy. This approach not only benefits the environment by preserving natural ecosystems but also plays a crucial role in supporting local communities. In essence, the pressing need for landscape conservation and sustainable management is highlighted as a means to realize the synergistic relationship between ecotourism, landscape restoration, and local economic development. The study seeks to provide insights and strategies that contribute to the overall well-being of both the environment and the communities involved. Recognizing the interdependencies between these four elements creates a holistic understanding that environmental sustainability, economic well-being and cultural heritage are intertwined aspects of a shared future. Therefore, the study aimed to contribute to a broader understanding of creating synergies between green economy, ecotourism, landscape conservation and local development by providing insights into the local dynamics of the Rapti Peace Park in Tulsipur, Dang, Nepal.

Study Area

Rapti Peace Park, also known as Ganeshpur Park, is located in the scenic sub-metropolitan town of Tulsipur, ward no. 3 of Dang

district. Known as one of the most beautiful parks in the district, it boasts of a serene ambience and embraces the natural beauty of its surroundings. Established in 2069, the park has been a haven for nature lovers for over a decade. Spread over an area of 7.56 hectares, it is managed by the Shree Ganesh Community Forest. The park is celebrated for its contributions to biodiversity conservation, local economic development and cultural significance. The park is an integral part of the Shree Ganesh Community Forest, an active Community Forest User Group (CFUG) in the sub-metropolitan area covering 105.86 hectares. According to the general assembly of the Shree Ganesh CFUG-2023, the CFUG is managed and used by 476 households with a total population of 2064 (male:1029, female:1035), with the majority of users belonging to Janjati groups. The user group of the park is accordingly categorised as

poor family with 28%, middle family with 57% and affluent family with 15%. The park is also located near two private schools, which means that students regularly visit the park. Furthermore, the community forest is a natural forest bordered by Dharapani CF to the east, Ganeshpur village settlement to the west, Gairikhali community forest to the south and Gadibara CF to the north. The park is characterised by its greenery and aesthetic appeal. It offers amenities such as a children’s amusement park, swimming pools, artesian products, photography, horse riding, wildlife sanctuaries, boating, and an avian floral observation station. This study aims to explore the relationship between the green economy, local economy, ecotourism, and landscape restoration in Rapti Peace Park (Figure 1).

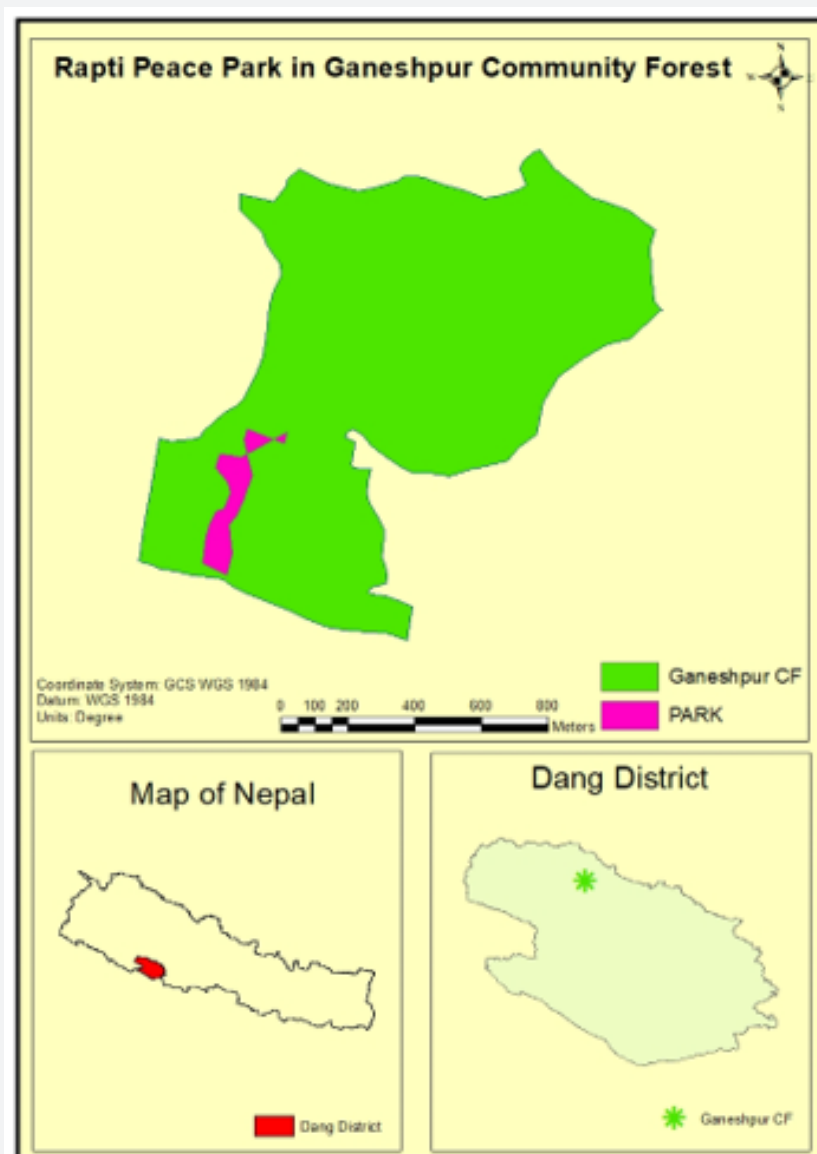


Figure 1: Study area map.

Methods and Methodology

This study employed a mixed-methods approach, utilizing both quantitative and qualitative methods to collect primary data. The study collected quantitative data through a questionnaire survey of visitors (n=46), key informant interviews (n=5) with key stakeholders of the park, including the chairperson of the working committee, representatives of the local government and wards, and leading consultants assisting the park. Additionally, focus group discussions (n=3) were conducted with nearby citizens, local women, local business people, and transport owners. Geo-spatial data preparation involved the use of GIS data analysis and remote sensing data. Additionally, secondary data was collected by liaising with park officials and extracting information from the park’s annual and monthly progress and economic reports. The data collection period was from 2019 to 2023. Semi-structured and closed-ended questionnaire interviews were conducted in the park to collect visitors’ perceptions on the park’s sustainability, green economy synergy, ecotourism, landscape protection, and local economic development. The interviews were conducted in both English and Nepali, depending on the respondents’ convenience. After collecting the data, it was coded and entered into MS Excel 2021 and SPSS version 26 for analysis. Maps were created using ArcGIS version 10.8. The data underwent both

qualitative and quantitative analysis.

Results

Green Economy Model- Balancing and shifting economic paradigm and Environment Stewards

Local people have been consulted about their views on the creation and management of the park. There is a growing sense of shared understanding and responsibility for environmental protection. Green economy principles, which prioritise sustainable resource use and reduced environmental impact, are well received by those recognising the need for collective action on global challenges. The diagram below illustrates the common understanding of visitors as the main role of the park is to restore and rehabilitate degraded areas of the Shree Ganesh Community Forest. The forest has been divided into 9 blocks and the park is located in Block 2, which was previously barren and degraded open land. With the establishment of the park, various parks and recreational floral diversity were planted and faunal diversity was increased to boost the economy of the park. As the main actor in the monetization of the community forest, Rapti Peace Park provides the link between environmental protection and economic revitalization for the local communities (Figure 2).

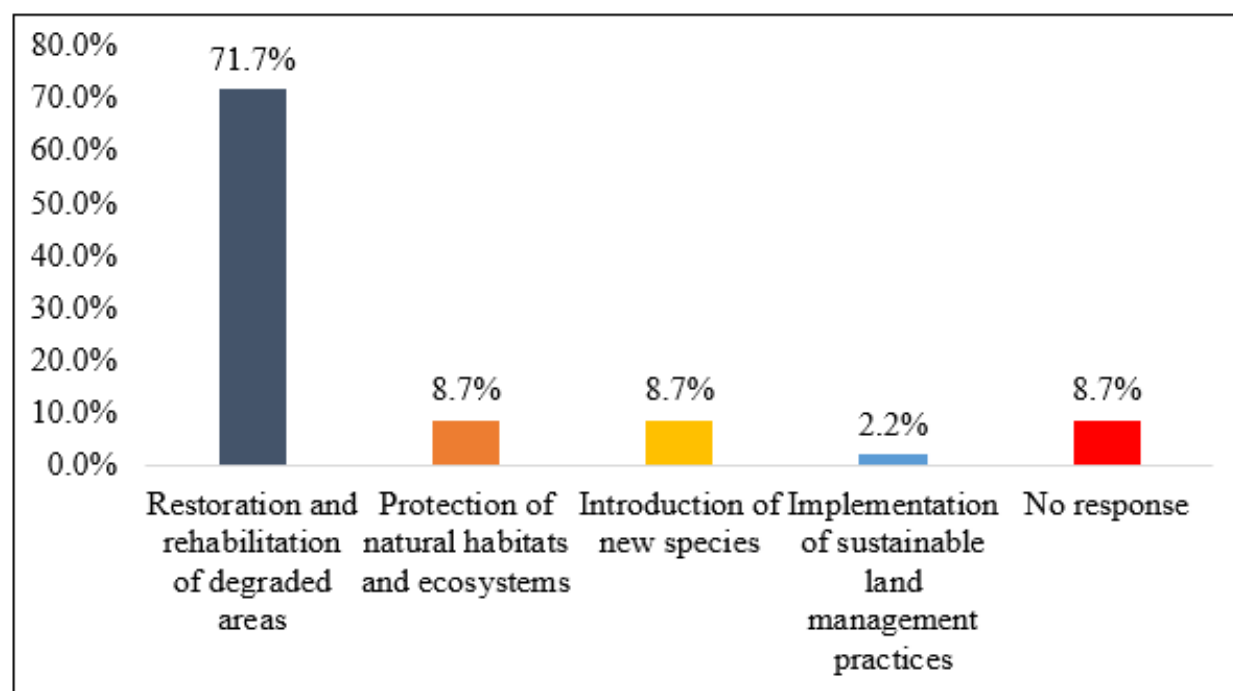


Figure 2: Shared understanding of environmental stewardship among the visitors.

Eco-tourism as a Sustainable Travel Alternative Responsible Travel: Mode of Transportation and Visitor Satisfaction

The context of responsible travel, understanding the mode of transportation chosen by visitors and their satisfaction levels is crucial. Visitors were asked about the means of transport they used to reach their destination and the level of satisfaction they felt once they had reached their destination. According to the gathered data, a significant number of visitors opted for public

transportation, especially those hailing from urban areas (Figure 3). This preference is attributed to the desire to alleviate stress and enjoy leisure time with family. The majority of visitors considered the use of public transport as a way of relieving stress and having fun with their families. It's noteworthy that the majority of visitors belonged to student and medium-scale occupational backgrounds. For them, public transportation emerged as a feasible and satisfactory option, as depicted in Figure 4. This pattern suggests a correlation between socio-economic factors, transportation choices, and overall visitor satisfactions.

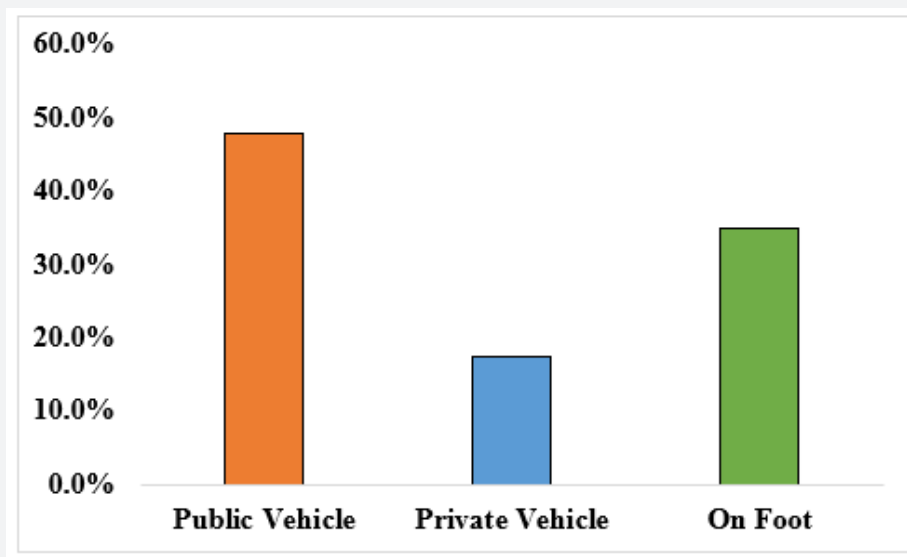


Figure 3: Mode of reach to destination.

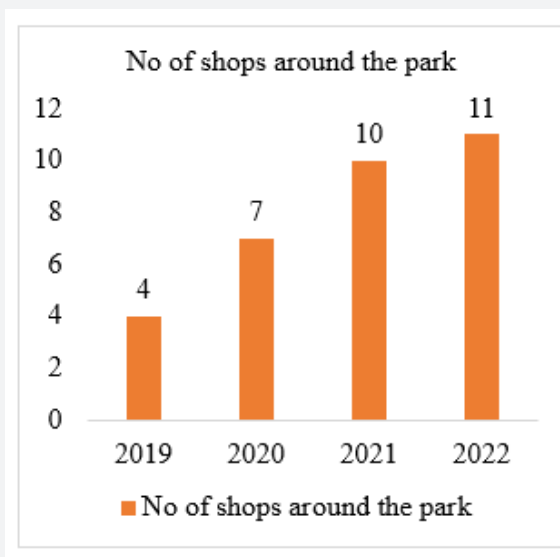


Figure 5: No of shops around the park.

Community Level Empowerment at Rapti Peace Park

Rapti Peace Park stands out as a noteworthy model of sustainable tourism, making a substantial economic impact on local communities and regions. Going beyond its conservation initiatives, the park actively contributes to the economic empowerment of local communities through eco-tourism. Local residents are integral to the park's operations, playing a vital role in both conservation efforts and the pursuit of sustainable livelihoods. Currently, the park has provided regular employment to seven individuals, while an additional ten are engaged in daily work. This inclusive approach not only fosters economic stability but also nurtures a sense of community ownership and participation.

The park's commitment to economic empowerment is evident in its diverse income-generating activities, such as photography services, horse riding management, cultural food and dance performances, as well as park entry fees. This multipronged approach not only enhances the overall visitor experience but also contributes significantly to the economic well-being of the local community. Moreover, the positive impact extends beyond direct employment, creating a ripple effect that boosts the income of nearby shops, restaurants, and other businesses in the surrounding area. This holistic and community-centric approach underscores the park's commitment to sustainable and responsible tourism (Figure 5).

The bar graphs provided illustrate a notable upward trend in both the number of individuals securing regular employment and part time employment as well as the increment of shops generated by Rapti Peace Park. These trends underscore the positive economic impact experienced by the local community, directly or indirectly attributed to the park's presence. This suggests that the

park's initiatives and activities have contributed to sustainable job opportunities for individuals within the local community. The growth in the number of shops generated by the park's activities indicate a positive economic environment, fostering the establishment and expansion of local businesses in the vicinity of the park.

Economic and Infrastructural Development in Local Communities: Key points

Local communities engaged in ecotourism have actively undertaken infrastructure development initiatives. This includes the construction of roads, trails, and accommodations. These efforts not only serve ecotourism purposes but also contribute to the overall improvement of community infrastructure. Infrastructure development generated indirect income for the local community, creating job opportunities and enhancing economic prospects. The park's positive economic impact has led to an improved quality of life for residents, providing access to essential services such as education and healthcare. The increased number of internal and external tourists visiting the park has benefitted the transportation sector. Auto, safari, and taxi drivers, in particular, have experienced heightened opportunities, contributing to the economic vitality of the local transportation industry. Future plans for the park, including the development of amenities such as amusements, a picnic spot, a recreation center, a botanical garden, and boating, signal continued economic benefits. These developments are anticipated to foster prosperity not only for the park but for all individuals associated with it, extending economic gains to the broader local community. These points collectively highlight the multifaceted positive impact of Rapti Peace Park on both the economic and infrastructural fronts within the local communities it engages with (Figure 6).

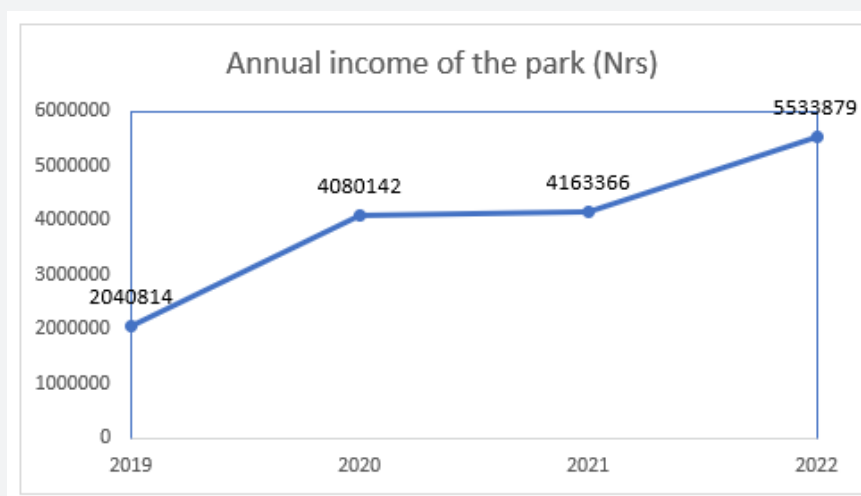


Figure 6: Income from the park.

The line graph above depicts the annual income of the park from 2019 to 2022. Being the only green park in the city during its initial phase, the park experienced a substantial increase in visitors, leading to a rapid growth in its income. During its initial phase (2019-2020), the park, being the sole green park in the city, witnessed a significant increase in visitors. This surge in visitors translated into rapid growth in the park’s annual income. The line graph indicates a continuous upward trajectory in the park’s annual income from 2019 to the projected figure in 2022. The average yearly income is expected to surge from approximately 2 million in 2019 to nearly triple, reaching just under 6 million by 2022, showcasing sustained financial growth. The slight setback observed in late 2020 and 2021 can be attributed to the impact of the COVID-19 pandemic. The global travel restrictions and uncertainties during this period likely affected visitor numbers, leading to a temporary dip in income. Despite these unprecedented challenges, the park demonstrates resilience by maintaining an overall upward trend in income and the park’s popularity and financial viability have endured, and it is poised for continued growth in the coming years.

Sustainable Infrastructure and Low Impact Tourism: Visitor Perceptions

Rapti Peace Park, has adopted low impact tourism practices as it is enriched with various facilities in the park adopting ad

hoc implementation regimes to be followed strictly within the park. Upon the entry on the park, the visitors were educated to be responsible to minimize their ecological footprints. The park has implemented low impact tourism practices, emphasizing responsible visitor behavior to minimize ecological footprints. Upon entry, visitors are educated about their role in preserving the environment, contributing to the park’s commitment to sustainability. The park features ecotourism structures designed to have minimal environmental impact. These structures aim to create an environment that encourages responsible tourist behavior; reducing negative externalities associated with tourism. The bar graph illustrates various attributes of the facilities within the park as perceived by visitors. The majority of visitors consider the facilities within the park to be in good condition, reflecting positive maintenance efforts. Visitors generally find the facilities aesthetically and health-wise appealing, indicating a positive overall experience. However, there is a notable concern about the condition of toilets within the park. Visitors express dissatisfaction, suggesting a need for urgent renovation. While the majority of facilities are perceived positively, the dissatisfaction with toilet facilities highlights an area for improvement. Addressing this concern could further enhance the overall visitor experience and contribute to the park’s commitment to sustainable and responsible tourism (Figure 7).

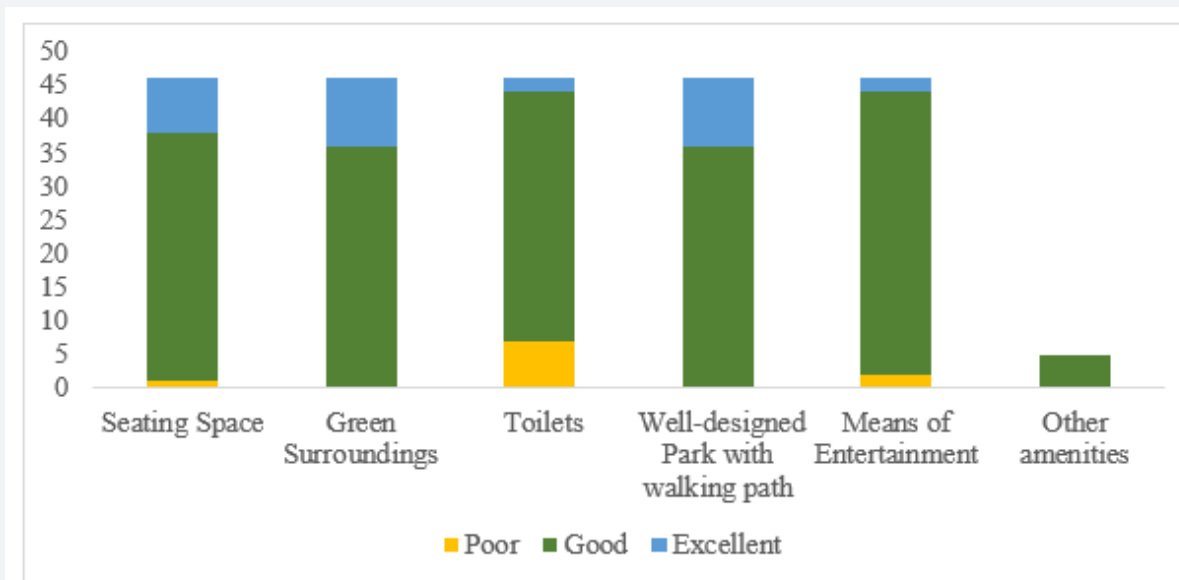


Figure 7: Ecotourism Facilities designed within the park.

Embracing sustainable infrastructure allows Rapti Peace Park to preserve its natural and cultural heritage. This aligns with the park’s commitment to minimizing its ecological footprint while maintaining a positive impact on the local communities. Low

impact tourism, synonymous with sustainable tourism, aims to maintain high levels of tourist satisfaction while ensuring a meaningful and responsible experience. Rapti Peace Park’s adoption of low impact practices contributes to a positive

visitor experience. The park has recognized the importance of conservation-centric tourism and various attractions such as botanical gardens, statues, flower gardens, water fountains, a mini zoo, photo statues, a selfie bridge, and more are designed to appeal to a wide audience. These offerings contribute to differentiating the tourist experience and attracting visitors in large numbers. By offering diverse attractions, the park has ensured a unique and differentiated experience for tourists. This strategy not only attracted a mass number of visitors but also contributed to the park's goal of being a conservation-centric tourism destination. Rapti Peace Park holds cultural significance as a protected area. The landscape, enriched with diverse flora and fauna, serves as a cultural asset, reflecting the local ecosystem's intrinsic value. The park's commitment to landscape protection aligns with cultural preservation efforts.

Landscape Protection

Shared understanding of ecosystem services

The park fosters a shared understanding of ecosystem services by highlighting the vital role it plays in preserving biodiversity. Through its rich biodiversity, with over 150 tree species and various wildlife, the park serves as an exemplar of ecosystem services, emphasizing the interconnectedness of nature and culture. Rapti Peace Park's establishment of a zoo for ex-situ conservation demonstrates its commitment to biodiversity conservation. The zoo, home to around ten animals, birds, and insects, contributes to preserving genetic diversity and safeguarding multiple species. This initiative aligns with broader conservation goals. The zoo not only serves as a conservation space but also provides opportunities for research and education. By raising public awareness about the significance of biodiversity conservation, the park actively engages visitors in understanding and appreciating the value of preserving the natural environment.

Rapti Peace Park offers a variety of attractions catering to nature enthusiasts. The inclusion of a children's park, walking trails, mini-zoo, water fountain, artificial stream, and botanical garden provides a diverse and engaging experience for visitors of all ages. The mini-zoo, designed as an educational and entertainment destination, attracts students and families. By combining learning about wildlife with entertainment, the park enhances its appeal and serves as a valuable resource for educational outings. The presence of a water fountain, along with other scenic elements, creates a tranquil and aesthetically pleasing environment. Visitors can enjoy moments of relaxation, capture scenic views, and appreciate the natural beauty of the park. Visitors have contributed to the local economy through various means such as spending on entry tickets, meals at local restaurants, and purchases from nearby shops generates economic activity in the community. The park serves as a catalyst for local businesses, fostering economic benefits. The diverse attractions not only enrich the visitor experience but also encourage longer stays and increased engagement. As tourists explore different

features of the park, they actively contribute to the local economy by patronizing various services and establishments.

Habitat protection and visitor education

The park has designated specific areas for wildlife exhibits, showcasing species such as gharial crocodiles, ostriches, emus, common leopards, hispid hares, and more. These exhibits serve both educational and conservation purposes, allowing visitors to observe and learn about diverse wildlife species. The park engages in captive breeding initiatives for certain species, contributing to conservation efforts which helps maintain and increase populations of endangered or vulnerable species, ensuring their survival and genetic diversity. Rapti Peace Park actively participates in the rescue and rehabilitation of problematic creatures. Species like common leopards, Indian hares, porcupines, rhesus monkeys, spotted deer, and serpent eagles have been successfully rescued. This demonstrates the park's dedication to wildlife conservation and its role in addressing human-wildlife conflicts. The wildlife areas within the park attract visitors, with observed high frequencies of time spent in these zones.

The appeal of nature creation, including diverse wildlife, engages visitors in a meaningful way. This engagement fosters a connection between visitors and the natural world, promoting awareness and appreciation for biodiversity. The region surrounding Rapti Peace Park and Shree Ganesh community forest has faced challenges related to human-wildlife conflict. As human settlements encroach upon natural habitats, conflicts may arise between local communities and wildlife. These conflicts pose threats to both human populations and wildlife species. One of the identified challenges is the lack of information and knowledge about the interlinkage between floral and faunal diversity. Understanding the complex relationships between plant and animal species, as well as their co-adaptation within ecosystems, it is crucial for managing biodiversity effectively. By showcasing the importance of preserving biodiversity and maintaining ecological balance, ecotourism has contributed to local knowledge enhancement. Local residents became ambassadors for conservation, actively participating in safeguarding their natural surroundings.

Socio-economic Benefits

Socio-Economic Recovery of Tourism: Local GDP Improvement

The tourism industry, including Rapti Peace Park, faced significant challenges due to the unprecedented impact of the COVID-19 pandemic. Movement restrictions, lockdowns, and a decline in global travel severely affected the tourism sector, leading to economic and social consequences. The fallout of the pandemic was evident in the annual income of the park, which experienced a decline in the years 2020 and 2021. The disruptions caused by the pandemic, such as travel restrictions and reduced tourism activities, contributed to a decrease in the park's income during

this period. Despite the challenges, there is positive momentum and recovery observed in the tourism industry by the year 2022. The annual profit of Rapti Peace Park in 2022 indicates a rebound, signifying a gradual recovery of tourism activities. This recovery is aligned with the easing of travel restrictions and a resurgence of interest in tourism (Figure 7). The rebound in tourism has broader implications for the local economy, contributing to the improvement of the Gross Domestic Product (GDP) at the local level. Tourism-related activities, including park entry fees, accommodations, and spending in local businesses, play a role in stimulating economic growth within the region. The recovery of the tourism industry, as exemplified by Rapti Peace Park, serves as an engine for economic recovery at the local level. The park's ability to attract visitors and generate income contributes to the overall economic well-being of the community, supporting livelihoods and businesses. The recovery showcased in 2022 reflects the resilience and adaptability of the tourism sector and the park management. Strategies for adapting to changing circumstances, promoting safety measures, and restoring confidence among tourists have played a role in the industry's recovery.

Socio- Economic Benefits and Local Entrepreneurships

Rapti Peace Park serves as not only a natural haven but also a catalyst for valuable business opportunities within the local community. The park's ability to attract visitors contributes to the economic growth of local stores, restaurants, and other establishments, thereby creating employment opportunities and strengthening the local economy. Non-governmental organizations, such as GFN (Global Footprint Network) and FECOFUN (Federation of Community Forestry Users Nepal), play a crucial role in capacity building for the local population. These organizations contribute to backward development, enhance skills, and ultimately improve the standard of living for the local community. Ecotourism practices, including the continuous use of local products and souvenirs, foster eco-entrepreneurship. The park's emphasis on cultural preservation within the economic revitalization efforts contributes to the growth of the local economy. The integration of local products in the tourism experience enhances sustainability and supports local artisans. The park's attraction to visitors from diverse regions creates an environment where locals and visitors can interact, promoting intercultural understanding and mutual respect.

The attraction of visitors from diverse regions creates an environment where locals and visitors can interact and have been promoted intercultural understanding and mutual respect. The exchange of cultural experiences enriched the overall visitor experience and contributes to a harmonious coexistence between the local community and tourists. Regular community engagement programs organized by the park provided opportunities for personal development, career guidance, and awareness about nature conservation. These programs contributed to the holistic development of individuals within the community and empower them with knowledge and skills. The establishment of a green

peace park served as a unifying force for the community and encouraged civic participation and became a focal point for environmental awareness and activism. The park's role in promoting sustainable practices aligned with the community's efforts toward environmental stewardship.

Tourism as a source of income

Tourism, whether from external or internal visitors, serves as a significant source of income for the local economy. Tourists engaged in eco-tourism activities, such as horse riding and photography, contribute to the local economy through their expenditures. Local vendors both outside and inside the park played a crucial role in catering to the needs of tourists. The sale of dry foods and handy snacks within the park added to the overall tourism experience. The economic transactions between tourists and local vendors contributed to the financial well-being of the community. More than 500 people are benefiting directly and indirectly from the economic activities associated with the park. This includes individuals working within the park, those engaged in selling goods and services to tourists, and others who derive income from various park-related activities. The park created employment opportunities, with ten individuals receiving a monthly salary, and seven working on a daily wage basis. The diversity of roles within the park, ranging from regular employment to daily wage labor, contributed to livelihoods and economic stability for individuals. The park's picnic spot served as an attraction for families and groups, encouraging them to spend quality time within the park. This not only provided recreational benefits but also ensured a steady stream of revenue for local vendors catering to the needs of visitors. The well-designed park has evolved into an asset for the local economy, delivering not only recreational and ecological benefits but also economic prosperity. The multi-faceted contributions of tourism make the park a valuable resource for the community.

Discussion

The green economy presents an alternative vision for economic growth and development, aiming to improve people's lives while also promoting environmental and social well-being [17]. The concept of a green economy originated from environmental economics and gained significant attention during the United Nations' "Rio+20" conference in 2012 [17]. The green economy model seeks to promote economic growth while minimizing environmental impact and conserving natural resources. It emphasizes sustainability, social equity, and environmental protection. This paradigm shift is essential for addressing pressing global challenges related to resource depletion and climate change. Ecotourism is one of the major principles of reaching green economic recovery in the post-COVID era [18]. The green economy, which will be a new direction for the future economy, has attracted extensive attention from scholars due to its effects, especially its employment effect.

The green economy, heralded as a transformative direction for future economies, has garnered significant attention, particularly for its profound economic growth while concurrently minimizing environmental impact and conserving natural resources. This model is founded on the principles of sustainability, social equity, and environmental protection creating a new opportunities for employment. Focusing on green jobs and sustainable practices contributes to a holistic approach to economic development that balances economic growth with environmental responsibility. The green economy represents a comprehensive policy agenda designed to achieve sustainable development by harmonizing economic, social, and environmental policies [19]. Rooted in responsible practices and conservation principles, the green

economy model serves as a strategy for aligning economic development with both social and environmental policies and emphasizes the integration and alignment of economic, social and environmental policies to create a holistic approach to sustainable development. A central tenet of the green economy is the responsible use of natural resources which involves adopting practices that ensure the sustainable extraction and utilization of resources, minimizing negative environmental impacts. Green economy principles advocate for the adoption of clean and renewable energy sources and aims to reduce dependence on fossil fuels and mitigate the environmental impact of energy production (Figure 8).

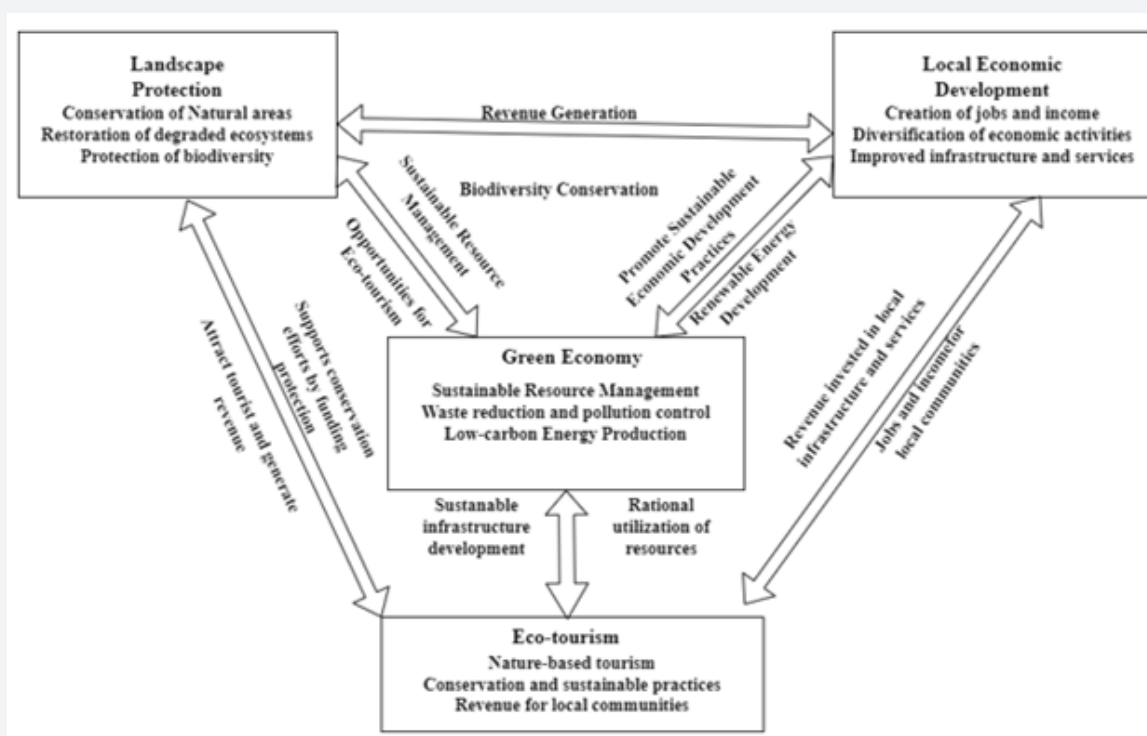


Figure 8: Conceptual Framework for comprehending interconnectedness between Landscape Protection, Eco-tourism, Local Economic Development and Green Economy.

Introducing green economy principles in the forest sector facilitates the inflow of additional investments those are directed towards sustainable practices, including the responsible management of forest resources, environmental friendly technologies, waste recycling and responsible wood consumptions [19]. The integration of green economy principles into the forest sector represents a strategic approach to enhance sustainability, conserve biodiversity, and address climate change challenges. By embracing these principles, the forest sector can play a pivotal role in contributing to broader sustainable development goals.

Ecotourism has emerged as a rapidly growing sector within the broader sustainable tourism industry which is attributed to several factors that emphasize the importance of responsible travel and environmental conservation. Ecotourism is recognized as one of the fastest-growing segments within the sustainable tourism industry [20,21]. This growth underscores the increasing demand for travel experiences that prioritize environmental sustainability and conservation. Travelers are becoming more conscious of the need for sustainable and responsible tourism practices and offer opportunities to engage with natural environments, observe

wildlife, and explore ecosystems while minimizing negative impacts. Travelers are attracted to destinations and activities that actively contribute to the protection of natural habitats, wildlife, and overall biodiversity. Ecotourism stands out from other forms of tourism due to its distinctive characteristics and focus on contributing to sustainability which plays a pivotal role in contributing to sustainable rural development, biodiversity conservation, and the economic viability of local communities [20]. Unlike some forms of mass tourism, ecotourism adopts a holistic and responsible approach, taking into account the interdependence of social, economic and environmental factors and striving for a balanced and sustainable tourism model. Its effectiveness lies in the delicate balance it strikes between generating local economic benefits and preserving the integrity of ecosystem resources emphasizing the conservation and sustainable use of local resources without depletion [22]. Improved infrastructure, access to education and health care, and overall community development are the results of successful ecotourism in Rapti Peace Park. Ecotourism provides educational opportunities for both tourists and local communities. Tourists gain an insight into the importance of nature conservation, while local people are able to increase their knowledge of the value of their natural and cultural heritage.

The local community in the studied area plays an active role in promoting a green economy through various initiatives farming, handicrafts, ecotourism, and other local businesses, thereby increasing the benefits for the villagers. These efforts are aligned with the principles of sustainability and community engagement [23]. Engaging in handicrafts and supporting local businesses demonstrates a commitment to sustainable and locally-driven economic activities. By adopting eco-friendly practices and promoting a green economy, the community contributes to broader efforts aimed at environmental conservation, poverty alleviation, and social well-being.

Furthermore, ecotourism plays a crucial role in natural resource and biodiversity conservation, as emphasized in studies by [22,24,25]. Particularly important in ecologically sensitive areas where tourism can have a significant impact on the local environment, Low Impact Tourism is a strategy that focuses on minimising the environmental footprint of tourism activities. It ensures that conservation objectives are not compromised, while recognising the need for tourism as an economic driver. The tourism industry aims to be viable in the long term, and its practices are designed to ensure that the benefits of tourism can be sustained over time without causing irreversible damage to the environment. The shift from traditional, adventurous travel to a more digital and nature-based tourism model is indicative of evolving trends. In the context of the Rapti Peace Park, ecotourism is seen as a new avenue with the potential to maximise economic benefits for communities. By attracting nature-based tourism, the park can stimulate local independence and boost the overall economy. The positive impact on biodiversity and natural

resources in the park is attributed to the implementation of proper management practices which include sustainable tourism approaches that minimize environmental impact, conserve ecosystems, and ensure the long-term health of the natural surroundings.

The insights drawn from KC [26] highlight the substantial contributions of tourism in Rapti Peace Park, not only in terms of economic income but also in fostering a green economy for the local villagers. The park's approach to eco-tourism involves diversifying income sources for the local community by several activities like horse riding, photography, and cultural performances, individuals in the community find opportunities for employment and entrepreneurship. The integration of ecotourism practices aligns with the principles of the green economy by emphasizing low-impact tourism, responsible travel, and conservation awareness, Rapti Peace Park promotes a model that balances economic development with environmental sustainability. The development of tourism infrastructure has been a catalyst for numerous benefits to local residents, offering opportunities to earn income and improve livelihoods. This case study analysis sheds light on the multifaceted impacts of tourism infrastructure development on the local community. The combined impact of increased employment opportunities and the growth of local businesses contributes to a more robust and resilient local economy. The community is experiencing tangible economic benefits, showcasing the positive outcomes of Rapti Peace Park's commitment to community development and sustainable tourism practices. In parallel, ecotourism is recognized as a vital source of economic development and employment generation, as noted by Das & Syiemlieh [21] and UNEP [27]. This observation aligns with the fact that the Peace Park stands as a major source of income for numerous families, concurrently serving as a significant employment hub for many people. As noted by Ge & Zhi [28], the green economy exhibits positive effects on employment in developing countries, and Nepal, being a developing nation, mirrors this trend, evident in the case of the park. Individuals directly employed in and around the park are reaping the benefits.

Green economy and ecotourism play pivotal roles in the preservation of natural, cultural, and built resources, ultimately contributing to the maintenance of the quality of life in the region [29]. This alignment is evident in the current situation at Rapti Peace Park stands as a testament to the harmonious alignment of conservation efforts and enriched biodiversity, leading to improved living standards for the local community. This case study delves into the unique dynamics of biodiversity conservation in the park and its positive impact on the livelihoods of the local people. The influx of visitors generates revenue, creating economic opportunities for the local community. This economic aspect aligns with the principles of a green economy, where conservation and economic prosperity coalesce for sustainable development. Conservation strategies to address the challenges of human-wildlife conflict and habitat degradation

and to ensure the long-term viability of biodiversity conservation include community engagement, habitat restoration initiatives and the implementation of sustainable practices. Biodiversity conservation in Rapti Peace Park is not confined to the park boundaries; it extends to the local community. The ecotourism approach fosters awareness within the community about the value of their abundant natural resources. Local people are active participants in conservation initiatives, with an understanding of the delicate balance between flora, fauna and human activities. Forests are a critical link in the transition to a green economy – one that promotes sustainable development and poverty eradication as we move towards a low-carbon and more equitable future [5]. The creation of green jobs in forestry provides for the improvement of workers' skills and the provision of occupational safety and health [19]. Rapti Peace Park, with its commitment to biodiversity conservation and ecotourism, opens up opportunities for various green jobs. These jobs not only contribute to the park's operations but also align with the principles of a green economy. Ecotourism guides play a crucial role in enhancing visitors' experiences by providing information about the park's biodiversity, conservation efforts, and sustainable practices. Their role involves leading tours, interpreting nature, and promoting responsible tourism. Experts in plant biology or environmental science can contribute to the park by studying and documenting its diverse flora. They may be involved in identifying new species, monitoring plant health, and implementing conservation strategies. Designing and implementing green infrastructure initiatives, such as trails, viewing platforms, and other structures, falls under the purview of a green infrastructure planner. This role ensures that human-made elements harmonize with the natural environment. Capturing the beauty of the park through photography or videography contributes to its promotional activities. Stunning visuals can attract more visitors and raise awareness about the park's conservation efforts. If there are areas within the park that require ecological restoration due to human impact or other factors, a specialist in ecological restoration can work on rehabilitating these ecosystems. These potential green jobs not only support the functioning of Rapti Peace Park but also align with the broader goals of a green economy, emphasizing sustainability, environmental protection, and community well-being.

Conclusion

The concepts of the green economy, ecotourism, and landscape protection are interwoven, creating a holistic framework that not only fosters environmental sustainability but also influences citizen perceptions positively. The study explored creating a model where the green economy, ecotourism, landscape protection, and local development are not mutually exclusive but interconnected components of a thriving and balanced ecosystem of economic prosperity and environmental conservation in the local context of Rapti Peace Park. The green economy model would guide the

park's operations toward sustainable practices, such as renewable energy use, waste reduction, and conservation initiatives. This research provides valuable lessons for promoting a green economy, developing sustainable ecotourism, protecting landscapes, and fostering local economic development. Ecotourism was found to be a driver for green economic development by creating employment opportunities such as horse riding and photography, generating income for local communities via hotels and small vendors, and promoting the sustainable use of natural and cultural resources such as promoting the traditional dress photography. Tourism activities within Rapti Peace Park have a profound impact on the local economy, supporting livelihoods, creating employment, and fostering economic well-being. The park's role as a source of income extends beyond individual employment to encompass a network of economic activities that benefit the broader community. The rebound of tourism in 2022, as evidenced by the improved annual profit of Rapti Peace Park, signifies a positive trajectory for the local economy. The contribution of tourism to the park's income directly influences local GDP, highlighting the interconnectedness between tourism recovery and economic improvement at the community level. The revenue generated from ecotourism activities contributes to the local economy while promoting the protection of the park's natural assets. Rapti Peace Park, with its commitment to biodiversity conservation, can serve as an exemplary ecotourism destination. By fostering awareness about the interconnectedness of biodiversity and the importance of coexistence, ecotourism plays a role in mitigating human-wildlife conflicts and promoting sustainable practices within the region. Ecotourism has catalyzed positive transformations with increased greenery, enhanced wildlife conservation, and a greater utilization of renewable resources.

While Rapti Peace Park has demonstrated significance positive impacts through ecotourism, it is essential to recognize and address certain gaps and areas for improvement to enhance the contribution to the green economy. The park could develop the structured programme that provide visitors with in-depth knowledge about the park's biodiversity, conservation efforts, and the importance of sustainable practices. The park currently lacks specific initiatives related to carbon offsetting initiatives whereas the demands of integrating partnership project to focus on carbon sequestration, reforestation, or other measures to offset the carbon footprint generated by visitors could further enhance the park's commitment to environmental sustainability. Another gap could be working with local communities to document and preserve traditional ecological knowledge, ensuring indigenous perspectives contribute to park management and interpretation.

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